Published in final edited form as:

J Affect Disord. 2014 January ; 0: . doi:10.1016/j.jad.2013.09.038.

Postnatal depression in Mexican American fathers: demographic, cultural, and familial predictors

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Abstract

Background—Although maternal postpartum depression (PPD) is a well-documented phenomenon that has been the focus of a large body of literature, much less is known about the prevalence and predictors of depressive symptoms among fathers following the birth of a child. Particularly scarce is research with Mexican American men, an understudied population at high risk given limited socioeconomic resources and elevated rates of maternal PPD.

Methods—The current study used descriptive and path analyses to examine the prevalence and predictors of PPD in 92 Mexican American fathers (*M* age = 31.3 years).

Results—At both 15 and 21 postpartum week assessments, 9% of fathers met criteria for PPD. Path analyses suggested that unemployment status, fewer biological children, poor marital relationship quality, and lower orientation to Anglo culture predicted higher 15 week paternal PPD symptoms, which was associated with greater paternal depressive symptoms at 21 weeks. Predictive paths from symptoms of maternal to paternal PPD were not significant.

Limitations—Lack of generalizability to other ethnic groups, sampling of primarily resident fathers, and the absence of historical assessments of depression are limitations of the current study.

Conclusions—Findings support the importance of PPD screenings among Mexican American fathers and suggest certain demographic, familial, and cultural factors may render men particularly vulnerable for maladjustment during the early infancy period.

Keywords

postpartum depression; fathers; Mexican American

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Contributors

All authors were involved in the study design and protocol. Author Roubinov conducted literature searches, managed analyses, and wrote the first draft of the manuscript. Authors Luecken, Crnic, and Gonzales edited and revised subsequent drafts. All authors contributed to and have approved the final manuscript.

Conflict of Interest

The authors have no conflicts of interest.

Introduction

Research on parental mental health in the early postnatal period most frequently addresses women's adjustment, with the past several decades documenting high prevalence rates and wide-ranging negative consequences of maternal postpartum depression (PPD; O'Hara, 2009). Variables influencing the onset and trajectory of maternal PPD span individual and environmental domains, and risk factors often include sociodemographic characteristics and psychosocial stressors associated with becoming a parent. Although such factors potentially place men at risk during the transition to fatherhood, only recently has research begun to recognize and document the phenomenon of paternal PPD (Paulson & Bazemore, 2010). Particularly scarce within this literature are studies with low income and ethnic minority men for whom environmental and sociocultural vulnerabilities may be compounded by the birth of a child. As members of the largest and most rapidly expanding ethnic group in the United States (U.S. Census Bureau, 2011), the mental and physical health of Hispanic families merits special attention. The current study addresses limitations in the literature by exploring the prevalence and predictors of PPD among low-income Mexican American men.

Garnering reliable estimates of paternal PPD¹ is hampered by variability in the assessment tools, diagnostic cut-offs, and timing of measurements, as well as small, homogenous samples. In a review of the literature, Goodman (2004) noted wide-ranging prevalence rates from as low as 1.2% to as high as 25.5% among community-based samples. A meta-analysis reported approximately 10% of new fathers will experience depression in the first postnatal year, with the incidence greatest between the initial three and six months of fatherhood (Paulson & Bazemore, 2010) and considerably higher than the prevalence rate of 4.8% observed in the general population of men (Kessler et al., 2003). Notably, existing paternal PPD prevalence rates are predominantly based upon middle to upper class, majority culture samples of fathers. Non-Caucasian and lower SES men have been the focus of limited research, typically only described in research conducted in countries such as Spain or Brazil, where non-Caucasian men do not hold minority status in the population (e.g., Escribá-Agüir & Artazcoz, 2009; Pinheiro et al., 2006).

Special attention to paternal postnatal mental health as a significant public health concern is warranted. The economic impact of depression is staggering, with an estimated burden of \$83.1 billion to the United States from direct (e.g., treatment) and indirect (e.g., declines in work productivity) costs (Greenberg et al., 2003). The negative consequences of depression extend beyond the individual to impact the family system and quality of paternal parenting behaviors (Wilson & Durbin, 2010), particularly when children are young (Kessler & Bromet, 2013). Depressed fathers demonstrate lower levels of interaction with their infants (Bronte-Tinkew et al., 2007), engage in fewer enrichment activities (e.g., reading, singing, talking; Davis et al., 2011; Paulson et al., 2006), and demonstrate more intrusive parenting behaviors (McElwain & Volling, 1999). Early postnatal paternal depressive symptoms may persist beyond the infancy period (Zelkowitz & Milet, 2001), carrying an increased risk of poor child outcomes associated with chronic parental depression (Dougherty et al., 2013).

