A Mixed-Method Examination of Maternal and Paternal Nocturnal Caregiving

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ABSTRACT

Objectives: The study objectives were to describe and compare causes of, and activities during, postpartum parents' nocturnal awakenings.

Methods: Twenty-one primiparous postpartum couples were studied for 1 week with qualitative and quantitative methods.
Results: Mothers reported more awakenings per night (3.3 ± 1.1) and more wake time after going to sleep (116.0 ± 60.0 minutes) compared to fathers (2.4 ± 0.5 and 42.7 ± 39.4 minutes, respectively). "Actions taken" during maternal nocturnal awakenings were primarily for infant feeding (49.0%), general infant care (18.5%), and infant changing (12.0%). "Actions taken" during paternal nocturnal awakenings were primarily "passive awakenings" (35.9%), for self-care (18.4%), and for infant feeding (9.4%).
Conclusions: Qualitative analyses revealed ways that new families can optimize the sleep of both parents while also providing optimal nocturnal infant care. J Pediatr Health Care. (2014) *28*, 313-321.

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Sleep is a vital behavior that has an impact on all facets of life. Sleep disturbance adversely affects daily functions, including general health (Alvarez & Ayas, 2004), hormone regulation (Copinschi, 2005), neurocognitive performance (Goel, Rao, Durmer, & Dinges, 2009), decision making (Harrison & Horne, 2000), and mood (Bonnet, 1986). Sleep disturbance among postpartum parents is becoming better understood (Gay, Lee, & Lee, 2004; Kennedy, Gardiner, Gay, & Lee, 2007; Montgomery-Downs, Insana, Clegg-Kraynok, & Mancini, 2010) and is primarily caused by infant signaling for nocturnal caregiving needs (Nishihara, Horiuchi, Eto, & Uchida, 2002). New parents are responsible for providing infant care, adjusting to parenthood, and meeting societal and financial demands, all while facing the challenges of disturbed sleep.

The postpartum family is a system whereby one member's experience can affect the experiences of other family members. This process is particularly relevant to sleep experienced among postpartum parents. Nocturnal experiences between mothers and fathers, and infants and parents, bidirectionally interact as dynamic transactional processes (Meijer & van den Wittenboer, 2007; Nishihara et al., 2002; Sadeh, Tikotzky, & Scher, 2010). These processes are further compounded by the intersection of infant and parental physiological needs (e.g., feeding and rest; Rowe, 2003) and the actions taken to address those needs. These processes are encompassed within the Integrative Mid-Range Theory of Postpartum Family Development. According to this theoretical orientation, during the first 8 postpartum weeks, parents are influenced by new physical, psychosocial, and environmental factors that direct their focus toward "surviving and thriving" (i.e., learning ways to manage their new workload and family well-being (Christie, Poulton, & Bunting, 2008). Understanding postpartum parents' nocturnal experiences and caregiving activities is central to the development of strategies that can be used to optimize parental sleep, nocturnal infant care, and family well-being.

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In a recent study of the relations between infant sleep and parental involvement, Tikotzky and colleagues reported that mothers were more involved with nighttime infant caregiving compared with fathers (Tikotzky, Sadeh, & Glickman-Gavrieli, 2011), which is consistent with previous reports (Ball, Hooker, & Kelly, 2000; Goodlin-Jones, Burnham, Gaylor, & Anders, 2001). Notably, other reports emphasize the strides that fathers have made in their involvement in children's daily care during recent decades (Coleman & Garfield, 2004). For instance, time-diary studies have shown that U.S. fathers increased time spent on child care duties from 2.5 hours per week in 1965 to 7 hours per week in 2000, an amount greater than fathers in Australia, Canada, France, Britain, and Holland (Bianchi, 2006). However, an examination of specific nocturnal experiences and caregiving activities among postpartum parents has yet to be reported. The study objective was to describe and compare what happens during mothers' and fathers' nocturnal awakenings during the early postpartum period. To achieve this objective we used an ecologically valid field-based mixed-methods approach using both qualitative and quantitative data.

METHODS

The current study is an analysis of data from a convenience sample that was collected for a descriptive study of normative postpartum sleep (Montgomery-Downs et al., 2010). The current study was approved by the West Virginia University Institutional Review Board; participants provided informed consent and Health Information Portability and Accountability Act authorization.

Participants

Women and their partners were recruited from a larger study of normative maternal postpartum sleep (Montgomery-Downs et al., 2010). Couples were excluded from the study if the mother had a history of major depressive or anxiety disorder or a score ≥16 on the Center for Epidemiological Studies of Depression (Radloff, 1977) or if either partner in the couple was diagnosed with a sleep disorder. Couples were also excluded if the mother was pregnant with multiple fetuses or had a preterm delivery or if the infant was admitted to the neonatal intensive care unit. Infants were born at an average of 39.61 (*SD* = 1.09) weeks' gestation and were 6.93 (*SD* = 1.26) weeks old during the study. Infants were primarily breast fed (61.90%); 14.29% were fed formula, and 23.81% were both breast fed and fed with formula. Family characteristics are provided in Table 1.

Procedure

Participants completed the research protocol for 8 continuous days within the range of their third and eighth postpartum weeks. Demographic variables were obtained at study entry. Customized software for a Palm Zire 72 personal digital assistant (PDA) was used for this study (Bruner Consulting Co., Longmont, Colorado). Each morning within 2 hours after awakening, parents used a PDA to impute the following values for their previous nights: (a) nocturnal awakening frequency, and (b) cumulative minutes they were awake during the night. When compared with the gold standard of polysomnography, ones' subjective report of sleep is considered acceptable (κ = .87; sensitivity = 92.3%; specificity = 95.6% [Rogers, Caruso, & Aldrich, 1993]). Participants also used the PDA voice memo function to respond to the request, "Please describe why you woke up and what you did each time you woke up last night." PDA data were downloaded at the West Virginia University Sleep and Sleep Disorders Research Laboratory at the end of each study week.

Qualitative and Quantitative Analyses

Mixed qualitative and quantitative methods were used to analyze all available data. Qualitatively, each of the