

REVIEW ARTICLE

Residential parenting services: An integrative literature review of characteristics, service usage and parent and staff perspectives

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Abstract

Aims: The primary aim of the review was to provide an overall assessment of residential parenting services in Australia, by describing the characteristics of infants and parents using residential parenting services, their prior service use and reasons for admission, referral pathways for access and parenting and infant outcomes. The secondary aims were to explore parent and staff perception of the programmes.

Design: An integrative literature review.

Methods: A systematic and comprehensive search of health and social sciences databases was conducted for studies related to residential parenting services (published between 1st January 1990–31st December 2019). Six hundred and eleven peer-reviewed papers were identified, after which 301 duplicates were removed and an additional 256 papers excluded after titles/abstracts were read. Of the remaining 54 abstracts/papers, a further 14 were omitted as not relevant. Forty papers were independently reviewed by four authors. ENTREQ and MOOSE checklists were applied.

Results: Thirty studies were quantitative, nine were qualitative, and one was mixed methods. All studies originated from in Australia. Women and babies admitted to residential parenting services were found more likely to be: older, Australian born, from higher socio-economic groups, and first-time mothers, and having labour and birth interventions and a history of mental health disorders. The babies were more likely to be twins, male and admitted with sleep disorders and dysregulated behaviour. Studies reporting postintervention outcomes demonstrated improvements to maternal mental health, breastfeeding, parenting confidence and sleep quality, and infant sleeping and behaviour.

KEYWORDS

perinatal mental health, residential parenting service, sleep, unsettled infant behaviour

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1 | INTRODUCTION

Many parents experience statistically significant difficulties with early parenting, in particular with breastfeeding, settling an infant with severely disrupted sleep patterns, and soothing an infant who is dysregulated and with persistent crying (Coyle, 2011; Dahlen et al., 2019; Matthey & Speyer, 2008; Taylor & Johnson, 2010; Waylen & Stewart-Brown, 2010). For many parents, these difficulties are accompanied by symptoms of fatigue and distress (Barnett et al., 1993; Fisher, Feekery, & Rowe-Murray, 2002; Fisher, Feekery, & Rowe, 2004; Giallo et al., 2011, 2013; Wilson et al., 2018; Wynter et al., 2019a, 2019b), and depression (Barnett et al., 1993; Fisher, Feekery, & Rowe, 2004; Giallo et al., 2011; McMahon et al., 2001; Priddis, Thornton, et al., 2018) and anxiety (Christl et al., 2013; Fisher, Feekery, & Rowe, 2004; Giallo et al., 2011; Kohlhoff, Barnett, & Eapen, 2015; Priddis, Thornton, et al., 2018).

There is a tiered system of health services (primary, secondary, tertiary) in Australia to support maternal, child and family health, including non-psychiatric day stay which provides assistance with typical early parenting issues, including adjustment to parenting, settling and sleeping support, and infant feeding and nutrition advice. Residential parenting services (RPS) such as Tresillian and Karitane (in New South Wales), support parents and babies with more serious and complex needs. RPS were first established in NSW in 1921 by the Royal Society for the Welfare of Mothers and Babies (NSW Health Kids & Families, 2015), as an additional component to the publicly funded universal child and family health services available in Australia (Australian Government Department of Health & Aging, 2011), as it had been identified that existing community-based services were unable to fully support some parents, and further assessments and intensive short-term interventions were required (Fowler et al., 2017). RPS provide a parent and infant centred approach to the provision of care (AAPCH, 2018) and use a range of services and evidence-based interventions, such as structured psychoeducational programmes to enhance infant caretaking skills and adjustment to parenting (Berry et al., 2016; Fisher & Rowe, 2004; Rowe & Fisher, 2010). These services appear to be quite unique to Australia.

Most services admit children up to 3 years of age, and in some instances up until 5 years of age. Parents and young children who are experiencing varying degrees of dysregulation (and who are otherwise physically healthy or have a stable medical condition) are admitted, usually for 3 to 5 nights (Dahlen et al., 2019; Fisher et al., 2011; Fowler et al., 2012).

Presenting issues that trigger the need for an admission are predominantly related to sleep, settling or feeding issues in the infant in the first-year postbirth and associated parenting confidence and capacity concerns. A comprehensive admission assessment is conducted that frequently identifies psychosocial issues that influence the mental health status of the parent and their ability to parent effectively, with the outcome being dysregulated behaviour in the infant or young child (Fisher et al., 2011; Kohlhoff & Barnett, 2013; McMahon et al., 2001).