Like its maternal counterpart, the development of PPD among new fathers may be strongly influenced by personal and psychosocial risk factors. The birth of a child is a significant life event; while it may bring marked happiness into the lives of new parents, it is also associated with unpredictability, changes in daily structure, new responsibilities and

¹The clinical criteria that define PPD do not differ from major depression. PPD is distinguished from major depression by onset during the period following the birth of a child. Although the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V; American Psychiatric Association, 2013) restricts PPD diagnoses to within four weeks of the child's birth, most studies regard depression occurring during the first year following delivery as PPD (Musser et al., in press; O'Hara, 2009)

increased economic demands. The difficulties associated with parenting an infant may be exacerbated among first-time fathers who have limited experience in newborn care or readiness for postnatal shifts in the family system. Prior research has observed higher rates of PPD among fathers who reported limited knowledge about the postnatal period (Wee et al., 2011) and low levels of parental self-efficacy (Giallo et al., 2013). Although updated conceptualizations of the paternal role have moved from defining fathers solely as “family breadwinners,” the provision of economic resources continues to be an important component of fathering (Coley & Schindler, 2008; Waller, 2010). The expectation that fathers will support the family financially may create significant pressure among men, particularly those experiencing economic hardship. Illustratively, low socioeconomic status and lack of employment contribute to higher levels of depression among fathers of infants (Bronte-Tinkew et al., 2007) and young children (Lee et al., 2012).

The paternal role has been conceptualized as being strongly bonded to the spousal role and men may struggle to establish boundaries that separate their functioning as husbands and fathers within the family environment (Cummings et al., 2010). While societal expectations and infant needs clearly specify the role and responsibilities of new mothers, fathering behavior may be regarded as less defined and more discretionary (Parke, 2002). The fluidity of the paternal role may lead fathers to rely heavily upon their partner for support and guidance during the transition to parenthood such that marital conflict and relationship dissatisfaction exert strong negative influence on paternal postnatal well-being. Though not specific to the infancy period, the *fathering vulnerability hypothesis* outlines how marital conflict may detrimentally impact paternal parenting behaviors and the father-child relationship (Cummings & O'Reilly, 1997). Postnatal paternal mental health may be similarly compromised by marital conflict, however research has primarily focused on the relation of marital relationship quality to maternal depression during childhood and adolescence (Cummings et al., 2010). The influence of the spousal relationship on fathers' postpartum depressive symptoms has been relatively unexplored, however preliminary evidence identifies low relationship satisfaction as a correlate of paternal PPD (Wee et al., 2011) and an important mechanism relating maternal and paternal PPD (Don & Mickelson, 2012). Importantly, research of these relations in Mexican American families remains limited (see Cabrera et al., 2009).

In addition to the quality of the romantic relationship, the mental health of a father's spouse/partner may bear significantly on paternal postnatal depression. Extant research, however, produces an ambiguous picture of the relation between paternal and maternal PPD. Positive correlations between parents' depression following the birth of a child are commonly found and have led to wide acceptance that an association exists, however the lack of longitudinal studies leave questions of causality unanswered (Goodman, 2004). It has been suggested that the onset of paternal PPD follows maternal PPD as distress in fathers is hypothesized to be sensitive to the quality of maternal adjustment (Matthey et al., 2000). Levels of paternal PPD are higher among men with partners who suffer from depression during the postnatal period (Bielsawska-Batorowicz et al., 2000; Matthey et al., 2000) and prior research has identified spousal depression as one of the strongest correlates of paternal PPD (Deater-Deckard et al., 1998; Goodman, 2004). However, Dudley et al. (2001) found maternal PPD offered little value to the prediction of paternal PPD, above and beyond other demographic and psychosocial variables. Among studies of spousal depression outside of the postnatal period, increases in men's depressive symptoms predict increases in women's depression over time, however the reciprocal relation was not significant; women's depressive symptoms did not predict their partner's depression (Carro et al., 1993; Kouros & Cummings, 2010).

The current study focuses on Mexican American fathers during the postnatal period, an emphasis that is noteworthy for several reasons. There is a “distinct Latino cultural ethic surrounding masculinity and fatherhood” that promotes a prominent paternal role for Mexican American men within the family environment (Mirandé, 1997, p. 115). Mexican American men residing in the United States may encounter divergent expectations for fathering as prescribed by majority culture and traditional Mexican American values. For example, prevailing societal norms in the United States promote an egalitarian approach to the division of parenting responsibilities, while traditional Mexican American values are typically associated with more gendered parenting roles (Pinto & Coltrane, 2009). However, changes are occurring even within the realm of traditional Mexican American parenting values, as processes of migration and shifting patterns of women’s employment redefine the paternal role in Mexican American families (Tamis-LeMonda et al., 2009). In fact, evolving contemporary Mexican American cultural values may promote qualities of paternal nurturance, warmth, and involvement in typically “feminine” parenting tasks among fathers (Saracho & Spodek, 2007).

