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Hickey, G., McGilloway, S., Leckey, Y., Furlong, M., Leavy, S., Stokes, A., O'Connor, S., Bywater, T., & Donnelly, M. (2019). Mothers' well-being, parenting attitudes, and home environment: Cumulative risk and parity in early motherhood. *Child: Care, Health and Development*, 45(4), 523-530. <https://doi.org/10.1111/cch.12677>

Published in:

Child: Care, Health and Development

Document Version:

Peer reviewed version

Queen's University Belfast - Research Portal:

[Link to publication record in Queen's University Belfast Research Portal](#)

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**Mothers' well-being, parenting attitudes and home environment: Cumulative risk and parity in
early motherhood**

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Word count: 3,470

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Abstract

Background: This study explores mothers' wellbeing, experiences and attitudes and the impact of cumulative demographic and antenatal risks and parity on parenting outcomes. A secondary aim was to assess mother and infant service utilisation.

Method: This study involved an assessment of the baseline characteristics of a sample of mothers (N=190; Mean age = 31.6 years, *SD* = 5.4) with young infants (average age = 10.13 weeks, *SD* = 0.8) living in disadvantaged communities in Ireland.

Results: Mothers with more risk factors (e.g. lone and/or teenage parenthood, socioeconomic disadvantage and low social support) reported significantly higher levels of depression and lower parental self-efficacy. Observations of the home environment indicated that at-risk parents engaged in less cognitive stimulation and lower levels of emotional support for their child. The impact of these risk factors differed for primiparous and multiparous mothers.

Conclusions: At-risk mothers are more susceptible to mental health difficulties and poorer parenting outcomes during the transition to parenthood. This study also provides important comparative insights into experiences of primiparous and multiparous parents. These findings have important implications for practitioners and policy makers, particularly the provision of universal and proportionate supports to prevent and/or interrupt poor parent-child relationships and negative developmental outcomes.

Key words: Maternal well-being, parenting, risk, parity, mother-infant interaction

Introduction

Parenting is inextricably linked to a range of conditions including the personal characteristics of the parent and child, the socioeconomic environment and patterns of familial interaction (Lorber & Egeland, 2011). Teen and lone parenthood, low education, poor parent mental health, stressful life events and inadequate social support have been linked to poorer parent functioning and less sensitive parenting practices (Taylor, Conger, Robins & Widaman, 2015). Socioeconomic disadvantage has also been consistently associated with less responsive parenting (Razza, Martin & Brooks-Gunn, 2010; Kiernan & Mensah, 2009). The co-occurrence of risk factors may be particularly salient in shaping developmental trajectories and parent functioning. The larger the number of risk factors experienced by a family, the greater the likelihood of negative outcomes for both the parent and child (Appleyard, Egeland, van Dulmen & Scroufe, 2004; Trentacosta et al., 2008).

Research exploring the transition to parenthood highlights the challenges of parenting in the early months of life (Nelson, Kushlev & Lyubomirsky, 2014). Parenting for the first-time is associated with increased risk of psychological distress and lower parenting confidence (Muscat, Obst, Cockshaw & Thorpe, 2014). However, mothers also spend more time interacting and socialising, and are less controlling and more affectionate in their interactions, with their first-born infants (Keller & Zach, 2002). Van IJzendoorn and colleagues (2000) reported lower parental sensitivity amongst multiparous mothers. Mothers with more children also report more stress, particularly amongst already distressed families (Lanier & Jonson-Reid, 2014). Parent self-assessment of wellbeing, attitudes towards parenting, and perceptions of the challenges they face in their parenting role in early infancy is an important and useful endeavour, particularly in relation to the context in which parenting occurs. However, the impact of maternal parity on how parents perceive themselves, their infants, and their familial interactions has been comparatively under-researched (Gameiro, Moura-Ramos & Canavarro, 2009).

The transition to parenthood may differ substantially between primiparous and multiparous mothers, particularly those who are also experiencing socioeconomic and personal adversity.

Furthermore, little is known about patterns of service utilisation amongst parents and their first-born and/or subsequent infants, and the factors which influence health and social care service use (Goldfeld, Wright & Oberklaid, 2003). Strengthening understanding of parenting outcomes and service utilisation patterns, and how they are impeded or fostered by contextual factors is important in informing the development and delivery of early years parenting supports.