In most instances, RPS are nurse-led organizations with support provided by a multidisciplinary team. All Australian states and territories, except for Tasmania and the Northern Territory, have at least 1 RPS. All provide a range of parenting services to parents who either self-refer or are referred by medical practitioners or allied health professionals (Fisher, Feekery, & Rowe, 2004; Khajehei & Finch, 2016; Rowe & Fisher, 2010), in both rural and metropolitan areas (Karitane, 2014; Tresillian, 2015). The demand for these services is high, with waiting lists of 4–6 weeks in most states.

These RPS are identified as tertiary level services and are either not-for-profit health affiliated or government services. All the RPS are closely aligned to the universal child and family health services, that provide health promotion and education, developmental surveillance, early intervention for children from birth to 5 years, psychosocial assessment and supportive interventions for the parents (Australian Government Department of Health & Aging, 2011).

We have studied the characteristics, trends, co-admissions and service needs of women and infants admitted to RPS in the year following birth in NSW (Dahlen et al., 2018; Dahlen et al., 2019; Fowler et al., 2017; Fowler et al., 2019; Priddis, Thornton et al., 2018; Priddis, Keedle & Dahlen, 2018). In order to make decisions about future service design and delivery, including skills required by staff, it is crucial to obtain a comprehensive understanding of the characteristics of the parents (physical, psychological, social and demographic) who use the residential services and the personal trajectories and care pathways that preceded admission to the services.

The primary aim of this integrative review of the literature was to provide an overall assessment of RPS in Australia, by exploring the characteristics of infants and parents using the RPS, their prior service use and reasons for admission, referral pathways for access and outcomes for parent/s and infants using the RPS. The secondary aims were to explore parent and staff perception of the programmes.

2 | METHODS

The integrative review methodology allows for the integration of data from a diverse range of methodologies and thus it provides the potential to broaden the scope of evidence-based practice (Whittemore & Knafel, 2005), by the incorporation of a wide range of perspectives. This style of review can, therefore, contribute to better understanding of a health-related phenomenon, by providing a more holistic assessment of the health condition being studied. While there are criticisms of this methodology around data synthesis and conclusions which may be inadequate and/or biased, rigour can be increased by the incorporation of techniques from mixed methods and/or qualitative research (Whittemore & Knafel, 2005). For this evaluation, we have included the following suggested approaches by Whittemore and Knafel (2005): (1) A well-defined research purpose that clearly identified variables of interest, so as to facilitate the appropriate identification of primary sources, and extraction of data; (2) A comprehensive, broad and thoroughly defined search strategy that maximized the potential to include all literature on RPS

published in peer-reviewed journals in a 30-year time frame and (3) The clear ordering of, and grouping together of categories of extracted data, so as to facilitate comparisons being made between the different research designs, and outcomes measured. Due to wanting to include all peer-reviewed literature on RPS in Australia, no specific critical appraisal tool was used; however, we have provided commentary around possible limitations in this regard. The Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) and Meta-analyses Of Observational Studies in Epidemiology (MOOSE) research checklists were selected as the most relevant tools for the improvement of reporting in this integrative review. These are provided in Appendices S1 and S2.

2.1 | Search strategy

A systematic and comprehensive search was conducted of relevant health and social sciences databases of studies related to RPS in the following databases: PubMed (NCBI, UW National Library of Medicine), CINAHL (EBSCOhost), Embase (Wolters Kluwer, Ovid, Wiley Online Library, John Wiley & Sons), Medline (OvidSP, Wolters Kluwer), APA PsychINFO (Ebsco), Cochrane Library, Health Source, Scopus (Health Science, Social Sciences & Humanities), ProQuest Central (Wiley, Health & Medical Complete) Health Collection (Informit, RMIT) and Joanna Briggs.

The search terms used were “Residential Parenting Service,” “Parenting Residential Service,” “Early Parenting Cent*,” “Residential Parenting Program *,” “Residential Parenting Unit,” “Residential Parentcraft Unit,” “Residential Early Parenting Service” and “Residential Family Care Unit” appearing in the title or abstract. Boolean limiters (OR;*) were introduced to capture alternative terms and international spelling conventions, for example centre/center; program/ programme. Search terms used for the additional Google Scholar search included “Residential parenting support programmes,” “Residential Early Parenting Program *,” “Residential early parenting centre programme,” “Residential Family Care Unit,” and “Residential parent–infant programme.” “The exact phrase option and anywhere in the article” were selected.

