Mental Health & Prevention 7 (2017) 28–36

Contents lists available at ScienceDirect

Mental Health & Prevention

journal homepage: www.elsevier.com/locate/mhp

Paternal post-partum depression: How has it been assessed? A literature review☆

Francisca Pérez C.[a,*], Paulina Brahm[b], Soledad Riquelme[c], Claudia Rivera[d], Karina Jaramillo[e], Andreas Eickhorst[f]

[a] Faculty of Psychology, University Alberto Hurtado, Santiago, Chile
[b] Department of Family Medicine, Pontificia Universidad Católica de Chile, Santiago, Chile
[c] Department of Psychiatry, Pontificia Universidad Católica de Chile, Santiago, Chile
[d] Melbourne Graduate School of Education, University of Melbourne, Australia
[e] School of Public Health, Faculty of Medicine, University of Chile, Santiago, Chile
[f] German Youth Institute, Munich, Germany

ARTICLE INFO

Keywords:
Paternal postpartum depression
Assessment
Edinburgh Postnatal Depression Scale

ABSTRACT

The assessment of paternal postpartum depression (PPD) is not part of the standard evaluations despite its relevance. The following study aimed to identify and describe how PPD and/or depressive symptoms in men have been assessed during the first year of fatherhood, specifically to identify the main methodological and diagnostically characteristics of the studies with a specific respect to the reported frequency of paternal and maternal depression in the first year after the birth of a child. Peer-reviewed studies published between January 2005 and January 2016, documenting depression or depressive symptoms in men within the first trimester to one-year postpartum were retrieved from different databases. 52 meet the inclusion criteria Most of them were performed in Europe, were longitudinal, and used self-applied questionnaires. Paternal depressive symptoms showed frequencies between 1.8 and 47 per cent and the presence of maternal depression showed a range that fluctuated between 2.3 and 58.05 per cent of prevalence.

1. Introduction

During the transition to parenthood – defined as the period from pregnancy to the first year post-partum – women and men go through a multitude of complex changes, which are jointly entangled between the paternal and maternal sphere. Parents have to balance various demands placed on them, including personal and work-related needs, societal and economic pressures, the emotional and relational needs of the family, and the still unfamiliar role of parenthood in the new emerging triad with its claims especially for facing the demands of co-parenting and parental coordination (Genesoni & Tallandini, 2009; McHale, 2007). It has been described that this period constitutes a normative crisis in people's lives. On one hand, it exist the potential for growth and development, and on the other hand there is potential danger that demand surpass the existing resources increasing stress, anxiety, and depressive levels (Frevert, Cierpka, & Joraschky, 2008).

Maternal post-partum depression (PPD) is a major public health issue. There is conclusive evidence that depressive symptoms in the post-partum period are common (10–20 per cent) and there is some evidence that it may be more common than at other comparable times in a woman's life (Gavin et al., 2005; O'Hara, 2009). Known factors associated with maternal postnatal depression are a history of depression before or during pregnancy, experiencing stressful life events during pregnancy, poor marital relationship, and low social support (Rubertsson, Waldenstrom, Wickberg, Radestad, & Hildningsson, 2005). The World Health Organization (WHO) has proposed a strong focus on mental health conditions in the integrated delivery of services for maternal and child health. However, paternal mental health has not yet been considered in these programmes (WHO, 2016).

Men can also manifest depressive disorders during the post-partum period, but this phenomenon has received historically less attention from researchers and clinicians compared to maternal PPD. However, during the past years numerous studies have emerged, suggesting that, like mothers, fathers are at higher risk of developing depressive symptoms during the perinatal period (Gawlik et al., 2014; Kerstis, Engström, Edlund, & Aarts, 2013; Paulson, Bazemore, Goodman, & Leiferman, 2016).

Research has shown that PPD affects a significant proportion of new

☆ This study received support from "[removed for blind review]" and the "[removed for blind review]".
* Corresponding author.
E-mail address: frperez@uahurtado.cl (F. Pérez C.).

http://dx.doi.org/10.1016/j.mhp.2017.07.001
Received 3 March 2017; Received in revised form 23 June 2017; Accepted 21 July 2017
Available online 22 July 2017

fathers. Goodman (2004) found in a meta-analysis a range from 1.2 to 25.5 percent of depression rates in community-based samples during the first postpartum year, depending on the type and timing of the assessment. Among men whose partners were experiencing PPD, the incidence of paternal depression fluctuated between 24 and 50 per cent. Another systemic review with meta-analysis found a prevalence of 10.4 per cent of paternal PPD in general population. A moderator analyses showed that there was considerable variability between different time periods, with 3- to 6- months postpartum periods showing the highest rate, also the national origin of the study, and that interview based case definition methods were associated with lower overall prevalence estimates (Paulson & Bazemore, 2010).

Depression in fathers following the birth of their child is also associated with a personal history of depression, unsupportive marital relationships, lack of support from their family and friends, unemployment, older age, and lower educational level, among others (Escriba-Agüir & Artazcoz, 2010; Gao, Chan, & Mao, 2009; Paulson et al., 2016). Maternal depression has been shown to be robustly associated with it, identified as the strongest predictor of paternal depression during the postnatal period (Paulson et al., 2016). Due to assortative mating, children of depressed mothers have a higher likelihood of having also a depressive father than average (Matthew & Reus, 2001). One consequence described is that health behaviors recommended by pediatricians were least likely to be followed when both father and mother are depressed (Paulson, Dauber, & Leiferman, 2006).

Qualitative studies have shown that men have gender-specific manifestations of PPD, such as hostility, conflict, and anger, rather than the more broadly recognized sadness (Condon, Boyce, & Corkindale, 2004). Fathers may withdraw or engage in escape activities such as overwork, sports, sex or gambling, and may self-medicate for their depression by drinking alcohol (Veskrna, 2013).

Postnatal depression among mothers and fathers may have severe consequences for the entire family. Studies have shown that maternal PPD could cause long-term damage to the mother's self-esteem and perceived self-worth, and increase her vulnerability to future depressive disorders (O'Hara, 2009). Moreover, it can have a significant effect on the development of the infant and child (Grigoriadis et al., 2013; Murray & Cooper, 1997), and on the father and his emotional needs, which may lead to complications in the parental relationship (Kerstis et al., 2014). Paternal PPD, on its side, has been associated with poorer well-being and functioning of all family members. It has been said that it can impact emotional and behavioral development in infants and children, family dynamics, marital satisfaction, and the economy of industrialized countries (Butler, 2012; Cockshaw, Muscat, Obst, & Thorpe, 2014; Kerstis et al., 2014; Paulson, Keefe, & Leiferman, 2009; Ramchandani, Stein, Evans, O'Connor, & Team, 2005). Even when both mother and father are depressed, the paternal PPD is contributing to the prediction of the child's psychopathology beyond the amount the maternal symptomatology can explain (e.g. Goodman, Brogan, Lynch, & Fielding, 1993).