The overarching aim of this study was to assess parent adjustment in early infancy and to examine how contextual factors influence wellbeing, attitudes and behaviours amongst new mothers living in mainly disadvantaged areas. The specific study objectives were to: (i) assess levels of depressive symptomatology amongst mothers of new-born infants; (ii) examine parent-reported sense of competence and perceptions of difficult infant temperament and bonding; (iii) explore the home environment and specifically levels of cognitive stimulation and emotional support; (iv) elicit parents' perceptions of support; (v) explore their utilisation of/access to health and social care services; and (vi) examine the impact of demographic and contextual risk factors as well as parity, on parenting adjustment and patterns of service use in early infancy.

Study context

The current study was undertaken in the Republic of Ireland (RoI) as a baseline assessment for an evaluation of a community-based, early parenting intervention aimed at improving parenting competencies, parent-infant relationships and parent and infant wellbeing. The Parent and Infant (PIN) programme was developed by a charity named Archways and combines the Incredible Years (IY; Webster-Stratton & Reid, 2008) Parent and Baby/Parent and Toddler Programmes with other practical workshops and supports. The PIN programme is currently being delivered in two disadvantaged urban areas – West Dublin, and Drogheda/Dundalk, Co.Louth (Eastern RoI).

Method

Participant recruitment

Mother-infant dyads were recruited through community-based health clinics. Public Health Nurses (PHNs) informed new mothers of the research verbally and by means of a brief brochure, after which

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prospective participants were asked to provide written consent to be considered for inclusion in the research. Contact details were then confidentially forwarded to the research team. In total, 239 parents were contacted, 79% of whom (N=190) provided written informed consent to participate in the research. Eligibility criteria were as follows: a) participants must be aged 16 years or older and have an infant aged between 6-20 weeks old; b) be willing to participate in the study; and c) be able to communicate in English. Reasons for not participating included: lack of further interest in the research, illness and time constraints (Figure 1). Participants received a shopping voucher (€20) as thanks for their participation.

[Figure 1 about here]

Measures

Background information was collected using a *Personal and Demographic Information Form* (PDIF). This questionnaire was adapted from previous research (McGilloway et al., 2014) and elicited information on parental age, marital status, living arrangements and employment status. Parent stress in response to parenting duties was assessed using one item on the PDIF. Parents were asked to rate, using an ordinal scale ('none at all', 'not much', 'some' or 'a great deal'), the degree of stress they experienced looking after their child during the previous six weeks. Parents were also asked to rank the difficulty they experienced coping with infant patterns and the extent to which infant routines (e.g. crying, sleeping) posed a problem for them (e.g. when your baby cries, how often does he/she get on your nerves? 'never/almost never', 'rarely', 'sometimes', 'often', 'always/almost always'). Further information on interparental relationships (perceived quality, frequency of arguments), father/partner involvement in childcare and support from social networks (e.g. How much support practical or emotional do you receive from family and friends? 'none at all', 'not much', 'a fair amount', 'a great deal') was also collected.

Depressive symptoms were assessed using the *Patient Health Questionnaire-9* (PHQ-9; Spitzer, Kroenke & Williams, 1999), a validated 9-item measure designed to assess mood, anxiety, eating and somatoform symptoms ($\alpha = 0.79$). The measure has been found to have high convergent

validity with measures of postnatal depression (Yawn et al., 2009). Parent self-efficacy was measured using the 16-item *Parenting Sense of Competence* (PSOC) Scale (Johnston & Mash, 1989) ($\alpha = 0.77$). Parent perceptions of the parent-infant bonding relationship were examined using the 9-item 'Quality of Attachment' subscale of the *Maternal Postnatal Attachment Scale* (MPAS; Condon & Corkindale, 1998) ($\alpha = 0.71$), which has previously been used as a stand-alone measure (Thornton, Williams, McCrory, Murray & Quail 2013). Parent perceptions of child temperament were measured with the 9-item 'Fussy-difficult' subscale of the *Infant Characteristics Questionnaire* (ICQ; Bates, Bennett Freeland & Lounsbury, 1979) ($\alpha = 0.83$). Child behaviours are scored on a 7-point Likert scale, indicating the perceived level of difficulty the parent has dealing with a range of infant behaviours.

The short form of the *Home Observation for Measurement of the Environment* (HOME-SF) was used to assess the home environment (Caldwell & Bradley, 2003). This comprises 18 items and two subscales: 'cognitive stimulation' and 'emotional support'. The measure is completed by the researcher in approximately 20 minutes, through interview (parent report) and observation. The HOME-SF has been found to correlate highly with the full HOME inventory and has good predictive validity (Totsika & Sylva, 2004).