2.2 | Selection criteria

Studies were included or excluded in the review based on the following criteria:

2.2.1 | Inclusion criteria

Articles written in the English language, peer-reviewed, search terms appearing in the “Abstract” (assuming the primary context of interest studied) related to residential stays at parenting centres and published between 1st January 1990 to 31st December 2019. A final search was conducted on April 12th, 2020, in order to capture

articles published up until the end of the preceding year. The reason for this 30-year span was to capture possible changes over time in the characteristics of parents who seek these services along with the fact that to our knowledge Australia is the only country that provides RPS in a structured way and so we expected the papers would come from this one country.

2.2.2 | Exclusion criteria

Articles related to aged care residential, prison population, substance abuse, psychiatric inpatient units, prison-mother–baby units, neonatal intensive care units, hospital postnatal programmes and early childhood centres, and day stay care only; or published outside of the designated time period.

3 | RESULTS

3.1 | Selection procedure

Six hundred and eleven peer-review papers were identified through the search, once duplicates were removed ($N = 301$) and abstracts read, a further 256 papers were removed. Abstracts of the 54 remaining journal articles were then independently read by 4 authors, reaching consensus to exclude 14 articles, resulting in 40 studies being incorporated. The following diagram (Figure 1) provides a flow chart of the search strategy and RPS search database yield.

3.2 | Data extraction and analysis

The study findings of the 40 articles were then summarized and tabulated by elements of interest including characteristics of parent and infant; admission demographics, reasons for admission and referral pathways, RPS programme profile/characteristics, parental mental health, standardized measures used and grouped study methodology. Due to heterogeneity in study design, the use of multiple assessment tools both in and between studies, and effect sizes not always being reported, it was not possible to assess which risk factors played a more substantive role in reference to each other, nor which interventional outcomes were more effective. Data were synthesized using a narrative review approach, and findings where appropriate are reported according to statistical significance.

3.3 | Study descriptions

Given that Australia is the only country to date that has invested in providing RPS to parents and their infants, it was not surprising that all of the included studies were conducted in this country, with 19 from New South Wales, 19 from Victoria, 1 from Queensland and 1 from South Australia.