In the United States, many Hispanic individuals demonstrate better than expected health outcomes despite the disadvantages conferred by lower levels of income and education (Franzini et al., 2001). One theory for this “Hispanic paradox” proposes that adherence to traditional cultural values of strong social and family support exerts a protective effect on health and wellbeing (Palloni & Morenoff, 2001). This epidemiological advantage might suggest better postnatal mental health among less acculturated Mexican American fathers because they may be more likely to adhere to these traditional cultural values, however research has been inconclusive. While some studies have observed a positive association between acculturation and the prevalence of psychiatric disorders (Mendelson et al., 2008), other research has found no relation in Latino men and women (Le Sage & Townsend, 2009). Within a sample of Mexican American men, Fragoso & Kashubeck (2000) reported that endorsement of traditional *machismo* values was related to higher levels of depressive symptoms. In contrast, English language proficiency (a proxy for higher acculturation) has also been positively associated with paternal depressive symptoms (Cabrera et al., 2009). A potential explanation for these inconsistencies is a failure of most studies to measure and account for the dual processes of *acculturation* (orientation toward mainstream culture) and *enculturation* (orientation toward traditional culture). Although related, acculturation and enculturation are separable processes that may each exert independent effects on adjustment (Gonzales et al., 2002; Schwartz et al., 2010). For example, it is possible to retain a traditional cultural value orientation while also learning English and integrating within mainstream culture. In fact, research supports the benefits of biculturalism (high on both dimensions of cultural orientation) because it allows individuals to retain cultural strengths while gaining access to social capital and resources associated with mainstream culture (Gonzales et al., 2009). Accordingly, the current study examines the effects of both Mexican orientation (enculturation) and Anglo orientation (acculturation) on paternal PPD.

Several factors highlight the need for a dedicated study of paternal PPD among Mexican American men. Studies have observed rates of PPD in Hispanic women to be considerably higher than women in the majority culture, with estimates ranging from 28–64% (Chaudron et al., 2005; Kuo et al., 2004; Le et al., 2010; Martinez-Schallmoser et al., 2003) as compared to prevalence rates of 7–19% among Caucasian women (Gavin et al., 2005). The incidence of PPD may be similarly elevated among Hispanic men, however research has yet to evaluate prevalence rates within this population. Though conclusions of a correlational or causal relation between paternal and maternal PPD remain equivocal, the elevated rates of postnatal depression among Hispanic women may also increase risk among their partners. Economic stressors and poor occupational conditions associated with depression in non-postpartum Mexican American men (Parke et al., 2004; Wheeler et al., 2011) may be further

compounded by the birth of a child and the resulting financial burden. Finally, endorsement of traditional Mexican values or majority culture views of the paternal role may contribute to the difficulty or ease with which men transition to fatherhood. The current study extends prior literature by evaluating the prevalence and predictors of PPD in low-income Mexican American men using maternal and paternal reported data to circumvent biases of models that are limited to a single reporter. Using existing theoretical and empirical research as a guide, two models of paternal PPD were also evaluated. The first model evaluated the influence of demographic variables and cultural characteristics on paternal PPD symptoms. The second model assessed the contribution of maternal PPD symptoms to the development of paternal PPD symptoms, above and beyond the influence of demographic and cultural variables.

Methods

Participants

Participants included 257 self-identified Mexican American women (M age = 28.4, SD = 6.5) recruited for a larger longitudinal study of maternal and infant health and 92 self-identified Mexican American men (M age = 31.3, SD = 7.5) recruited into a substudy of paternal mental health and father involvement during the early postnatal period. All participating men were the current romantic partners of mothers in the larger study or were identified by women as the biological father of her infant.² Eligibility criteria for men were (1) self-identification as Mexican American, (2) English or Spanish language fluency, and (3) age 18 or older. Eligibility criteria for women included the aforementioned items (1) through (3), as well as (4) low-income status (self-reported income below \$25,000 or Medicaid eligibility), and (5) delivery of a singlet baby. Sample characteristics for mothers and fathers are presented in Table 1.