Parents also completed a *Service Utilisation Questionnaire* (SUQ) to collect data on service use/receipt (e.g. health and social care support services). The SUQ was adapted from our previous research (McGilloway et al., 2014) and is based on the Client Service Receipt Interview (Beecham & Knap, 1992).

Results

Parent and infant characteristics and family demographics

All participants were mothers and were aged, on average, 31.6 years ($SD=5.4$), whilst 55% were first-time parents. Almost one-quarter of the sample were lone parents (*Table 1*). Infants were fairly equally divided by gender (average age=10.13 weeks, $SD=0.8$). Approximately one-third of the sample were at risk of poverty when compared to average Irish norms (Central Statistics Office

[CSO], 2017). Multiparous mothers were significantly more likely to have a history of teen parenthood and family criminality/substance abuse, to have a low level of education, to be living in an unemployed household and to be at risk of poverty.

[Table 1 about here]

Parent wellbeing and perceptions of parenting

Most participants reported good health; minor illness was reported in approximately one third of parents (36%) and one in five infants (19%). Almost one third of the sample (31%) reported at least some childcare-related stress, whilst the same proportion (32%) reported minor difficulties with routine baby care. Almost one in five (17%) reported 'moderate' to 'large' difficulties in coping with their infant's daily patterns and a similar proportion (19%) indicated that they had worries or concerns about their baby (e.g. excessive crying, sleep-related problems, reflux or feeding problems).

Mothers' mean scores on the PHQ-9 are indicative of low levels of depressive symptoms, although 28% reported mild depression. More than a quarter of mothers reported low to moderate parenting self-efficacy. Average scores on the HOME-SF suggested nurturing home environments (Table 2). Mean scores on the MPAS 'Quality of Attachment' subscale indicated high perceived levels of parent-infant attachment. Most infants were perceived as temperamentally 'not difficult'. However, first-time parents reported significantly higher 'Fussy-Difficult' scores for their infants. There were no other differences between primiparous and multiparous mothers in respect of parenting attitudes and behaviours.

[Table 2 about here]

Social support and service utilisation.

A social support score, ranging from 0 to 6, was calculated on the basis of responses to items from the PDIF in relation to perceived familial relationship quality, reported frequency of interparental arguments, father/partner involvement in childcare and support from family and

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friends. In total, 14% of mothers obtained a social support score of 3 or lower indicating greater levels of social isolation (*Table 3*).

Most parents had attended a GP service and a nurse/community midwife service in the weeks after birth. However, 12% (23/190) of parents reported no contact with any health or social service professionals regarding their own health and wellbeing since leaving hospital. All of this subgroup reported good health, although four scored above the cut off for 'minimal depression' (≥ 5) on the PHQ-9, one of whom had 'moderately severe' symptoms ($\geq 15-19$). Furthermore, high levels of parenting stress and difficulty with routine baby care were reported by six and eight participants respectively from within this subgroup.

Infants had, on average, six contacts with a range of health and social care professionals. Most of these contacts took place in community-based facilities/clinics (e.g. GP clinic, primary health care centres); infants had, on average, two home visits with a PHN. Only a small proportion of infants (8%) required a visit to Accident and Emergency (A&E) services. Other services accessed by parents and infants included: lactation consultancy; breastfeeding supports; family support work; osteopath/craniosacral therapy; specialist consultants (e.g. paediatrician, obstetrician); physiotherapy; and occupational therapy. First-born infants, on average, used more services than later-born children.

[Table 3 about here]

Risk factors and parent outcomes

Risk factors for parenting difficulties include: single parenthood, teenage parenthood, family poverty, parental history of depression, substance abuse, criminality, stressful life events and low social support. A risk factor score (0 to 8) was calculated based on the above factors to yield a mean score of 1.47 ($SD=1.6$). There was a statistically significant difference in the risk factor scores of multiparous mothers ($M=1.84$, $SD=1.7$) versus their primiparous counterparts ($M=1.16$, $SD=1.4$) ($t(187)=2.99$, $p<.05$; two-tailed).