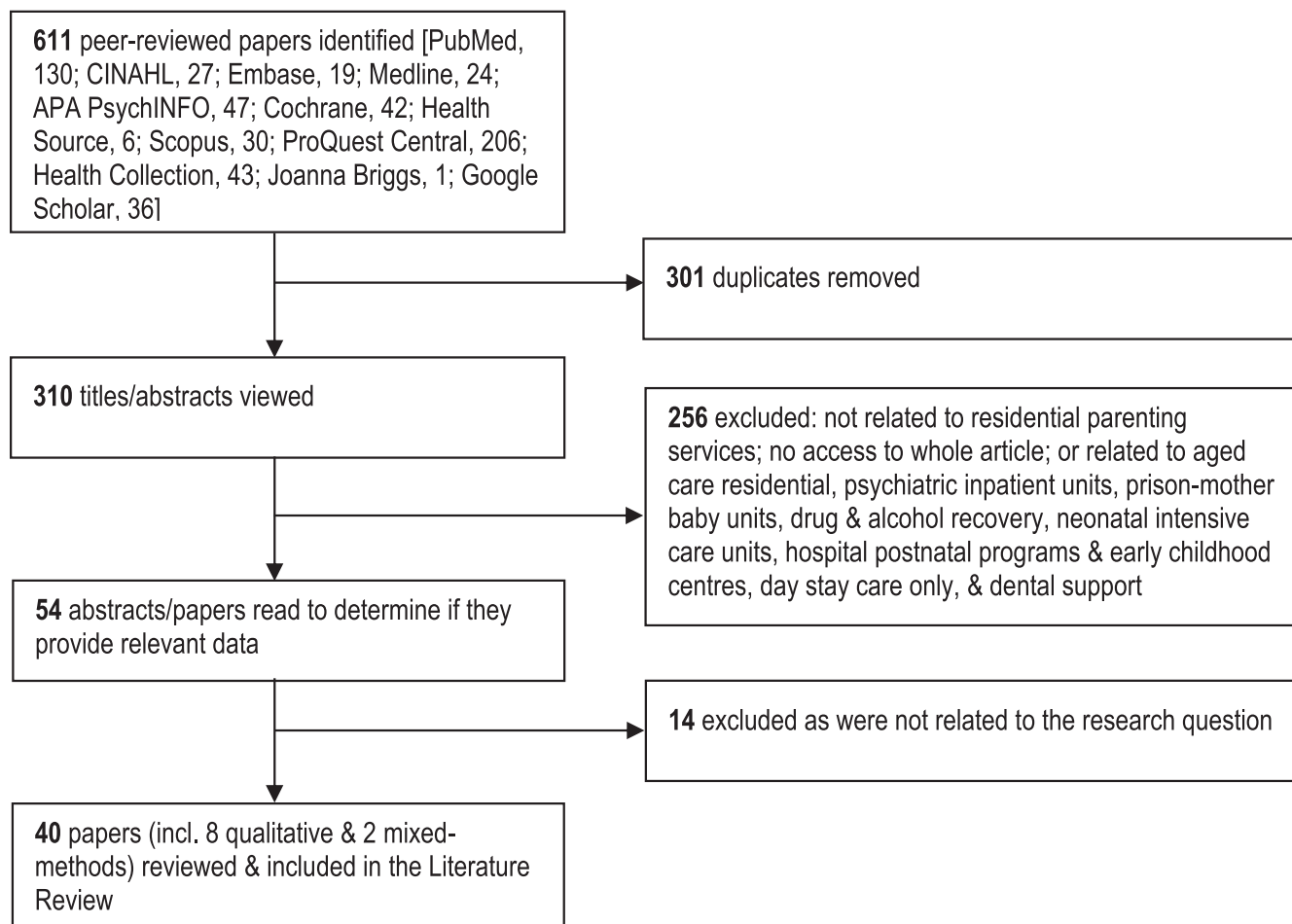


FIGURE 1 Flow chart diagram of search strategy and yield

Of the 40 papers reviewed, 30 were quantitative studies, 9 were qualitative, and 1 was mixed-methods. With respect to methodologies, most of the quantitative studies incorporated more than one approach, consequently, for the purpose of this review, classification was based upon the predominant focus. Overall, there were 14 postintervention follow-up, 9 descriptive, seven correlational and one linked data population-based cohort study. Of these, the majority used standardized instruments to assess various characteristics of participants and outcomes of services, along with some purposefully designed scales and 24-hr infant behavioural charts. Table one provides a list of the standardized measures, and the features being investigated. In regard to the 10 studies providing qualitative data, seven examined parents' perspectives of the need for, and value provided by RPS, and three reported the perspective of providers about recipients and services. In each case, thematic analysis was conducted. As Berry et al. (2016) reported both quantitative and qualitative components in the same manuscript, this paper was counted in both classifications, hence the total of 41. Whilst Priddis et al. also followed an overall mixed-methods design, study findings were reported in two separate articles Priddis, Thornton, et al. 2018; Priddis, Keedle & Dahlen, 2018, consequently these were counted individually.

In the review, total data were collected from 36,473 parents, comprising 36,382 females (including one grandmother) and 91 male recipients of RPS services. In addition, 10 managers, eight clinicians (17 females/1 male); 74 nurses (35 specified as female); two psychiatrists, six paediatricians and two general practitioners (genders not provided) shared the perspectives of providers. As the gender of the parents completing the quantitative component in the mixed-methods study by Berry et al. (2016) was not specified, all were counted in the female cohort. Similarly, in the study by Leeson et al. (1994), whilst some fathers reportedly participated, the numbers were undefined, hence findings from the 20 mothers were only incorporated into the total numbers. When the same cohort was investigated for more than one publication, cohort numbers were counted only the once. Overall, there were 3,025 respondents in the quantitative studies (primarily cross-sectional surveys), of which the majority were mothers; 554 participants in the qualitative assessments (452 parents, 102 service providers), and 33,035 RPS admissions included from the linked data study. Parents in the mixed-methods study by Berry et al. (2016) were counted twice, due to 11 in the qualitative component being recruited from the 14 in the quantitative. Attrition from initial recruitment numbers was reported to occur for typical reasons, including not wishing to continue

in the study, not being able to be recontacted, not returning forms and returned forms having substantial proportions of data missing.