Recruitment—Women were recruited into the larger study first, after which permission was requested to contact the fathers of their infants. During prenatal care appointments at a community clinic that serves low-income populations, eligible pregnant women (prior to 34 weeks gestation) were invited to participate by a female, bilingual interviewer. Of 745 eligible women, 419 (56%) agreed to be part of the study. Prenatal home visits were not completed for a subset of women who became ineligible (e.g., miscarried, gave birth before the prenatal home visit could be completed, could not be reached to complete the prenatal visit; n = 72) or refused after initial contact (n = 22). Sixty-eight women were excluded from the analyses because they were not in a romantic relationship at the time of the prenatal home visit (n = 45) or reported that their romantic partner was not Mexican American (n = 23). The final sample consisted of 257 women.

During women's six-week postnatal home visit, female interviewers requested permission to speak with fathers about the study. Data collection from fathers was initiated later in the larger study, thus 180 women were approached as part of father recruitment efforts, and 161 fathers were identified for possible recruitment (15 women did not give permission to contact the father and 4 fathers were not eligible). Of these, 21 (12%) fathers declined to participate and 36 (20%) could not be contacted. An additional 11 (6%) fathers agreed to participate, but could not be reached for either postnatal interview. Because the informed consent of one participating father was lost due to technical issues with the telephone recording system, his data was omitted from the analyses. The final sample consisted of 92 fathers.

²Three women (1% of the sample) indicated that their current romantic partner was not their baby's biological father. One of these men was recruited into the current study.

T-tests and chi-square analyses compared maternal reports of characteristics of participating and non-participating fathers in the present study. Fathers did not differ on level of education ($p = 0.64$), employment status ($p = 0.79$), country of birth ($p = .09$), or family income ($p = 0.46$). The maternal partners of participating fathers did not differ from the maternal partners of non-participating fathers on age ($p = 0.46$), level of education ($p = 0.09$), employment status ($p = 0.39$), country of birth ($p = 0.19$), or Mexican ($p = 0.76$) and Anglo ($p = 0.58$) orientation. The difference in economic hardship neared significance ($p = 0.08$), with mothers reporting greater hardship in families with participating fathers as compared to families in which fathers did not participate in the present study.

Procedures

Women's participation included one prenatal home visit conducted between 26 and 38 weeks gestation and a series of postnatal home visits and brief telephone interviews. The present analyses used data collected from women during the prenatal home visit and two telephone calls completed at three and 15 weeks postpartum. Interviews were conducted in Spanish (86%) or English (14%) according to the preference of the participant. Given the variability in literacy levels, informed consent and interview questions were read aloud to women, and responses were entered by interviewers onto project laptops equipped with computer-assisted interview software. Women were compensated \$75 and small gifts for the prenatal home visit and \$10 for each telephone interview.

Bilingual male interviewers contacted eligible fathers by telephone to extend an invitation for participation. Fathers who expressed interest were mailed 2 informed consent forms and a stamped envelope in which to return one signed form prior to the first telephone interview at 15 weeks following the birth of the child. If the signed form was not returned prior to the first telephone interview, the consent forms was read aloud and fathers' verbal consent was recorded using a digital (Konnex) or web-based (Save My Call) telephone recording system before beginning the interview. Bilingual male interviewers read questions aloud to fathers in the language of his choice (80% Spanish, 20% English) and responses were entered into a computer-based survey system. Fathers were compensated \$20 for each telephone interview.

Measures

All study measures were adapted for Spanish-speaking participants. Validated, translated versions of the measures were used when available. New items and measures that were not available in Spanish were translated and back-translated by fluent English and Spanish speakers, after which field testing was conducted to ensure items were culturally-sensitive and appropriate to the local community (Behling & Law, 2000). Discrepancies were resolved by the lead translators and/or principal investigators. Descriptive statistics and intercorrelations for all study measures are presented in Tables 1 and 2, respectively.

Demographic information—During women's prenatal home visit, information was obtained on fathers' employment status. During men's 15 week interview, fathers reported on their number of other biological children.

Marital relationship quality—Women reported on marital adjustment during the prenatal home visit using a seven-item version of the Dyadic Adjustment Scale (Spanier, 1976). Items were selected from the original measure to assess perceptions of satisfaction and cohesion with the partnership (e.g., *"In general, how often do you think that things between you and your partner are going well?"* *"How often do you confide in your mate?"*). Items were rated on a 5- point scale ranging from 1 (Not at all) to 5 (Completely) and averaged to create a summary score with higher scores indicating better romantic relationship adjustment ($\alpha = 0.79$).

