Supplemental Material: Annu. Rev. Clin. Psychol. 2015. 11:99–137
doi: 10.1146/annurev-clinpsy-101414-020426
Biological and Psychosocial Predictors of Postpartum Depression: Systematic Review and Call for Integration
Yim IS, Tanner Stapleton LR, Guardino CM, Hahn-Holbrook J, & Dunkel Schetter C

SUPPLEMENT C: NETWORK SIZE

Evidence linking the number of people in a woman's social network to PPD is mixed and relatively weak. Two studies conducted in Canada with modest sample size found no effect of a woman's prenatal social network size on depressive symptoms in the first 2 months post partum (see table in Online Supplement A; Da Costa et al. 2000, Zelkowitz et al. 2008), but a larger investigation found a significant inverse univariate association between a bigger support network and depressive symptoms at 6 months post partum (des Rivières-Pigeon et al. 2001). When dichotomized as more than one close relationship versus none or only one, network size predicted PPD risk and symptoms at 3 to 5 months post partum (Chaaya et al. 2002, Surkan et al. 2006), but one study with covariates found the association was null after controlling for prenatal depression (Chaaya et al. 2002). Finally, social isolation was associated with increased risk of PPD at 6 months post partum among Pakistani women in Britain (Husain et al. 2012).

The influence of network size may be greater for women from specific vulnerable or cultural populations, especially in the early postpartum period. Women in Pakistan and Turkey reported fewer depressive symptoms in the first week (Ahmad & Munaf 2006, Kuscu et al. 2008) and first month (Kirpinar et al. 2010) after delivery when living with extended family. In contrast, studies of Pakistani immigrants in Norway (Bjerke et al. 2008) and Japanese women (Satoh et al. 2009) found no associations between living with extended (versus nuclear family) and elevated depressive symptoms six weeks to four months post partum. A study of low-income adolescents in the United States found a protective influence of larger network size at 4 to 6 weeks post partum (Logsdon et al. 2008), but not after stress, self-esteem, and mastery were included. More research is needed to determine whether cultural, socioeconomic, and/or timing factors moderate the link between network size and PPD.

Network size likely interacts with the quality of network connections. In a sample of 66 Mexican-American women (Martinez-Schallmoser et al. 2003), the overall number of network contacts, both pre- and postnatally, did not predict depressive symptoms at 4 to 6 weeks post partum in univariate analyses, but the number of contacts with whom the women had a conflictual relationship was predictive of more depressive symptoms. Postpartum network size was significantly and negatively associated with symptoms after controlling for prenatal depression, family health, support need, and support satisfaction. Thus, when women were satisfied with the amount and type of support they received, having a larger network fostered declines in depressive symptoms into the postpartum period. Having more conflictual relationships in one's network has also been associated with higher PPD elsewhere (des Rivières-Pigeon et al. 2001). More studies that carefully consider independent and combined influences of network quality and quantity are needed.

REFERENCES

Ahmad R, Munaf S. 2006. Nuclear family system as an important risk factor for the development of the baby blues. *Pakistan Journal of Social and Clinical Psychology* 4: 67-74

Bjerke SE, Vangen S, Nordhagen R, Ytterdahl T, Magnus P, Stray-Pedersen B. 2008. Postpartum depression among Pakistani women in Norway: prevalence and risk factors. *Journal of Maternal-Fetal and Neonatal Medicine* 21: 889-94

Chaaya M, Campbell OM, El Kak F, Shaar D, Harb H, Kaddour A. 2002. Postpartum depression: prevalence and determinants in Lebanon. *Archives of Women's Mental Health* 5: 65-72

Da Costa D, Larouche J, Dritsa M, Brender W. 2000. Psychosocial correlates of prepartum and postpartum depressed mood. *Journal of affective disorders* 59: 31-40

des Rivières-Pigeon C, Séguin L, Goulet L, Descarries F. 2001. Unravelling the complexities of the relationship between employment status and postpartum depressive symptomatology. *Women & Health* 34: 61-79

Husain N, Cruickshank K, Husain M, Khan S, Tomenson B, Rahman A. 2012. Social stress and depression during pregnancy and in the postnatal period in British Pakistani mothers: a cohort study. *J Affect Disord* 140: 268-76

Kirpinar İ, Gözüm S, Pasinlioğlu T. 2010. Prospective study of postpartum depression in eastern Turkey prevalence, socio-demographic and obstetric correlates, prenatal anxiety and early awareness. *J Clin Nurs* 19: 422-31

Kuscu MK, Akman I, Karabekiroglu A, Yurdakul Z, Orhan L, et al. 2008. Early adverse emotional response to childbirth in Turkey: The impact of maternal attachment styles and family support. *Journal of Psychosomatic Obstetrics & Gynecology* 29: 33-38

Logsdon MC, Hertweck P, Ziegler C, Pinto-Foltz M. 2008. Testing a bioecological model to examine social support in postpartum adolescents. *Journal of Nursing Scholarship* 40: 116–23

Martinez-Schallmoser L, Telleen S, Macmullen NJ. 2003. The Effect of Social Support and Acculturation on Postpartum Depression in Mexican American Women. *Journal of Transcultural Nursing* 14: 329-38

Satoh A, Kitamiya C, Kudoh H, Watanabe M, Menzawa K, Sasaki H. 2009. Factors associated with late post-partum depression in Japan. *Japan Journal of Nursing Science* 6: 27-36

Surkan PJ, Peterson KE, Hughes MD, Gottlieb BR. 2006. The role of social networks and support in postpartum women's depression: A multiethnic urban sample. *Maternal and Child Health Journal* 10: 375-83

Zelkowitz P, Saucier JF, Wang T, Katofsky L, Valenzuela M, Westreich R. 2008. Stability and change in depressive symptoms from pregnancy to two months postpartum in childbearing immigrant women. *Archives of Women's Mental Health* 11: 1-11