3.4 | Reason for referral/admission and prior service use

Parents accessed RPS via referrals from health professionals such as general practitioners, and paediatricians, and maternal, child and family health nurses. In addition, some parents self-referred to RPS facilities. The average length of stay was around 4–5 days. In all 40 studies, the criteria for admission were stated to be due to one or more problems relating to infant sleeping, settling and feeding, and the corresponding interrelated difficulties with parenting, parent-child interactions and interpersonal relationships. With the exception of the study by Corr et al. (2015) exploring women's perceptions of the quality of care received, all of the studies additionally assessed other factors contributing to the need for admission; which included parental psychosocial risk profiles, mental health concerns, exhaustion and lack of parenting confidence (see below and Tables 3 and 4).

Four of the studies provided information about previous service usage. Don et al. (2002) for example, reported that 50% of clients had attended another health service, such as family care cottages, day stay or outreach services. Hammarberg et al. (2009) similarly identified that in the first 3 months postpartum, 40% of admitted mothers had used one or more early parenting services, of which most (31.5%) had accessed day stay services, and 8% had been admitted with their babies for residential stays. Priddis, Thornton, et al. (2018) additionally reported that 98% of mothers used both Tresilian and Karitane services prior to RPS admission, however, which services were accessed was not described. Previous RPS admission was also assessed in the linked data population-based cohort study by Dahlen et al. (2019) in which it was reported that over the time period of 2000–2012, the vast majority of women were admitted for one baby only; however, some women had several admissions for the same child, and additional admissions for subsequent children.

3.5 | Characteristics of parents and infants using RPS

The characteristics of parents and infants using RPS were provided in the majority (37) of the studies. In one case, the same cohort was assessed for two publications (Wilson et al., 2019a, 2019b); however, as additional demographic details were provided in the second study, each was counted separately. Of the remaining three articles, one assessed mother–infant dyads but did not provide the socio-demographic details of participants (Berry et al., 2016), and in the other two, the views of providers were sought, hence demographic information was collected only in that regard (data not shown). Table 2 summarizes the socio-demographic, obstetric and birthing outcomes, and infant and service characteristics of the studies providing details of parents and infants using RPS.

3.5.1 | Socio-demographics

Of the studies assessing socio-demographic characteristics, details of recruited mothers were predominantly provided, with a minority of studies also including partners, and in two cases, only fathers (Cosson & Graham, 2012; Wynter et al., 2019a). The age/age range of parents admitted to RPS was not always reported, however, when it was, the mean age of mothers was 32.6 years, whereas males were typically slightly older. The one study published in 1994 showed a lower mean maternal age of 29, which was reflective of the national average at that time of 27.9 years (Lailcaster et al., 1994), and the social norm for women to have children at a younger age (ABS, 2018).

Of the papers reporting postsecondary qualifications/social advantage, it was noted that in the majority of cases ($N = 19/24$, 79%), the proportion of women having university degrees was higher than the national Australian average reported in 2016 of 24% (ABS, 2017). In addition, two studies reported that more than 65% of participants had postsecondary school qualifications, and in another two, that women were highly educated and from professional or semi-professional occupations. Overall, a predominance of social advantage and middle-class status was observed amongst participants.

3.5.2 | Obstetric characteristics

Of the 18 studies investigating the proportion of primiparous and multiparous women attending the service, 78% reported higher proportions of primiparous women than the national average in 2012 of 42% (NPESU, 2012), with admission percentages ranging from 33%–77%. Two studies recruited primiparous women only (Kohlhoff & Barnett, 2013; McMahon et al., 2001). When data on labour outcomes were collected ($N = 10$), overall rates of interventions appeared to be high. For example, when increasing national caesarean section (c-section) rates of 17.5% in 1990 (Lancaster & Pedisich, 1993) to 34% in 2016 (AIHW, 2018) were considered, it was generally observable that c-section rates amongst admitted mothers was higher than averages at these times. Findings from the linked data study examining 33,035 births similarly reported higher rates of instrumental deliveries and caesarean sections amongst women admitted to RPS (Dahlen et al., 2019).