Paternal and maternal postnatal depressive symptoms—Paternal PPD symptoms at 15 and 21 weeks following the birth of the child were assessed by self-report with the 10-item Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987). The EPDS has been shown to be a valid and reliable measure of paternal PPD among English- (Matthey et al., 2001) and Spanish-speaking (Escribá-Agüir et al., 2007) fathers. The EPDS was also used to assess mothers' self-reported depressive symptoms at three and 15 weeks following childbirth. The measure has demonstrated moderate to good test-retest reliability, adequate internal consistency and concurrent validity (Boyd et al., 2005), and has been validated in samples of Spanish-speaking women (Garcia-Esteve et al., 2003). Scores were summed based on a 4-point rating scale (the specific wording of response sets varied based on the nature of the question). Higher scores were representative of more severe depressive symptoms (paternal PPD $\alpha = 0.64$ (15 weeks), 0.73 (21 weeks); maternal PPD $\alpha = 0.81$ (3 weeks), 0.84 (15 weeks)).

Enculturation/Acculturation—At the 15-week interview, fathers completed the Acculturation Rating Scale for Mexican Americans II (ARSMA II; Cuéller et al., 1995) to assess enculturation and acculturation, the processes by which fathers integrate and assimilate into Mexican and American societies, respectively. The ARSMA-II consists of two subscales: a 17-item Mexican orientation subscale and a 13-item Anglo orientation subscale that measure how frequently individuals engage in activities associated with each culture. The scale has good reliability and validity among English- and Spanish-speaking samples (Cuéller et al., 1995). Responses ranged from 1 (Not at all) to 5 (Extremely often or almost always), averaged to produce mean Mexican orientation ($\alpha = 0.86$) and Anglo orientation ($\alpha = 0.90$) scores. Higher values indicate greater levels of identification with Mexican or Anglo culture.

Data analyses

Descriptive statistics and frequencies were calculated to examine levels of paternal depressive symptoms at 15 and 21 weeks into the postnatal period based on an optimal cut-off of 10 for fathers recommended by Matthey et al. (2001). Multiple regression in Mplus version 6.1 (Muthén & Muthén, 2010) was used to test two path models of paternal PPD. In the first model, maternal report of father employment status and romantic relationship quality and paternal self-report of the number of other biological children fathered, Anglo orientation, and Mexican orientation were examined as predictors of paternal PPD symptoms at 15 weeks following the birth of the child. The first model also evaluated the relation of 15 to 21 week paternal PPD symptoms (see Figure 1). The second model added paths relating maternal PPD symptoms at 3 and 15 weeks to paternal PPD symptoms (see Figure 2). In order to maximize power, analyses were conducted using data from all mothers ($n = 257$) even when their partners could not be recruited to provide paternal report data. Full information maximum likelihood (FIML), a modern statistical technique supported by theory and a strong foundation of empirical literature, handled missing data. Importantly, FIML does not “create” data in cases of missingness, but computes model estimates from the full body of observed data, enabling Mplus to make use of all available data points even when cases contain incomplete information (Enders, 2006).

Results

Preliminary correlations

Zero-order correlations between study variables are presented in Table 2. At 15 weeks, fathers' depressive symptoms were negatively correlated with employment status, romantic relationship quality, Anglo orientation, and number of biological children. Paternal PPD at

21 weeks was negatively correlated with employment and relationship quality and positively correlated with 15 week maternal PPD, and 15 week paternal PPD.

Prevalence of paternal PPD

Scores on the measure of paternal depressive symptoms ranged from 0 to 13 ($M = 5.37$, $SD = 3.25$) at 15 weeks and 0 to 16 ($M = 4.10$, $SD = 3.47$) at 21 weeks into the postnatal period. At both 15 and 21 weeks, 9% of fathers ($n = 8$) met or exceeded the recommended cutoff for paternal PPD (i.e., EPDS score ≥ 10 ; Matthey et al., 2001).

Model 1: Prediction of paternal PPD symptoms

Demographic and cultural variables comprising the first model demonstrated overall significant prediction of paternal PPD symptoms ($R^2 = 0.21$, $p = 0.01$), including significant effects of several variables (see Figure 1). Results indicated higher PPD symptoms at 15 weeks among unemployed fathers (per maternal report) and fathers self-reporting lower Anglo orientation. Paternal PPD symptoms were also higher among fathers with fewer children and those with partners reporting poorer romantic relationship quality, though those associations were marginally significant. Paternal PPD symptoms at 15 and 21 weeks following the birth of the child were positively associated.

