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Social Science & Medicine 63 (2006) 335–346

SOCIAL SCIENCE & MEDICINE

www.elsevier.com/locate/socscimed

Marital status disparities in maternal smoking during pregnancy, breastfeeding and maternal depression

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Available online 10 February 2006

Abstract

One of the dramatic recent changes in family life in Western nations has been the rise in non-marital childbearing. Much of this increase is attributable to the growth in cohabitation. But in some countries, notably the UK (and the USA) this is much less the case with significant proportions of children being born to parents who are not living together. This study uses data from the Millennium Cohort Study, a British birth cohort established in 2001, to examine whether the closeness of the tie between parents, as assessed by their partnership status at birth, is related to smoking during pregnancy, breastfeeding and maternal depression. Four sets of parents are distinguished representing a hierarchy of bonding or connectedness: married and cohabiting parents, and two groups of solo mothers, those closely involved with the father at the time of the birth and those not in a relationship.

Smoking in pregnancy, breastfeeding and maternal depression tests for trend, adjusted for socio-demographic factors, showed that there was a statistically increased risk of adverse health and health behaviours by degree of parental connectedness. There were also consistent and statistically significant differences between married and non-married mothers. Particularly noteworthy was the finding that cohabiting mothers have greater risk of adverse outcomes than married women. Among the non-married set, there were also differences in risk of adverse outcomes. For smoking in pregnancy, the key difference for continuing to smoke throughout the pregnancy lay between mothers involved with partners and those lacking an intimate relationship. For breastfeeding, stronger parental bonds were associated with initiation of breastfeeding, with a clear difference between cohabiting mothers compared to solo mothers. There was also an increased risk of maternal depression with looser parental bonding, and among non-married groups this increased risk was most noticeable among cohabiting mothers when compared with solo mothers.

Keywords: UK; Marital status; Non-marital births; Smoking; Pregnancy; Breastfeeding; Depression

Introduction

There have been major changes in the demography of family life in recent decades with one of the most dramatic being the rise in non-marital childbearing. In UK, for example, the proportion of births occurring outside of marriage was 12 per cent in 1981, 30 per cent in 1991 and in 2004 stood at 42 per cent (ONS, 2005). Similar developments have occurred across many Western nations, with most of the rise in non-marital childbearing being attributable to the growth in cohabitation (Andersson, 2002, Kiernan, 1999). However, this is much

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doi:10.1016/j.socscimed.2006.01.006

less the case in Britain and the USA, where there have been notable increases in children being born to parents who are not living together at the time of the birth (Kiernan, 2004a).

Little is known about these developments in family life and particularly whether new parents who are more loosely bonded differ in their behaviours and experiences during pregnancy and post-birth. In UK it is estimated from the Millennium Cohort Study that children born in 2000–2001, 60 per cent of children were born to married couples, 25 per cent to cohabiting couples and 15 per cent to solo mothers (Kiernan & Smith, 2003). The absence of the legal bond of marriage among cohabiting couples may represent less economic or emotional security, which may lie behind the higher dissolution rates invariably found among cohabiting parents compared with married parents (Bumpass & Lu, 2000; Kiernan, 1999). Solo mothers are the most socio-economically disadvantaged of parents and are less likely to have the support of a partner (Kiernan, 2002; Marsh & Perry, 2003).

From pregnancy, through birth, and into infancy the health-related behaviour of the child's mother, as well as broader aspects of the family environment, matter for the long- and short-term healthy development of the child. In this study we focus on three aspects of maternal health and health-related behaviour that have important implications for child development: (1) maternal smoking during pregnancy, (2) breastfeeding and (3) maternal depression. Foetal exposure to cigarette smoke during pregnancy is associated with multiple deleterious short-term outcomes, including medical complications of pregnancy and birth (Castles, Adams, Melvin, Kelsch, & Boulton, 1999), intrauterine foetal growth retardation (Horta, Victora, Menezes, Halpern, & Barros, 1997), preterm delivery (Shah & Bracken, 2000), low birth weight, (Walsh, 1994), infant mortality (DiFranza & Lew, 1995) and negative temperament in early childhood (Brook, Brook, & Whiteman, 2000). While some of these short-term outcomes themselves exert a long-term impact on child health and development, foetal exposure to maternal smoking during pregnancy appears to also have independent long-term effects on cognition (Ernst, Moolchan, & Robinson, 2001; Najman et al., 2004; Olds, 1997) and behaviour (Rodriguez & Bohlin, 2005; Wakschlag, Pickett, Cook, Benowitz, & Leventhal, 2002).

The same pattern is recognized in relation to breastfeeding. In the short-term, breastfeeding is beneficial for the physical health of the infant (less diarrhoea, respiratory infections, otitis media and fewer clinic, emergency and hospital visits) (American Academy of Pediatrics Work Group on Breastfeeding, 1997; Heinig & Dewey, 1996). These short-term effects have a long-term impact on child health and development, while breastfeeding also has independent, beneficial, long-term effects on health (lower rates of diabetes, Crohn's disease, lymphoma, atopic disease and obesity), and intellectual development (Horwood & Fergusson, 1998).

It is well known that maternal depression increases the risk of emotional and behavioural problems among offspring (Brennan, Hammen, Anderson, & Bor, 2000; Cummings & Davies, 1994; Downey & Coyne, 1990; Kim-Cohen, Moffitt, Taylor, Pawlby, & Caspi, 2005). These problems can persist far beyond childhood and there is increasing evidence for inter-generational transmission of psychopathology and its risk factors (Serbin & Karp, 2003; Warner, Weissman, Mufson, & Wickramaratne, 1999). Maternal depression has also been shown to have adverse effects on cognitive and language development among offspring (Cox, Puckering, Pound, & Mills, 1987; Hay et al., 2001; Whiffen & Gotlib, 1989).

These three facets of maternal health and health-related behaviour are interrelated. Depression and cigarette smoking are highly correlated and depressed women are less likely to quit smoking (Borrelli, Bock, King, Pinto, & Marcus, 1996; Pritchard, 1994); there is a substantial, albeit inconclusive, research literature that attempts to determine whether smoking causes depression, or vice versa (Goodman & Capitman, 2000; Hanna, Faden, & Dufour, 1994; Kendler et al., 1993). Women who smoke are less likely to breastfeed than non-smokers and, if they do initiate breastfeeding, they do not breastfeed for as long (Hill & Aldag, 1996; Minchin, 1991). While breastfeeding seems neither to increase or decrease the risk of maternal depression (Cox, Connor, & Kendall, 1982), depressed mothers report more difficulties with breastfeeding, are less responsive to infant feeding cues, and more likely to view breastfeeding difficulties in psychological terms—as a rejection of them and their milk (Nordstrom et al., 1988; Tamminen & Salmelin, 1991). It therefore makes sense to seek common risk factors and/or risk markers for