Mezulis, Hyde, and Clark (2004) found out that fathers to some extent are able to compensate the effects of the maternal PPD as long as the father is not depressed himself. Their results also showed that depression in both parents is a negative predictor for the mental health outcome in the child. Due to this, screening of paternal postnatal depression should be considered important.

The assessment of paternal PPD is not yet part of the standard evaluations conducted during the post-partum period, so the way it has been measured until now has relied on the studies' characteristics. Every study has its own method, timing and population, which may account for the wide range in the percentages. Given its relevance and lack of review researches, the following study aimed to identify and describe how PPD and/or depressive symptoms in fathers have been assessed during the first year of fatherhood. The main aim was to identify the main methodological and diagnostically characteristics of the studies with a specific respect to the reported frequency of paternal and maternal depression in the first year after the birth of a child.

2. Methodology

2.1. Eligibility criteria

The inclusion criteria for the review were the following: general population, fathers during the first year of fatherhood, studies in English or Spanish, and observational studies. Among the exclusion criteria were: preterm and low-weight babies, in vitro fertilization, babies with severe pathology, adolescent fathers, and fathers with severe mental illness.

2.2. Search strategies

Peer-reviewed studies documenting depression in men within the first trimester to one year post-partum were retrieved through Web of Science, PubMed, Lilacs, Eagle, PsychInfo, Scielo, Ovid, Google Scholar, Science Direct, Ebscohost, Assia, Embase and Psycextra, published between January 2005 and January 2016, in order to consider update literature that cover at least ten years of research.

The keywords used to search in the title or abstract were:

i. Father(s) or parent(s) or male or behavior(s) paternal (MeSH) or paternal or fatherhood or parenthood; and
ii. Depression postpartum or postnatal depression or depression postnatal or post-partum depression or depression postpartum or postpartum depression or post-natal depression or depression, postnatal or postnatal depression or depressive disorder(s) or depressive symptom(s) or depressive syndrome(s) (MeSH); and
iii. Mass screening or diagnosis or assess or symptom assessment or self-assessment or questionnaires or surveys and questionnaires (MeSH).

From the original 183 studies that included our search words either in their title or abstract, 52 relevant investigative articles were selected based on our eligibility criteria and divided among the reviewers for the analysis of the whole text.

Articles were examined according to the following data: country in which the study was conducted, year, design, sample size and demographic characteristics (mean age and educational level), instruments used to assess paternal PPD, time of PPD assessment, type of application (self-report questionnaire, questionnaire applied by professional or interview), prevalence of paternal depression, and prevalence of maternal depression.

3. Results

Between 2005 and 2016, 183 studies have assessed paternal PPD and/or paternal depressive symptoms during the first year post-partum, but only 52 relevant investigative articles were selected based on our eligibility criteria.

Table 1 summarizes the main characteristics of the studies, including author, year and country of implementation, number of participants, socio-demographic characteristics, instruments, time and setting of application the presence of paternal depression and the rates of maternal depression of the study samples.

Most of the studies (N = 30) were performed in Europe, followed by Asia (N = 10), the US (N = 6), Australia (N = 4), and Brazil (N = 2). England was the country with the most publications in this field (N = 8), followed by the US (N = 6) and Sweden (N = 6).

A total of 39 studies reported the age of the fathers as having a mean age of 32.7 years (SD = 5.83) and a range between 27 and 36 years. Thirty-six studies described the educational level of the fathers: 24 reported that most of the fathers had post-secondary studies, including university degrees; and 6 had participants with secondary studies or

Table 1
Methodological characteristics and the rates of paternal and maternal depressive symptoms of the studies.

Author (year) and Country	n	Age Mean Years (SD)	Educational level	Instrument used	Application and time	Prevalence of paternal depressive symptoms % (n)	Prevalence of maternal depressive symptoms % (n)
Cross-sectional Design							
Anding et al. (2015). Germany	276	32.18 (6.21)	No graduation: 7 (2.8%); high school (9 years): 103 (41%); high school (10 years): 79 (31.5%); university-entrance diploma (13 years): 62 (24.7%)	EPDS	Questionnaire 2 weeks	5.4% (15) > 10 cut-off score	15.9% (44) > 12 cut-off score
Bielawska-Batorowicz et al. (2006). Poland	80	31.18 (Range: 24 to 37)	Secondary education: 11 (14%), first degree: 37 (46%), and second degree: 32 (40%) (40%)	EPDS	Questionnaire sent by post 3 to 6 months	27.5% (22) scores ≥ 13	31.2% (25)
Cockshaw et al. (2014). Australia	219	32.7 (5.3)	44% held a university degree or above	EPDS	Questionnaire 0 to 24 weeks	Not informed	Not evaluated
Edmondson, Psychogiou, Vlachos, Netsi, and Ramchandani (2010). England	192	35 (5.86)	Not reported	EPDS SCID	Self-applied questionnaire and clinical interview 7 weeks	10% (19)	3.70%
Epifanio, Genna, De Luca, Roccella, and La Grutta (2015). Italy	75	34.45 (5.2)	Medium/high scholar education: M = 12.71; DS = 1.5	EPDS	Self-report 4 weeks	Risk of subclinical PPD: 18.9% (10); and risk of clinical PPD: 5.7% (3)	Risk of clinical PPD: 20.8% (11)
Gao et al. (2009). China	130	31.92 (3.15)	High school or below: 15.4% University or above: 84.6%	EPDS	Questionnaire 6 to 8 weeks	10.8% (18)	13.8% (14)
Goncalves, Teixeira, Monteiro, Fonseca, and Areias (2011). Portugal	153	Not reported	Not reported	EPDS SADS-L	Self-report / semi-structured interview 2 to 6 weeks	Not informed	Not informed
Kerstis et al. (2013). Sweden	308	33 (6)	Highest educational level: compulsory school (9 years) 25 (6%); senior high school: 290 (74%); university (≥ 3 years): 77 (20%)	EPDS	Questionnaire sent by post 12 weeks	8.7% (EPDS > 9)	17.7% (EPDS > 9)
Mäntymaa et al. (2008). Finland	236	Not informed	University degrees: 77 (33%) Polythecnic degrees: 57 (24%) Vocational qualifications: 74 (31%) High school diploma: 14 (6%) Elementary school: 14 (6%)	EPDS	Self-applied questionnaire sent by post 74 (29%) at 4 months, 99 (38%) at 8 months, and 86 (33%) at 18 months old	5% (8) EPDS ≥ 9	7% (18) EPDS ≥ 13
Mao et al. (2011). China	376	27.09 (4.46) Range 22–39	Education: < 12 years: 72 (19.2%); 12 years completed: 123 (32.7%); associate degree or above: 181 (48.1%)	EPDS	Self-report questionnaire 6 to 8 weeks	12.5%	14.9%
Massoudi et al. (2013). Sweden	262	33 (Range 20–51)	95% of fathers had completed upper secondary school and 37% of all fathers had also attended college or university	EPDS HADS	Self-report questionnaire 12 weeks	47%	Not informed
Muscat, Thorpe, and Obst (2012). Australia	24	33.96 (7.11)	78% of fathers had post-secondary qualifications	EPDS	Questionnaire sent by mail 16 weeks	12.5% (3) EPDS ≥10	33.3% (8) ≥ 10
Nishimura and Ohashi (2010). Japan	146	32.3 (5.3)	Education level: college degree or higher 69 (51.9%)	EPDS CES-D	Self-report questionnaire 4 weeks	7.5% (11) had CES-D Scale scores ≥ 16; 11.6% (17) had EPDS scores ≥ 8	31.7% (41)
Nishimura, Fujita, Katsuta, Ishihara, and Ohashi (2015). Japan	807	33.4 (5.7)	University graduate or higher: 55%	EPDS	Self-report questionnaire 16 weeks	13.6% (110) EPDS scores ≥ 8	10.3% (83)
Parfitt, Pike, and Ayers (2013). England	40	34.64 (5.22)	97% had undergone higher education (diploma, undergraduate degree and beyond)	HADS	Self-report questionnaire sent by post 12 weeks	Not informed	Not informed