Model 2: Maternal PPD symptoms as a predictor of paternal PPD symptoms

Results were largely consistent across the second model, which retained the predictors included in the first model and evaluated additional paths from maternal PPD symptoms at 3 and 15 weeks following childbirth to paternal PPD symptoms. The model demonstrated overall significant prediction ($R^2 = 0.22$, $p < 0.01$; see Figure 2). Similar to the first model, maternal report of fathers' unemployment status and lower relationship quality, and paternal report of lower Anglo orientation were associated with higher 15 week paternal PPD symptoms. Fewer children remained a marginally significant predictor of higher paternal PPD symptoms. The additional paths of interest were not significant in the full model; symptoms of maternal PPD at 3 weeks were not related to paternal PPD symptoms at 15 weeks and maternal PPD symptoms at 15 weeks were not associated with symptoms of paternal PPD at 21 weeks.

Discussion

Research and clinical discourse surrounding parental postnatal adjustment is expanding beyond maternal mental health to address the adjustment of fathers, as emerging studies indicate that depressive symptoms are not unique to mothers during the transition to parenthood. The negative reach of paternal PPD is extensive, with detrimental effects on father involvement and parenting during infancy (Bronte-Tinkew et al., 2007; Wilson & Durbin, 2010), marital relationship satisfaction (Wee et al., 2011), and increased healthcare costs in the public sector (Edoka et al., 2011). However, extant research has been dominated by studies conducted with middle- to upper-class Caucasian men. The current study addressed limitations in existing research by recruiting low-income Mexican American men for an examination of paternal PPD in the first several months after the birth. In this sample, 9% of fathers met criteria for postnatal depression at 15 and 21 weeks following the birth of their child. Reported rates of paternal PPD are difficult to compare across studies given the wide variability in the tools and timing of measurement. However, the rates in our sample are comparable to the results of a meta-analysis of paternal PPD in the first postnatal year (10%, Paulson & Bazemore, 2010), and rates of PPD observed among fathers within the first several postnatal months (10%; Edmonson et al., 2010; 13%; Edoka et al., 2011), and are nearly twice as high as the 12-month base rate of depression in the general population of men (4.8%; Kessler et al., 2003). Despite the fact that rates of PPD among Mexican

American men in the current study were comparable to rates observed in majority culture samples, lower access to quality mental health care services may increase the suffering of depressed Latinos relative to depressed Caucasians (Mendelson et al., 2008).

A path model examined the relation of mother and father reported demographic and cultural factors to paternal PPD symptoms at 15 and 21 weeks. Unemployed fathers and those whose partners reported lower quality romantic relationships reported elevated symptoms of depression. It was uncommon for women in this sample to work outside the home and fathers may have provided the only source of income. The financial strain created when fathers were unable to secure steady employment during preparations for their child's birth may have been considerable, contributing to chronic economic stress during the first several months of infancy. Paternal unemployment may have also influenced distress among Mexican American fathers beyond elevating levels of financial hardship. Economic support for the family is an important aspect of fatherhood (Ihinger-Tallman et al., 1995) and one that has particular cultural relevance. "Family provider" is cited as a noteworthy, positive component of the paternal role among Mexican American men (Saracho & Spodek, 2007) and levels of depression may have been higher for fathers who felt constrained or threatened in their ability to fulfill this aspect of their paternal identity.

Greater depressive symptoms were also observed among men when their partners reported poorer relationship satisfaction during the prenatal period. Low quality romantic relationships have been identified as a risk factor for the development of maternal PPD (O'Hara, 2009); results of the current study suggest the negative consequences of marital discord may extend to new fathers. The close, intertwined nature of marital functioning and fathering may render men vulnerable to the influence of maladjustment in the spousal relationship (Goeke-Morey & Cummings, 2007), particularly in the context of stressors encountered during the early postnatal period.

Results also revealed higher PPD symptoms among men with fewer children. Family dynamics and day-to-day schedules change drastically when a newborn is brought home and men with less/no prior parental experience may feel particularly overwhelmed by the rapid shifts in the family environment. Societal expectations for fathers' involvement in caregiving are generally lower than that which is expected of mothers (Doherty et al., 2006) and men may receive limited preparation for providing hands-on care to newborns. In the face of real or perceived deficits in infant caregiving, new fathers may experience distress. Though paternal mental health was not assessed, Doherty et al. (2006) found that a brief educational intervention contributed to improved parenting outcomes among first-time fathers. The transition to fatherhood may be easier for men with prior parenting experience and those for whom the paternal role is already a well-developed component of their identity.

