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Prenatal and early postnatal depression and child maltreatment among Japanese fathers

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ABSTRACT

We investigated the association of paternal depression in the prenatal and early postnatal period with child maltreatment tendency at two months postpartum among Japanese fathers. This population-based longitudinal study recruited Japanese perinatal women and their partners living in Nishio City, Aichi, Japan. Of the 270 fathers who participated, 196 were included in the analysis. All data were collected via self-administrated questionnaires at four time points: 20 weeks' gestation and in the first few days, one month, and two months postpartum. Paternal depression was assessed using the Edinburgh Postnatal Depression Scale. Three definitions of paternal depression were coded based on participants' scores on this measure: prenatal, prior, and current. Child maltreatment tendency was evaluated using the Child Maltreatment Scale at two months postpartum. The associations of the three definitions of paternal depression and child maltreatment tendency were separately analyzed using logistic regression analysis. The prevalence of prenatal, prior, and current paternal depression was 9.7%, 10.2%, and 8.8%, respectively. According to the multivariate analysis, current paternal depression was significantly associated with child maltreatment tendency at two months postpartum (adjusted odds ratio: 7.77, 95% CI: 1.83–33.02). The other two types of depression, however, were not related to child maltreatment tendency. Thus, current paternal depression increased the risk of child maltreatment tendency in the postnatal period, suggesting that early detection and treatment of paternal depression might be useful for the prevention of child maltreatment.

1. Introduction

Child maltreatment, which includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence, and commercial or other exploitation (WHO, 2016), is an important health issue that requires immediate action. It is well known that maltreated children experience numerous behavioral, physical, and mental health problems (WHO, 2016). In the United States (US), the national victimization rate was around 9.4 per 1000 children in 2014; this rate was roughly stable between 2010 and 2014 (US Department of Health and Human Services, Administration for Children & Families, Children's Bureau, 2016). Among children aged 0–18 years, younger children, such as neonates and infants, are at the highest risk for child maltreatment and death due to child maltreatment. In particular, the victimization rate for neonates and infants is 24.4 per 1000 children, which is about twice the rate of

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children older than one year old. Thereafter, the victimization rate decreases with advancing age (US Department of Health and Human Services, Administration for Children & Families, Children's Bureau, 2016). The same report showed that in 2014 around 43.8% of perpetrators of child maltreatment in the US were reported to be the father (including cases where the father was one of multiple perpetrators).

According to a national survey conducted in Japan, the number of child maltreatment cases reported to Child Guidance Offices has been rapidly increasing, and reached upwards of 88,931 in 2014, which is more than double the number five years before (Ministry of Health, 2015a). Almost 40% of perpetrators were found to be the father or stepfather (Ministry of Health, 2015b).

The World Health Organization (WHO) reported that experiencing difficulty bonding with a newborn, inappropriate parenting, financial difficulties, and mental disorders including depression in the parent are recognized as risk factors for child maltreatment (WHO, 2006). Among the factors associated with child maltreatment by the father is paternal depression, which has been shown to promote negative parenting behaviors such as neglect and spanking (Davis, Caldwell, Clark, & Davis, 2009; Davis, Davis, Freed, & Clark, 2011; Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007; Lee, Taylor, & Bellamy, 2012; Paulson, Dauber, & Leiferman, 2006). Furthermore, a meta-analytic review concluded that paternal depression has an impact on fathers' parenting behaviors (Wilson & Durbin, 2010). However, this same review showed that the majority of previous studies on paternal depression and parenting behaviors focused on fathers of children aged one year and older (Wilson & Durbin, 2010). The lack of evidence on fathers of children less than one year old is an important issue to address because the first year after birth is a critical period for child maltreatment. Only a few previous studies have confirmed an association between paternal depression and parenting behaviors, including child maltreatment, within the first year after birth (Davis et al., 2011; Paulson et al., 2006). In addition, there is scant research on the parenting behaviors of fathers whose child is less than six months old, and none, to our knowledge, on the relationship of paternal depression during the prenatal period with child maltreatment in the postnatal period. Understanding the timing of mental health issues among fathers would be important for assessing the risk of child maltreatment in public health settings.

Thus, it would be important to identify the impact of paternal depression on child maltreatment in the early postnatal period. The purpose of this study is to investigate the association between paternal depression and child maltreatment tendency at two months postpartum in Japan, and examine whether this impact on child maltreatment tendency varies according to the period in which paternal depression develops.

2. Methods

2.1. Participants and data collection

We conducted a population-based, longitudinal study of pregnant women and their partners who were registered as citizens of Nishio City, which is located in a rural area of Aichi Prefecture, Japan. The main reason we chose this city as the study area was the feasibility to identify the delivery date and to follow participants from the pregnancy period to the postpartum period. More than 85% of women in this city delivered at any of four maternity hospitals. All participants who were able to complete a questionnaire in Japanese were recruited from one of two health centers in the city when they visited to submit their pregnancy notification form (approximately 8–12 weeks' gestation) from December 1, 2012 to April 30, 2013. In Japan, more than 97% of pregnant women submit pregnancy notification forms before 20 weeks' gestation. Health center staff provided all eligible participants with a briefing on the study, after which participants were asked if they agreed to enroll. If they agreed, participants were asked to provide their personal information, such as their name, address, and birthing facility. An informed consent form was sent along with the baseline questionnaire by mail at 20 weeks' gestation.

Participants then received follow-up questionnaires, either in person or by mail, at four subsequent time points following baseline: namely, the first few days, two weeks, one month, and two months postpartum. However, we later decided not to use the data from two weeks postpartum because of the extremely low response rate (42.6%), which would have prevented accurate comparison with the other time points. The reason for the low response rate was the short timeframe between the questionnaires sent at the first few days and two weeks postpartum. To identify the delivery day and whether any serious problems occurred at delivery, such as stillbirth, we needed to confirm that the questionnaire assessing the first few days postpartum was returned to the study group. We sent questionnaires at one month and two months postpartum unless we received a revocation to participate in the study.

2.2. Measures

2.2.1. Basic characteristics of father and child

Fathers' basic characteristics including age, education status, number of children, unwanted pregnancy, and psychiatric history before the current pregnancy were assessed at baseline. Children's characteristics were assessed only in the questionnaire administered a few days postpartum.

2.2.2. Paternal depression

Paternal depression was assessed at every time point using the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987), which comprises 10 items rated on a 4-point Likert scale. The cut-off point for risk of paternal depression was an EPDS score ≥ 8; this cut-off has been validated in previous studies among Japanese fathers (Nishimura & Ohashi, 2010). Using the data from the EPDS, we then created three definitions of paternal depression according to the time at which participants met the criteria for an episode: *prenatal paternal depression*, which was meeting the cut-off at 20 weeks' gestation; *prior paternal*