(continued on next page)

Table 1 *(continued)*

Author (year) and Country	n	Age Mean Years (SD)	Educational level	Instrument used	Application and time	Prevalence of paternal depressive symptoms % (n)	Prevalence of maternal depressive symptoms % (n)
Paulson et al. (2009). USA	4.109	Under 20 44 (1.1%) 20–34 2626 (63.9%) 35 + 1439 (35.0%)	12th grade and below: 561 (13.7%) High school graduate: 880 (21.4%) Some college: 2668 (64.9%)	CES-D	Interview 9 months	19.7% (808) 'mildly depressed' range (CES-D between 17 and 21); 6% (247) 'moderately depressed' range (CES-D between 22 and 26); 3.7% (150) 'severely depressed' range (CES-D above 26)	23.5% (965) 'mildly depressed'; 9% (365) 'moderately depressed'; 4.5% (186) 'severely depressed'
Pinheiro et al. (2006). Brazil	386	30.3 (8.8)	Not informed	BDI	Application not informed 6 to 12 weeks	11.9%. Moderate to severe depression	26.3%; Moderate to severe depression
Serhan, Ege, Ayrancı, and Kosgeroglu (2013). Turkey	110	31.90 (5.02)	High school and below: 26.4%	EPDS	Face-to-face interview with them in the mothers' and fathers' houses Time not informed	1.8%	9.1%
Tran, Tran, and Fisher (2012). Vietnam	231	31 (6.3)	16.4% of them had not completed primary school	EPDS GHQ-12 Zung-SAS	Individual structured interviews 4 to 6 weeks	Major depression or dysthymia: 7.4% (17)	Not evaluated
Wang and Chen (2006). Taiwan	83	32.83 (4.39)	45%: beyond college	BDI	Questionnaires sent by mail 6 weeks	31.7% in first-time fathers; 31% for experienced fathers mildly to severely depressed (≥10)	36.6% in first-time mothers; 42,9% for experienced mothers mildly to severely depressed (≥10)
Wynter, Rowe, and Fisher (2014). Australia	161	32.8 (5.6)	Completed post-secondary education: 85 (49.4%)	EPDS	Telephone interview 4 to 24 weeks	17%	33%
Longitudinal							
Butler (2012). England	143	34.9 (5.8)	Degree level or above (62.3%)	EPDS	Questionnaire 12 weeks	38.6% scored ≥ 10	Not evaluated
Castle et al. (2008). United Kingdom	66	32.9 (5.1)	Not informed	EPDS HADS	Self-applied questionnaire 6 weeks	Not informed	Not informed
Condon, Corkindale, Boyce, and Gamble (2013). Australia	204	29 (5)	Professional: 25%; semi-professional: 15%; skilled: 30%; semi-skilled: 20%; unskilled: 10%	EPDS MHI-5 PANAS	Questionnaire 6 months and 12 months	Not evaluated	Not evaluated
D'Anna-Hernandez, Zerbe, Hunter, and Ross (2013). USA	64	30 (6)	Years of education: < 12 years: 8 (12.5%); 12 years: 27 (42.2%); > 12 years: 28 (43.7%); and unknown: (1.6%)	EPDS SCID	SCID: Administered by a clinically licensed social worker with post-Masters Fellowship training in outpatient psychiatric care 4 and 24 weeks	Not informed	1 month: 4.7% and 6 months:12.5%
Davé et al. (2005). United Kingdom	48	Not available	Not informed	(1) EPDS (2) HADS (3) Brief PHQ	Self-applied questionnaire (1) and (2): 4 and 6 weeks, (3) 6 months	8%	Not informed
Edhborg et al. (2005). Sweden	106	34.18 (5.5)	University/ college: 53 (50%); Upper secondary school 44 (42%); Compulsory school 4 (4%); Others 4 (4%)	EPDS Blues Questionnaire	Self-applied questionnaire 1–5 days, 2 months	Mean score at 1 week 4.28 (2.64); at two months 2.5 (2.37)	Mean score at 1 week 6.09 (5.05); at two months 4.38 (3.79)
Edhborg (2008). Sweden	133	33.8 (5.4)	University /college: 46.5%	EPDS	Self-applied questionnaire	At 1 week, 67% scored over the peak on the Blues Questionnaire	At 1 week, 25% scored higher in depression subscale (Blues Questionnaire) 52% scored over the peak on the VAS depressed mood
			Upper secondary school: 46.5%	Blues Questionnaire	1 week and 8 weeks	55% scored higher in depressed mood VAS subscale 3% EPDS ≥ 10	24% EPDS ≥ 10
			Compulsory school: 3% Others: 4%	VAS		At 2 months 1.5% EPDS ≥ 10	At 2 months 12% EPDS ≥ 10

(continued on next page)