The current study also evaluated the relation of two distinct cultural adaptation processes, enculturation and acculturation, to paternal PPD symptoms. Prior research has observed better health outcomes among Hispanic populations in the United States as compared to individuals from the majority culture, an effect that may be partially attributed to the health benefits of social cohesion and support typical of Hispanic communities (Ruiz et al., 2012). Since strong adherence to traditional cultural values may engender health benefits, we expected improved postnatal adjustment among more enculturated fathers. Interestingly, there was little evidence of a relation between identification with Mexican culture and paternal PPD symptoms. The lack of an association may be attributed to low levels of variability in Mexican orientation within the present study. The current sample of fathers was predominantly Mexico-born, Spanish-speaking, and highly aligned with traditional values. Given the high proportion of immigrants in our sample, it will be important to

evaluate whether the results hold in later generation Mexican American families. In contrast, a significant relation emerged between acculturation and paternal PPD: fathers who endorsed lower levels of Anglo orientation reported greater depressive symptoms. Lower acculturation may be associated with factors that increase the risk for maladjustment during the transition to parenthood (e.g., lack of cultural capital, experiences of discrimination, language barriers, and decreased access to healthcare and community resources). Result of the current study highlight the importance of evaluating the dual processes of cultural adaptation to mainstream and traditional culture as they relate to postnatal adjustment among Mexican American fathers.

Maternal PPD symptoms did not help explain the level of paternal PPD symptoms beyond the influence of demographic and cultural variables, nor did the additional paths from maternal to paternal PPD change the relations of demographic and cultural factors to paternal PPD symptoms. Although there was a positive zero-order correlation between maternal PPD symptoms at 15 weeks and paternal PPD symptoms at 21 weeks ($r = 0.145$, $p < .05$; see Table 2), the relation did not remain significant in the full path model. Prior research supports the presence of an association between mothers' and fathers' depressive symptoms during the postnatal period, however studies have been largely correlational in nature. In early infancy, the association between maternal and paternal depressive symptoms may not persist beyond the influence of background and contextual characteristics. Relations between paternal and maternal PPD may also change with shifting family dynamics across the transition to parenthood. Matthey et al. (2000) found that non-shared factors among parents (e.g., early childhood experiences) significantly contributed to the development of PPD among both parents during the initial period following childbirth, while shared environmental qualities (e.g., spousal adjustment and support) bore greater influence towards the end of the first postnatal year. Future longitudinal examinations that gather successive assessments across the first postnatal year are well-suited to examining these processes as they unfold over time.

Limitations of this study should be considered, particularly as a guide for future research. First, the study provided a targeted examination of paternal PPD within very low-income Mexican American families (median income range was \$10,000–\$15,000 with an average of 5 people supported by that income); generalizability to other Latinos may be limited given cultural heterogeneity across subgroups. The Mexican American men recruited for the current study were a subset of fathers related to mothers participating in the larger longitudinal project. Studies of the paternal role may be characterized by a selection bias among fathers who agree to participate (Costigan & Cox, 2001) and prior research has found that familial and environmental stressors may negatively influence Mexican American fathers' decisions to participate in research (Wong et al., in press). However, we did not find significant differences between participating and nonparticipating fathers with the exception of a near-significant elevation in economic hardship among participating fathers relative to non-participating fathers, which suggests that economic stressors did not negatively impact recruitment and underscores the high risk nature of this sample. Men in the current research were primarily resident fathers from two-parent families; results may not apply to different family structures or fathers who do not reside with their children. The sample size limited the ability to conduct more complex evaluations, such as moderators of paternal mental health. Although modern analytic strategies were used to increase power, continued efforts to recruit larger samples of Mexican American fathers is necessary to advance a comprehensive understanding of paternal postnatal mental health. The prospective design and use of multiple reporters are strengths of the study that contribute significantly to the current body of literature, however the absence of historical assessments of depression measures limits conclusions of causality or examination of changes from the prenatal to postpartum period.

Increasing attention towards the importance of the paternal role necessitates research on fathers' mental health during the transition to parenthood. Mexican American men are an understudied, yet important population; Hispanic individuals accounted for 56% of the population growth in the United States between 2000 and 2010 due to immigration and fertility rates that exceeded all other ethnicities (Passel et al., 2012). We observed high rates of PPD in our sample of low-income Mexican American men; this significant risk for maladjustment following the birth of a child suggests that there may be clinical utility of PPD screenings among new mothers *and* fathers. Individual and contextual risk factors for the development for paternal PPD included paternal unemployment and lower levels of prior parental experience. Less acculturated fathers and those who experienced lower quality romantic relationships may also be at risk for maladjustment following the birth of a child. Given the strong role of the father within the family context, understanding men's adjustment to parenthood may offer important insight into promoting healthy fathering and strengthening the overall family system.