The impact of risk factors on parent and infant outcomes was examined using a one-way analysis of variance (ANOVA). The total sample was divided into three groups: low-risk (No risk factors); medium-risk (1-2 risk factors); and high-risk (>3 risk factors). Effect sizes were calculated using Eta Squared, whereby an effect size of 0.01 denotes a small effect, 0.06 a medium effect, and 0.14 a large effect of the intervention (Cohen, 1988).

The results revealed significant main effects relating to depressive symptoms, parental sense of competence and observations of cognitive stimulation and emotional support. Post-hoc analyses, conducted using Tukey HSD test, indicated that PHQ-9 (depression) scores for the high-risk (n=42) and medium-risk (n=78) groups were significantly different from those in the low-risk group (n=69), whilst parents in the high-risk group also reported significantly more depressive symptoms than those in the medium-risk group. This pattern was similar for primiparous and multiparous sub-groups. Parents in the medium- and high-risk groups were significantly different from those in the low-risk category with respect to mean scores on the PSOC scale, indicating that parents with more risk factors reported lower parenting self-efficacy. Observations of the home environment further indicated that high- and medium-risk parents engaged in less cognitive stimulation and demonstrated lower levels of emotional support than low-risk parents. Differences between the groups on measures of parent-reported quality of attachment, infant temperament and service use were not statistically significant.

[Table 4 about here]

High-risk (n=19) and medium-risk (n=39) first-time mothers differed significantly from those in the low-risk group (n=46) with regard to (lower) observed levels of emotional support ($F(2,101)=4.34, p<.05$; Effect size=0.1). Amongst multiparous mothers, both the high- (n=23) and medium-risk (n=39) subgroups were also significantly more likely than their low-risk counterparts (n=23) to report lower parenting confidence as measured by the PSOC scale ($F(2,82)=5.507, p<.05$; Effect size=0.12). Furthermore, significantly lower levels of cognitive stimulation were observed

amongst multiparous high-risk mothers when compared with those in the medium- or low-risk groups ($F(2,82)=3.49, p<.05$; Effect size=0.09).

[Supplementary tables 1 & 2]

Discussion

These findings provide insight into the well-being and perceptions of new mothers, particularly with regard to differential experiences arising from exposure contextual risk, as well as the birth of a first or subsequent children. At-risk parents were more likely to report higher levels of depressive symptoms and lower parenting self-efficacy. The experience of multiple risk factors was also related to lower levels of emotional support and cognitive stimulation in the home. These findings are consistent with evidence from elsewhere indicating that co-occurring, accumulative risk precipitates threats to effective parenting and has important implications for parenting experiences (Evans, Li & Whipple, 2013).

The impact of risk differed between primiparous and multiparous mothers. Multiparous mothers in the high-risk category reported significantly lower parenting efficacy than their counterparts in the low-risk group, despite their previous experience of parenting. The impact of multiple risks on the home environment also differed between these groups. The presence of more children in the family, who also require care and attention, can exacerbate contextual and antenatal risks, leading to decreased satisfaction in the role of parenting and less confidence in managing the challenges of caring for a young infant. Parents with multiple children, who also face numerous contextual and personal stressors, may find it particularly challenging to engage in instructive/educational activities (e.g. reading) when compared to first-time parents.

The lower levels of emotional support shown by at-risk first-time mothers may be attributable to knowledge and/or experience deficits in relation to child rearing. It is also notable that first-time parents reported more negative perceptions of their infants' temperaments. Perceived temperamental difficulty is associated with harsher parenting (Bradley & Corwyn, 2008). At-risk parents, coping for the first time with the demands of infant care may face greater challenges

maintaining positive parenting strategies in the face of infant fussiness. Patterns of infant negative reactivity and harsh parenting may be maintained over time, setting in train a coercive cycle that exacerbate the risks of deleterious developmental outcomes later in the lifespan (Masten & Cicchetti, 2010).

Our findings also indicate that new parents and infants are frequent users of primary care services, with first-born infants using more services than later-born children. It is possible that some parents found it difficult to recall accurately contact with health and social care professionals. A small group of parents, nonetheless, perceived themselves to have not received any formal services for their own health and wellbeing. Insufficient support from health and social care services may reduce opportunities for potential parent and/or parenting issues to be identified and promptly addressed. Overall, research exploring service utilisation amongst parents and young infants is limited and further research is needed to better understand the factors which drive use of primary care services (Oberklaid, Goldfeld & Moore, 2003).