Table 1 *(continued)*

Author (year) and Country	n	Age Mean Years (SD)	Educational level	Instrument used	Application and time	Prevalence of paternal depressive symptoms % (n)	Prevalence of maternal depressive symptoms % (n)
Escribà-Agüir and Artazcoz (2011). Spain	769	< 30 years: 154 (23.0%), 30–34 years: 314 (46.9%), > 34 years: 201 (30.0%)	Manual workers: 296 (44.3%), Non-manual workers: 372 (55.7%)	EPDS	Application not informed 3 and 12 weeks	3.4%	9.3%
Figueiredo and Conde (2011). Portugal	260	Age (years): ≤19: 4.4%, 20–29: 39.0%, 30–39: 48.2%, ≥40: 8.4%	Profession: non-manual qualified: 23.4%; non-manual not qualified: 18.8%; manual qualified: 30.0%; manual not qualified: 27.8%	EPDS	Self-applied questionnaire sent by mail 3 months	EPDS ≥ 10: 7.2%	EPDS ≥ 10: 11.1%
Figueiredo et al. (2008). USA	43	Not informed	Not informed	CES-D	Questionnaire 1–4 weeks (mean = 2 weeks)	Not informed	Not informed
Fisher, Kopelman, and O'Hara (2012). USA	199	36.44 (7.22)	Not evaluated	EPDS-P EPDS	Self-applied questionnaire sent by post 17 weeks	12.6% (25)	Not informed
Gawlik et al. (2014). Germany	102	35.82 (5.95)	Profession: academic: 49 (51.5%); trained: 43 (45.3%); untrained: 3 (3.2%)	EPDS	Application not informed 4 and 6 weeks	7.8%	Not evaluated
Iles, Slade, and Spiby (2011). England	206	34.3 (Range: 21–56)	Graduate or postgraduate: 93 (44%) and below graduate level: 119 (56%)	EPDS	Self-report, questionnaire sent by post 6 and 12 weeks	Mean score on EPDS: 6 weeks: 3.94 (SD = 3.86) and 3 months: 3.41 (SD = 4.02)	Mean score on EPDS: 6 weeks: 7.14 (SD = 4.87) and 3 months: 5.30 (SD = 4.74)
Kerstis et al. (2014). Sweden	393	Non-separated couples: 33(5.7); Separated couples: 32(6.1)	Non-separated couples: high school < 12 years 73%, university ≥12 years 22%; Separated couples: high school < 12 years 78%, university ≥12 years 11%;	EPDS	Self-applied questionnaire sent by post 1 and 12 weeks	8.7% (28) EPDS score ≥ 10	17.7% (59) EPDS score ≥ 10
Kerstis, Engström, Sundquist, Widarsson, and Rosenblad (2012). Sweden	249	With depressive symptoms: 32.5 (5.15); Without depressive symptoms: 33.0 (5.65)	With depressive symptoms: high school < 12 years 90.9%, university ≥12 years 9.1%; Without depressive symptoms: high school < 12 years 73%, university ≥12 years 21.7%	EPDS	Self-applied questionnaire sent by post 12 weeks	8.7%	16.5%
Lai et al. (2010). China	551	33.4 (5.9)	No formal education: 1 (0.2%); kindergarten: 1 (0.2%); primary: 18 (3.3%); secondary: 309 (56.1%); and university: 222 (40.3%)	EPDS BDI PHQ-9	Self-report, questionnaire sent by post 8 weeks	3.1% met the DSM-IV criteria for depression at 8 weeks post-partum	Not evaluated
Lung et al. (2009). Taiwan	844	31.89 (5.17)	High school or less 471 (55.9%) College/university or higher 371 (44.1%) Missing 2 (0.2%)	SF-36 (Taiwanese version)	Survey 6 months	Not informed	Not informed
Munk-Olsen et al. (2006). Denmark	547.431	Not informed	Not informed	ICD-8 ICD-10	Application not informed First year	Not informed	Unipolar disorders: 38 (0–30 days), 48 (31–60 days), 113 (3–5 months), and 81 (6–11 months)
Ngai and Ngu (2015). Hong Kong	200	34.5 (4.7)	Secondary: 68 (34.0%); tertiary: 21 (10.5%); and university: 111 (55.5%)	GHQ	Self-report, questionnaire sent by post 24 weeks	10.5% (21)	11.5% (23)
Parfitt and Ayers (2014). England	40	33.58 (7.33)	Not reported	BIMMH	Semi-structured interview 16 to 32 weeks	7.5% (3)	10.9% (5)
Parfitt, Ayers, Pike, Jessop, and Ford (2014). England	66	34.08 (4.59)	86% had completed a higher education or professional qualification	HADS	Self-report, questionnaire sent by post 3 months	3.24 (SD = 2.99)	4.23 (SD = 2.80)
Paulson et al. (2006). USA	5089	< 20: 1.2%; 20–34: 64.7%; > 35: 34.1%	< 12th grade: 14.6%; high school graduate: 26.2%; > some college: 59.2%	CES-D	Self-report questionnaires 9 months	10% (Mean score 3.69 SD = 4.67)	14% (Mean score 4.58 SD = 4.96)

(continued on next page)

Table 1 *(continued)*

Author (year) and Country	n	Age Mean Years (SD)	Educational level	Instrument used	Application and time	Prevalence of paternal depressive symptoms % (n)	Prevalence of maternal depressive symptoms % (n)
Perren et al. (2005). Switzerland	58	32.8 (4.5)	8% lower, 20% lower middle, 28% middle, 22% upper middle, 22% upper educational status	EPDS BELA SCL-90-R	Self-report questionnaire 1, 3, and 12 months	4–6% (depending on the measurement point)	5–12% (depending on the measurement point)
Pinheiro et al. (2011). Brazil	655	29.5 (8.1)	49% had fewer than seven years of schooling	MINI	Structured diagnostic interview 4 to 8 weeks	4.5%	Not informed
Ramchandani et al. (2005). England	8431	Not informed	Not informed	EPDS	Self-report questionnaire 8 weeks, 21 months	4%	10%
Ramchandani, Stein, O'Connor et al. (2008). United Kingdom	10.975	Not informed	Not informed	EPDS	Self-report, questionnaire sent by post 8 weeks, 8 and 21months	8 weeks postnatal 3.64% [3.29–3.99]; 8 months postnatal 3.44% [3.10–3.78]; 21 months postnatal 3.87% [3.51–4.23]	Not evaluated
Ramchandani, O'Connor, Evans et al. (2008). United Kingdom	7601	28.8 (9.75)	18.2% were educated to degree level	EPDS	Self-report questionnaire Prenatal and 8 weeks postpartum	Prenatal depression only n = 175; Postnatal depression only n = 166; Both group n = 89	Not informed
Roubinov, Luecken, Crnic, and Gonzales (2014). USA	92	31.3 (7.5)	Not reported	EPDS	Self-report 15 and 21 weeks	At both 15 and 21 weeks, 9% (8) ≥ 10	Not informed
Séjourné, Vaslot, Beaumé, Goutaudier, and Chabrol (2012). France	119	32.69 (5.14)	Not reported	EPDS	Self-applied questionnaire sent by post 1 and 8 weeks	Not informed	2–5 days: 27%(32) ≥ 12 / 2 months; 35% (42) ≥12
Sethna, Murray, Netsi, Psychogiou, and Ramchandani (2015). United Kingdom	192	35.04 (5.9)	GCSEs/A levels 20.8%; diploma 15.6%; degree 32.3%; postgraduate degree 28.1%	EPDS	Questionnaires sent by mail 7 weeks	28.12% (54)	Not evaluated
Smith, Eryigit-Madzwamuse, and Barnes (2013). England	705	34.5 (5.6)	Not informed	EPDS	Self-applied questionnaire collected by post 12 weeks	7.9% (43)	Not informed

Note: BELA = self-designed questionnaire on feelings of stress; BDI-I = Beck Depression Inventory; BIMMH = Birmingham Interview for Maternal Mental Health, fifth edition; CES-D= Center for Epidemiologic Studies-Depression Scale; EPDS-P = Edinburgh Postnatal Depression Scale (partner version); EPDS = Edinburgh Postnatal Depression Scale; GHQ-12 = General Health Questionnaire; HADS = Hospital Anxiety and Depression Scale; ICD-8/10 = International Clasification of Diseases eighth and tenth revision; MHI-5 = Mental Health index; MINI = Mini Neuropsychiatric Interview; PANAS = Positive and Negative Affect; PHQ-9 = Patient Health Questionnaire Depression Module; SADS-L = Schedule for Affective Disorders and Schizophrenia-Lifetime; SF-36 = 36-Item Short Form Health Survey (Taiwanese version); SCID = Structured Clinical Interview; SCL-90-R = Symptom Checklist 90-Revised; Zung SAS = Zung's Self-rated Anxiety Scale.

below.