Acknowledgments

We thank the mothers and fathers for their participation; Kirsten Letham, Anne Mauricio, and Craig Enders, for their assistance with data collection and management; Dr. Dean Coonrod and the Maricopa Integrated Health Systems for their assistance with recruitment; and the interviewers for their commitment and dedication to this project

Role of the Funding Source

This research was funded by the National Institute of Mental Health (R01 MH083173-01).

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Figure 1.

Path model relating demographic and cultural factors to paternal PPD

Note. PPD = Postnatal depression, MR = Maternal Report, PR = Paternal Report

Correlations among predictors not depicted

†*p* .10; **p* .05; ***p* .01

Figure 2.

Path model relating demographic factors, cultural factors, and maternal PPD to paternal PPD

Note. PPD = Postnatal depression, MR = Maternal Report, PR = Paternal Report

Correlations among predictors not depicted

[†]*p* .10; **p* .05; ***p* .01

Table 1

Sample Characteristics and Descriptive Statistics

Variable	Maternal report (<i>n</i> = 257)		Paternal report (<i>n</i> = 92)	
	<i>n</i>	%	<i>n</i>	%
Country of birth				
Mexico	229	89	78	85
United States	26	10	14	15
Other	2	1	--	
Age at immigration <i>M</i> (<i>SD</i>)	16.4(7.5)		17.6(7.5)	
Language				
Spanish	220	86	74	80
English	37	14	18	20
Marital status				
Married and living together	92	36	45	49
Married but not living together	6	2	--	
Living with partner but not married	131	51	42	46
Not married/not living with partner	22	9	3	3
Separated	6	2	2	2
Maternal employment status				
Unemployed	225	88	<i>Not collected from fathers</i>	
Employed full- or part-time	32	12	<i>Not collected from fathers</i>	
Paternal employment status				
Unemployed	62	24	16	17
Employed full- or part-time	195	76	76	83
Family income				
Less than or equal to \$5,000	27	11	--	
\$5,001–\$10,000	51	20	7	8
\$10,001–\$15,000	70	27	12	13
\$15,001–\$20,000	34	13	26	28
\$20,001–\$25,000	36	14	13	14
\$25,001–\$30,000	14	5	12	13
\$30,001–\$35,000	9	4	7	7
\$35,001–\$40,000	4	2	3	3
\$40,001 and above	8	3	4	2
Missing	4	2	8	9
Education				
Did not attend school	2	1	--	
1–11 years	157	61	55	60
High school graduate/GED	65	25	23	25
Some college/vocational	11	4	5	5
Vocational school graduate	3	1	3	3
Associate's degree	5	2	2	2

Variable	Maternal report (<i>n</i> = 257)		Paternal report (<i>n</i> = 92)	
	<i>n</i>	%	<i>n</i>	%
College degree	12	5	4	4
Some advanced work, but no graduate degree	1	<1	--	
Master's degree	1	<1	--	
Marital Relationship Quality <i>M</i> (<i>SD</i>)	29.7(4.3)		<i>Not collected from fathers</i>	
Number of biological children <i>M</i> (<i>SD</i>)	2.1(1.7)		2.1(1.7)	
Father Mexican Orientation <i>M</i> (<i>SD</i>)	<i>Not collected from mothers</i>		4.2(.6)	
Father Anglo Orientation <i>M</i> (<i>SD</i>)	<i>Not collected from mothers</i>		2.8(.9)	

Table 2

Correlations Among Key Study Variables

	1	2	3	4	5	6	7	8
1. 15 wk paternal PPD (PR)	1.00							
2. 21 wk paternal PPD (PR)	.45**	1.00						
3. 3 wk maternal PPD (MR)	-.07	-.02	1.00					
4. 15 wk maternal PPD (MR)	.05	.14*	.44**	1.00				
5. Father employment (MR) ^a	-.23**	-.21**	<.01	-.04	1.00			
6. Relationship quality (MR)	-.19**	-.18**	-.42**	-.30**	.06	1.00		
7. Father Mexican orientation (PR)	-.08	-.10 [†]	-.06	-.25**	-.05	.09	1.00	
8. Father Anglo orientation (PR)	-.17**	<.01	.18**	.03	-.03	-.05	-.38**	1.00
9. Number of children (PR)	-.18**	.02	-.08	.13*	-.03	.06	.14*	-.20**

Note. MR = Maternal report; PR = Paternal report; PPD = Postnatal depression.

[†] $p < .10$;

* $p < .05$;

** $p < .01$.

^a 0 = Unemployed, 1 = Employed