Study strengths and limitations

This study is limited in a number of ways. Multiparous mothers were more likely to experience a range of risk factors which may limit the generalisability of the findings. Only mothers are included in the study; data from fathers and/or other significant carers may be useful in gaining a more in depth understanding of parenting challenges and how family dynamics are influenced by a range of contextualising factors. Data relating to antenatal stress and stressful life events was collected using retrospective reports; parents experiencing greater distress during the early infancy period may have reflected more negatively on their antenatal experiences.

However, this study helps to address a gap in knowledge by exploring the impact of parity on new mothers' experiences of, and attitudes towards parenthood. This study also captured multiple aspects of parent experiences, whilst also providing useful insights into the ways in which contextual factors may differentially influence the experience of becoming a parent for the first-time or after the birth of subsequent children.

The early infancy period may represent an ideal opportunity for intervening with parents to encourage more effective parenting skills and also potentially bolstering their mental health/ general family adjustment and helping to establish a foundation for positive developmental outcomes in their children (Barlow et al., 2010; Heckman, 2008). Nevertheless, there has been limited research to date exploring the potentially moderating effects of contextual risks and parity on early parenting interventions outcomes (Stolk et al., 2008). This paper presents characteristics of the sample from the baseline (first) time-point of an ongoing evaluation. Assessments will be undertaken when children are 8, 16 and 24 months old to assess parent and infant outcomes, engagement with health and social care systems and the effectiveness of a group-based early parenting programme. Potential moderators, including risk and parity, of early parenting intervention effectiveness will also be explored. Finally, parent and infant engagement with health and social care services may also change over time. Our ongoing research will also explore patterns of service utilisation and a cost analysis will be conducted to examine the interaction between service use and early parenting intervention.

Implications for practice and policy

Our findings suggests that parents may experience unique and multiple challenges depending on their own personal needs and circumstances. This underscores the importance of early parenting supports which are universal and proportionate to the needs of parents (Moran, Ghate & van der Merwe, 2004). Universally available supports can help to address parenting concerns, strengthen parenting skills, whilst also assisting in the identification of families who require additional, more intensive interventions over the short- or longer-term. Targeted supports for those who experience more contextual stressors can help at-risk families to establish a foundation for ongoing skill development and positive lifespan trajectories (Britto et al., 2017).

Parenting skills and the quality of parent-infant interactions are a centrally protective factors in the lives of young infants (Walker et al., 2011). Reducing barriers to engagement with early parenting supports, particularly for vulnerable families, must also be also a concern. Practitioners,

including PHNs and other health care professionals, need to be attentive to circumstances which place mothers and infants at greater risk of poorer outcomes systems are needed to enable practitioners to signpost appropriate services for new parents which can cater to their needs. Policy and practice, therefore, should be directed towards creating approaches that promote uptake of preventative services and enable collaborative service delivery. Given the enormous costs of developmental inequalities, the provision and evaluation of supports for parents in the earliest years are important in terms of the potentially far-reaching benefits for community well-being and the reduction in the need for later costly, interventions.

Key messages

- The transition to parenthood may be a time of vulnerability, particularly amongst those who are also experiencing socioeconomic and personal adversity; however, little is known of the comparative experiences of mothers after the birth of a first or subsequent child.
- The study found that at-risk parents were more likely to report higher levels of depressive symptoms and lower parenting self-efficacy. Cumulative risk was also related to lower levels of emotional support and cognitive stimulation in the home. However, the impact of risk differed for first-time mothers and those with more children.
- The findings also indicate that new parents and infants are frequent users of primary care services, with first-born infants using more services than later-born children.
- Early parenting supports which are universal and proportionate to the needs of parents are important. Reducing barriers to engagement, particularly for vulnerable families, must also be also a concern.

Funding

This research is funded by the Health Research Board in Ireland through its (five-year) 'Collaborative Applied Research Grants scheme in Population Health and Health Services Research 2012' which was awarded to SMcG as the Principal Investigator (CARG/2012/17).

Ethical approval

Ethical approval for this study was obtained from Maynooth University Social Research Ethics Subcommittee and the Health Service Executive (HSE) North East Area Research Ethics Committee.

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Acknowledgements

We acknowledge with thanks the funding provided for this study by the Health Research Board. We also extend our thanks to the PHNs and the community organisations with whom we are working as part of this research – including Archways and the Blue Skies and Genesis initiatives in Dublin and

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Dundalk/Drogheda respectively. Lastly, we owe a debt of gratitude to all of the mothers who kindly agreed to take part in this study.

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