A total of 20 instruments were used in the different studies, most of them were self-reported questionnaires (N = 31) were sent by post or email (N = 18). Other studies mixed self-report questionnaires with a clinical interview (N = 2), some used semi-and structured interviews (N = 5) and one applied the questionnaires via telephone calls. The Edinburgh Postnatal Depression Scale (EPDS) was applied in almost every study (N = 40), and in most of them (N = 25) it was the only screening tool administered. The EPDS is a self-report instrument that contains ten items and can be completed in approximately five minutes. It is an effective tool for screening depressive disorders during pregnancy and the postpartum period. Its maximum possible score is 30, with 10 or more points indicating a possible depression of variable severity (Cox, Holden, & Sagovsky, 1987). Other assessment tools used were the Clinical Interview for DMS-IV (N = 2), the Hospital Anxiety and Depression Scale (HADS) (N = 5), the General Health Questionnaire (GHQ-12) (N = 2), the Mental Health index (MHI-5) (N = 1), the Positive and Negative Affect (PANAS) (N = 1), Edinburgh Postnatal Depression Scale (partner version) (N = 1), the Semi-Structured Clinical Interview lifetime version (SADS-L) (N = 1), the Beck Depression Inventory (BDI-I) (N = 3), the Patient Health Questionnaire Depression Module (PHQ-9) (N = 2), the Center for Epidemiologic Studies (CES-D) (N = 4), the Birmingham Interview for Maternal Mental Health, fifth edition (BIMMH) (N = 1), the Mini Neuropsychiatric Interview (MINI) (N = 1), the International Clasification of Diseases eight (ICD-8) and ten revision (ICD-10) (N=1), Blues Questionnaire (N=2), and Zung's Self-rated Anxiety Scale (Zung SAS) (N = 1)

The majority of the studies were longitudinal (59.6 per cent, N = 31), and most of them (24.6 per cent, N = 14) had one follow up assessment within the first year postpartum. On the other hand, 40.3 per cent (N = 21) were cross sectional. The application time of the studies fluctuated between the 1st and 48th week post-partum. Cross-sectional studies were conducted between the 1st and 36th week after birth (see Fig. 1), most of them during the first 12 weeks post-partum, and the longitudinal studies between the 1st and 48th week (see Fig. 2).

Thirty-seven studies reported the prevalence of paternal depressive symptoms, showing frequencies between 1.8 and 47 per cent with a mean of 11.9 per cent. The study with the lowest prevalence (1.8%) was carried out in Turkey, only applying the EPDS in a face-to-face home interview with both parents. On the other hand, the study with the highest prevalence was carried out in Sweden, applying the EPDS and the HAD-A subscale during the 12th week post-partum. Most studies reported a prevalence below 10 per cent (N = 25), 9 showed a prevalence between 10 and 19 per cent, 3 studies between 30 and 47 per cent and 2 study showed a prevalence between 20 and 29 per cent.

The presence of maternal depression was examined by 28 studies,

Fig. 1. Cross-sectional design studies and the time of evaluation after birth (weeks).

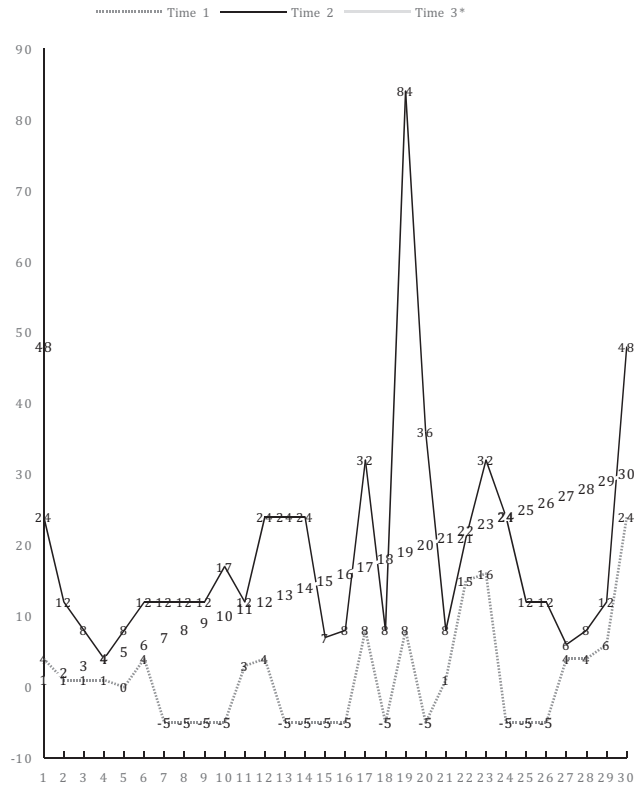

Fig. 2. Longitudinal design studies and the times of evaluation after birth (weeks). Note: Pre= before part.

and the mean prevalence was 17.5 per cent in a range that fluctuated between 2.3 and 58.05 per cent.

4. Discussion

The presented literature review aimed to describe how paternal PPD and/or depressive symptoms during the first year after childbirth have been assessed within the last eleven years. A significant increase in studies related to this topic was found compared to the previous years, so it can be stated that it is getting more common to consider fathers for substantial research in this field.

Our findings showed that the distribution of studies was clearly related to cultural beliefs about paternity and the male gender role. It is not surprising that Europe dominated the studies, specifically England and Sweden, two countries that have strong family public policies and where fathers are expected to be accessible and nurturing as well as economic supportive to their children (O'Brien & Moss, 2010). In this vein, participants' characteristics were homogeneous overrepresented by western middle class employees in their thirties. Considering the literature that links poverty contexts with depression it is necessary to widen the assessment of this phenomenon, including more low- and lower-middle income countries (Gómez, Muñoz, & Haz, 2007; McLanahan, 2009; Vick-Whittaker, Jones-Harden, See, Meisch, & Westbrook, 2011).

Regarding the methodology of the studies, more longitudinal designs would be preferable, because it seems to be the best way to obtain meaningful results including process data, at least lasting to the end of the first year. It would be also interesting to go further than the EPDS, taking into account that most of the studies used this screening tool, which has showed non-conclusive results as sensitivity (Matthey, Barnett, Kavanagh, & Howie, 2001; Edmondson, Psychogiou, Vlachos, Netsi, & Ramchandani, 2010; Lai et al., 2010; Tran, Tran, & Fisher, 2012; Massoudi et al., 2013). Besides, this instrument was originally

created for assessing female symptomatology, so it does not provide much information about the male specific characteristics of PPD. It has been suggested that the recurring finding that depression is twice as common in women as in men is the result from men being under-diagnosed due to expression of atypical symptoms such as aggressiveness and irritability rather than depressive mood (Rutz, 1996). Future research should take this question into account, being more critical both conceptually and methodologically. It would be appropriate to create and validate specific instruments on paternal postnatal depression for screening and diagnosis. A contribution in this field is the Edinburgh Gotland Depression Scale for Swedish Fathers (EGDS), who's revised version showed improved criterion-related validity, sensitivity and specificity (Svenlin, 2015).

The high range of prevalence within the referred studies could either be a result of the studies' psychometric weakness or a reflection of how men from different cultures are able to respond to a questionnaire about their own feelings. The countries with lower rates of paternal PPD (Spain, China, Brazil, Turkey) have in common that the majority of their population mainly adheres to traditional gender role beliefs, upholding patriarchal codes by requiring males to adopt dominant and aggressive behaviors, restricting their emotional life (Saez, Casado, & Wade, 2009), while the countries with higher rates adhere to more egalitarian gender models. Of course, many more studies must be conducted to corroborate or discard this hypothesis.

Considering the strengths and weaknesses of this study, it is worth to mention that it is an exploration of a new, current and relevant topic using a descriptive design. A wide review of the recent literature published on this topic in English and Spanish was conducted, and the results of the studies should be more or less generalizable, given that the participants belonged to the general population. Nevertheless, the research question excluded the possibility of doing a meta-analysis and looking for more additional information, such as protective and risk factors, the practical expression of PPD in fathers (and mothers) or the possible impacts for the children and the family system.

Even though the World Health Organization has recommended assessing maternal, but not paternal perinatal mental health, it is relevant to widen the dyadic mother-infant perspective and include the father or paternal figure in the integrated delivery of services, understanding that mental health is fundamentally a contextual and relational phenomenon. In this way, the systemic view becomes fundamental when assessing and intervening - fundamentally in the early stages of the child – since, during the first year of the baby's life the foundations of his future mental health are felt. The well-being of fathers and mothers who are satisfied with their relationship and who adequately co-parent enriches their interactions with their children and simultaneously acts as a promoter of child well-being (Palkovitz, Fagan, & Hull, 2013). In contrast, parental depressive symptoms have a negative impact in the whole family system (Escriba-Agüir & Artazcoz, 2010; Gao et al., 2009; Paulson et al., 2016). The assessment of the co-parental system should begin with a first examination before birth, conducting follow-ups during the whole first year post-partum or having a long-term view on this phenomenon, which could be useful for designing intervention programmes.

In this context, health professionals who attend children play an important role in recognizing the importance of incorporating fathers as relevant figures in the health and development of their children (Yogman, Garfielf, & HEALTH, 2016). Among the opportunities for involving the father in the health care, professionals can: show appreciation for going to control, talk to both father and mother, show how children see their parents as role models, educating fathers about supporting the mother in breastfeeding respectively to take their own part in feeding and doing primary care, emphasize the unique role that each parent plays in parenting, among others (Yogman et al., 2016). It seems necessary to actively involve fathers in pregnancy and after-birth medical controls in order to obtain a possible diagnosis as early as possible, with a view to getting a good prognosis for both, them and their families. To be pertinent with contemporary family constellations and because of the prevalence of children living in recombined families, research and practice needs to go beyond the biological father and identify which co-parental relationships are most important to support in the benefit of the children and family system. Early diagnosis and timely intervention not only of maternal, but also paternal PPD, regardless of the type of relationship that exists between the parental couple, is key to promoting the exercise of responsible parenting and well-being in the whole family system.

References

Anding, J., Röhrle, B., Grieshop, M., Schücking, B., & Christiansen, H. (2015). Early detection of postpartum depressive symptoms in mothers and fathers and its relation to midwives' evaluation and service provision: A community-based study. *Frontiers in pediatrics*, 3. http://dx.doi.org/10.3389/fped.2015.00062.

Butler, L. M. (2012). Paternal Depression, Expressed Emotion and Child Emotional and Behavioural Problems. (Doctoral thesis.) University of Exeter, Exeter.

Cockshaw, W., Muscat, T., Obst, P., & Thorpe, K. (2014). Paternal postnatal depressive symptoms, infant sleeping and feeding behaviors, and rigid parental regulation: A correlational study. *Journal of Psychosomatic Obstetrics and Gynecology*, *35*, 124–131. http://dx.doi.org/10.3109/0167482X.2014.959920.

Condon, J., Boyce, P., & Corkindale, C. (2004). The First-Time Fathers Study: A prospective study of the mental health and wellbeing of men during the transition to parenthood. *Australian and New Zealand Journal of Psychiatry*, *38*, 56–64.

Condon, J., Corkindale, C., Boyce, P., & Gamble, E. (2013). A longitudinal study of father-to-infant attachment: Antecedents and correlates. *Journal of Reproductive and Infant Psychology*, *31*(1), 15–30. http://dx.doi.org/10.1080/02646838.2012.757694.

Cox, J., Holden, J., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry*, *150*, 782–786.

D'Anna-Hernandez, K. L., Zerbe, G. O., Hunter, S. K., & Ross, R. G. (2013). Paternal psychopathology and maternal depressive symptom trajectory during the first year postpartum. *Mental Illness*, 5. http://dx.doi.org/10.4081/mi.2013.e1.

Edmondson, O. J., Psychogiou, L., Vlachos, H., Netsi, E., & Ramchandani, P. G. (2010). Depression in fathers in the postnatal period: Assessment of the Edinburgh Postnatal Depression Scale as a screening measure. *Journal of Affective Disorders*, *125*, 365–368. http://dx.doi.org/10.1016/j.jad.2010.01.069.

Epifanio, M. S., Genna, V., De Luca, C., Roccella, M., & La Grutta, S. (2015). Paternal and maternal transition to parenthood: The risk of postpartum depression and parenting stress. *Pediatric Reports*, 7. http://dx.doi.org/10.4081/pr.2015.5872.

Escriba-Agüir, V., & Artazcoz, L. (2010). Gender differences in postpartum depression. A longitudinal cohort study. *Journal of Epidemiology and Community Health*, 65. http://dx.doi.org/10.1136/jech.2008.085894.

Escribà-Agüir, V., & Artazcoz, L. (2011). Gender differences in postpartum depression: A longitudinal cohort study. *Journal of Epidemiology and Community Health*, *65*, 320–326. http://dx.doi.org/10.1136/jech.2008.085894.

Figueiredo, B., & Conde, A. (2011). Anxiety and depression in women and men from early pregnancy to 3-months postpartum. *Archives of Women's Mental Health*, *14*, 247–255. http://dx.doi.org/10.1007/s00737-011-0217-3.

Fisher, S. D., Kopelman, R., & O'Hara, M. W. (2012). Partner report of paternal depression using the Edinburgh Postnatal Depression Scale-Partner. *Archives of Women's Mental Health*, *15*, 283–288. http://dx.doi.org/10.1007/s00737-012-0282-2.

Frevert, G., Cierpka, M., & Joraschky, P. (2008). Familiäre Lebenszyklen. In M. Cierpka (Ed.), *Handbuch der Familiendiagnostik*(3 ed.). Heidelberg: Springer.

Gao, L., Chan, S., & Mao, Q. (2009). Depression, perceived stress, and social support among first-time Chinese mothers and fathers in the postpartum period. *Research in Nursing & Health*, *32*, 50–58. http://dx.doi.org/10.1002/nur.20306.

Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: A systematic review of prevalence and incidence. *Obstetrics and Gynecology*, *106*, 1071–1083.

Gawlik, S., Müller, M., Hoffmann, L., Dienes, A., Wallwiener, M., Sohn, C., & Reck, C. (2014). Prevalence of paternal perinatal depressiveness and its link to partnership satisfaction and birth concerns. *Archives of Women's Mental Health*, *17*, 49–56. http://dx.doi.org/10.1007/s00737-013-0377-4.

Genesoni, L., & Tallandini, M. (2009). Men's psychological transition to Fatherhood: An analysis of the literature, 1989–2008. *Birth*, *36*, 305–318. http://dx.doi.org/10.1111/j.1523-536X.2009.00358.x.

Gómez, E., Muñoz, M., & Haz, A. (2007). Familias Multiproblemáticas y en Riesgo Social: Características e Intervención. *Psykhe*, *16*(2), 43–54.

Goncalves, M. P., Teixeira, F., Monteiro, A., Fonseca, E. P., & Areias, M. E. G. (2011). Postnatal depression in mothers and fathers: Correlation with psychosocial and hormonal variables. *Archives of Women's Mental Health*, *14*, S24.

Goodman, J. (2004). Paternal postpartum depression, its relationship to maternal postpartum depression, and implications for family health. *Journal of Advanced Nursing*, *45*, 26–35. http://dx.doi.org/10.1046/j.1365-2648.2003.02857.x.

Goodman, S. H., Brogan, D., Lynch, M. E., & Fielding, B. (1993). Social and emotional competence of children of depressed mothers. *Child Development*, *64*, 516–531.

Grigoriadis, S., VonderPorten, E., Mamisashvili, L., Tomlinson, G., Dennis, C., Koren, G., & Ross, L. (2013). The impact of maternal depression during pregnancy on perinatal outcomes: A systematic review and meta-analysis. *The Journal of Clinical Psychiatry*, *74*, 321–341. http://dx.doi.org/10.4088/JCP.12r07968.

Iles, J., Slade, P., & Spiby, H. (2011). Posttraumatic stress symptoms and postpartum depression in couples after childbirth: The role of partner support and attachment. *Journal of Anxiety Disorders*, *25*, 520–530. http://dx.doi.org/10.1016/j.janxdis.2010.12.006.

Kerstis, B., Engström, G., Sundquist, K., Widarsson, M., & Rosenblad, A. (2012). The association between perceived relationship discord at childbirth and parental postpartum depressive symptoms: A comparison of mothers and fathers in Sweden. *Upsala Journal of Medical Sciences*, *117*, 430–438. http://dx.doi.org/10.3109/03009734.2012.684805.

Kerstis, B., Engström, G., Edlund, B., & Aarts, C. (2013). Association between mothers' and fathers' depressive symptoms, sense of coherence and perception of their child's temperament in early parenthood in Sweden. *Scandinavian Journal of Public Health*, *41*, 233–239. http://dx.doi.org/10.1177/1403494812472006.

Kerstis, B., Berglund, A., Engström, G., Edlund, B., Sylven, S., & Aarts, C. (2014). Depressive symptoms postpartum among parents are associated with marital separation: A Swedish cohort study. *Scandinavian Journal of Public Health*, *42*, 660–668. http://dx.doi.org/10.1177/1403494814542262.

Lai, B. P., Tang, A. K., Lee, D. T., Yip, A. S., & Chung, T. K. (2010). Detecting postnatal depression in Chinese men: A comparison of three instruments. *Psychiatry Research*, *180*, 80–85. http://dx.doi.org/10.1016/j.psychres.2009.07.015.

Mao, Q., Zhu, L. X., & Su, X. Y. (2011). A comparison of postnatal depression and related factors between Chinese new mothers and fathers. *Journal of Clinical Nursing*, *20*, 645–652. http://dx.doi.org/10.1111/j.1365-2702.2010.03542.x.

Massoudi, P., Hwang, C. P., & Wickberg, B. (2013). How well does the Edinburgh Postnatal Depression Scale identify depression and anxiety in fathers? A validation study in a population based Swedish sample. *Journal of Affective Disorders*, *149*, 67–74. http://dx.doi.org/10.1016/j.jad.2013.01.005.

Matthey, S., Barnett, B., Kavanagh, D. J., & Howie, P. V. (2001). Validation of the Edinburgh Postnatal Depression Scale for men, and comparison of item endorsement with their partners. *Journal of Affective Disorders*, *64*(*2–3*), 175–184.

McHale, J. P. (2007). Charting the bumpy road of coparenthood: Undestanding the challenges of family life. Washington, DC: Zero to Three.

McLanahan, S. (2009). Fragile families and the reproduction of poverty. *Annals of the American Academy of Political and Social Science*, *621*(1), 111–131. http://dx.doi.org/10.1177/0002716208324862.

Mezulis, A. H., Hyde, J. S., & Clark, R. (2004). Father involvement moderates the effect of maternal depression during a child's infancy on child behaviour problems in Kindergarten. *Journal of Family Psychology*, *18*(*4*), 575–588.

Murray, L., & Cooper, P. (1997). *Postpartum depression and child development*. New York: Guilford Press.

Muscat, T., Thorpe, K., & Obst, P. (2012). Disconfirmed expectations of infant behaviours and postnatal depressive symptoms among parents. *Journal of Reproductive and Infant Psychology*, *30*, 51–61. http://dx.doi.org/10.1080/02646838.2012.670804.

Ngai, F. W., & Ngu, S. F. (2015). Predictors of maternal and paternal depressive symptoms at postpartum. *Journal of Psychosomatic Research*, *78*, 156–161. http://dx.doi.org/10.1016/j.jpsychores.2014.12.003.

Nishimura, A., & Ohashi, K. (2010). Risk factors of paternal depression in the early postnatal period in Japan. *Nursing & Health Sciences*, *12*, 170–176. http://dx.doi.org/10.1111/j.1442-2018.2010.00513.x.

Nishimura, A., Fujita, Y., Katsuta, M., Ishihara, A., & Ohashi, K. (2015). Paternal postnatal depression in Japan: An investigation of correlated factors including relationship with a partner. *BMC Pregnancy & Childbirth*, *15*, 1. http://dx.doi.org/10.1186/s12884-015-0552-x.

O'Brien, M., & Moss, P. (2010). Fathers, work, and family policies in Europe. In M. Lamb (Ed.), *The role of father in child development*. NJ: Wiley.

O'Hara, M. (2009). Postpartum depression: What we know. *Journal of Clinical Psychology*, *65*, 1258–1269. http://dx.doi.org/10.1002/jclp.20644.

Palkovitz, R., Fagan, J., & Hull, J. (2013). Coparenting and childrens well-being. In N. Cabrera, & C. Tamis-LeMonda (Eds.), *Handbook of father involvement* (pp. 202–222). New York and London: Routledge.

Parfitt, Y., Pike, A., & Ayers, S. (2013). The impact of parents' mental health on parent–baby interaction: A prospective study. *Infant Behavior and Development*, *36*, 599–608. http://dx.doi.org/10.1016/j.infbeh.2013.06.003.

Parfitt, Y., & Ayers, S. (2014). Transition to parenthood and mental health in first-time parents. *Infant Mental Health Journal*, *35*, 263–273. http://dx.doi.org/10.1002/imhj.21443.

Parfitt, Y., Ayers, S., Pike, A., Jessop, D. C., & Ford, E. (2014). A prospective study of the parent–baby bond in men and women 15 months after birth. *Journal of Reproductive and Infant Psychology*, *32*, 441–456. http://dx.doi.org/10.1080/02646838.2014.956301.

Paulson, J., Keefe, H., & Leiferman, J. (2009). Early parental depression and child language development. *Journal of Child Psychology and Psychiatry*, *50*, 254–262. http://dx.doi.org/10.1111/j.1469-7610.2008.01973.x.

Paulson, J., & Bazemore, S. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression: A meta-analysis. *JAMA*, *303*, 1961–1969. http://dx.doi.org/10.1001/jama.2010.605.

Paulson, J., Bazemore, S., Goodman, J., & Leiferman, J. (2016). The course and interrelationship of maternal and paternal perinatal depression. *Archives of Women's Mental Health*, 1–9. http://dx.doi.org/10.1007/s00737-016-0598-4.

Paulson, J., Dauber, S., & Leiferman, J. A. (2006). Individual and combined affects of postpartum depression in mothers and fathers on parenting behavior. *Pediatrics*, *118*(2), 659–668.

Pinheiro, K. A. T., Coelho, F. M. D. C., Quevedo, L. D.Á., Jansen, K., Souza, L. D. M., Oses, J. P., & Pinheiro, R. T. (2011). Paternal postpartum mood: Bipolar episodes? *Revista Brasileira Délelőtt Psiquiatria*, *33*, 283–286. http://dx.doi.org/10.1590/S1516-44462011000300012.

Ramchandani, P., Stein, A., Evans, J., O'Connor, T., & Team, A. S. (2005). Paternal depression in the postnatal period and child development: A prospective population study. *Lancet*, *365*, 2201–2205. http://dx.doi.org/10.1016/S0140-6736(05)66778-5.

Roubinov, D. S., Luecken, L. J., Crnic, K. A., & Gonzales, N. A. (2014). Postnatal depression in Mexican American fathers: Demographic, cultural, and familial predictors. *Journal of Affective Disorders*, *152*, 360–368. http://dx.doi.org/10.1016/j.jad.2013.09.038.

Rubertsson, C., Waldenstrom, U., Wickberg, B., Radestad, I., & Hildningsson, I. (2005). Depressive mood in early prgnancy and postpartum: Prevlance and women at risk in a national Swedish sample. *Journal of Reproductive and Infant Psychology*, *23*(2), 155–166.

Rutz, W. (1996). Prevention of suicide and depression. *Nordic Journal of Psychiatry*, *50*, 61–67.

Saez, P., Casado, A., & Wade, J. (2009). Factors Inluencing Masculinity Ideology among Latino men. *The Journal of Men's Studies*, *17*(2), http://dx.doi.org/10.3149/jms.1702.116.

Séjourné, N., Vaslot, V., Beaumé, M., Goutaudier, N., & Chabrol, H. (2012). The impact of paternity leave and paternal involvement in child care on maternal postpartum depression. *Journal of Reproductive and Infant Psychology*, *30*, 135–144. http://dx.doi.org/10.1080/02646838.2012.693155.

Serhan, N., Ege, E., Ayrancı, U., & Kosgeroglu, N. (2013). Prevalence of postpartum depression in mothers and fathers and its correlates. *Journal of Clinical Nursing*, *22*, 279–284. http://dx.doi.org/10.1111/j.1365-2702.2012.04281.x.

Sethna, V., Murray, L., Netsi, E., Psychogiou, L., & Ramchandani, P. G. (2015). Paternal depression in the postnatal period and early father–infant interactions. *Parenting*, *15*, 1–8. http://dx.doi.org/10.1080/15295192.2015.992732.

Smith, H. R., Eryigit-Madzwamuse, S., & Barnes, J. (2013). Paternal postnatal and subsequent mental health symptoms and child socio-emotional and behavioural problems at school entry. *Infant and Child Development*, *22*, 335–348. http://dx.doi.org/10.1002/icd.1800.

Svenlin, N. (2015). *Validation of the Edinburgh Gotland Depression Scale for Swedish fathers.* (Master), UMEA.

Tran, T. D., Tran, T., & Fisher, J. (2012). Validation of three psychometric instruments for screening for perinatal common mental disorders in men in the north of Vietnam. *Journal of Affective Disorders*, *136*, 104–109. http://dx.doi.org/10.1016/j.jad.2011.08.012.

Veskrna, L. (2013). Peripartum depression – does it occur in fathers and does it matter? *Journal of Men's Health*, *7*, 420–430. http://dx.doi.org/10.1016/j.jomh.2010.10.004.

Vick-Whittaker, J., Jones-Harden, B., See, H., Meisch, A., & Westbrook, T. (2011). Family risk and protective factors: Pathways to Early Head Start toddlers´ social-emotional functioning. *Early Childhood Research Quarterly*, *26*(*1*), 74–86. http://dx.doi.org/10.1016/j.ecresq.2010.04.007.

Wynter, K., Rowe, H., & Fisher, J. (2014). Interactions between perceptions of relationship quality and postnatal depressive symptoms in Australian, primiparous women and their partners. *Australian Journal of Primary Health*, *20*, 174–181. http://dx.doi.org/10.1071/PY12066.

Yogman, M., Garfielf, C., & HEALTH, A. T. C. O. P. A. O. C. (2016). Fathers' roles in the care and development of their children: The role of pediatricians. *Pediatrics*, *138*(*1*) (doi:e 20161128).