3.5.3 | Infant characteristics

When gender was reported, there tended to be a higher rate of male babies admitted to RPS, with most under 1 year in age. In some cases, children were admitted up until 5 years of age, hence average ages in individual studies were sometimes higher. Dahlen et al. (2019), observed that over the time frame of 2002–2012, the mean age of children admitted to RPS increased. With respect to studies reporting on multiple births ($N = 10$), admission of mothers with twin/multiple births was in many cases several times higher than the NSW state average of 1.4% (Centre for Epidemiology & Evidence, 2016), with

the exception of two cases, in which rates were even higher at 16.3% (Priddis, Thornton, et al., 2018), and 31%; the latter being a population that had used assisted reproductive technologies (Hammarberg et al., 2009).

3.5.4 | Parental mental health and well-being on admission

In total 15 standardized measurement tools were used to identify mental health distress amongst admitted parents (see Tables 1 and 3). These were used in 26 out of the 31 quantitative studies. The most commonly used of these was the Edinburgh Postnatal Depression scale (EPDS). Eighteen of the studies assessed maternal mental health at admission using the EPDS, and of these, the majority reported that more than 25% of participants scored beyond clinical thresholds, with rates in some instances being much higher. When mean EPDS scores were provided, a similar trend was observed in which scores predominantly surpassed clinical cut-offs. Additional mental health assessments similarly identified that high proportions of parents (primarily mothers) were exhibiting symptoms of depression (Kohlhoff, Charles, et al., 2015; Leeson et al., 1994; McMahon et al., 2001; Wilson et al., 2019a), anxiety (Christl et al., 2013; Kohlhoff & Barnett, 2013; Matthey & Speyer, 2008; McMahon et al., 2001), distress (Giallo et al., 2013; Wilson et al., 2019a; Wynter et al., 2019a) and co-morbid mental health concerns (Giallo et al., 2011; Kohlhoff & Barnett, 2013; Kohlhoff, Barnett, & Eapen, 2015; Kohlhoff, Charles, et al., 2015; Phillips et al., 2007; Priddis, Thornton, et al., 2018; Rowe & Fisher, 2010; Treyvaud et al., 2009; Wilson et al., 2018, 2019a), such as adult separation anxiety disorders (Kohlhoff, Barnett, & Eapen, 2015).

Specific exploration of psychological distress amongst male partners of women attending RPS was also conducted in two studies. In the first, Giallo et al. (2013) reported that statistically significantly high levels of psychological distress in fathers was associated with compromised physical health, low socio-economic position, poor self-care and severity of the child's sleep disruption. In the second by Wynter et al. (2019a), stress, irritability, fatigue, sleepiness and poor sleep quality were all found to be statistically significantly worse than norms for healthy adults; with alcohol consumption in addition being seen to occur at risky levels using the Alcohol Use Disorders Identification Test (AUDIT-C).

3.5.5 | Risk factors associated with parental mental health

Five additional tools were used to ascertain psychosocial risk factors associated with mental health disturbances amongst participants, including assessments of coinciding negative life events and/or other risk factors, the impacts of fertility treatment, and maternal attitudes and personality styles associated with increased vulnerability (Tables 1 and 3). Findings from these and other purposively designed

assessments demonstrated that psychological issues detected at admission were statistically significantly associated with: previous mental health disorders (Barnett et al., 1993; Wynter et al., 2019b); emotional abuse as a child (Christl et al., 2013; Kohlhoff, Barnett, & Eapen, 2015); negative birth experiences (Christl et al., 2013); unsatisfactory intimate partner relationships (Barnett et al., 1993); insufficient practical and emotional support (Fisher, Feekery, & Rowe-Murray, 2002; Wynter et al., 2019b); vulnerable maternal personality styles (Hammarberg et al., 2009); fatigue (Giallo et al., 2011; Wynter et al., 2019b); and pronounced unsettled infant behaviour (Don et al., 2002; Hammarberg et al., 2009) and sleep patterns (Giallo et al., 2011). Similarly, high prevalence rates of previous mental health concerns (Christl et al., 2013; Priddis, Thornton, et al., 2018; Rowe & Fisher, 2010; Wilson et al., 2018); trauma or abuse (Christl et al., 2013; Rowe & Fisher, 2010) and fatigue/sleep deprivation (Crum et al., 2013; Fisher, Feekery, Amir, & Sneddon, 2002; Fisher, Feekery, & Rowe-Murray, 2002; Giallo et al., 2012; Halle & Smout, 2004; Hammarberg et al., 2009; Kohlhoff, Charles, et al., 2015; Priddis, Thornton, et al., 2018; Rowe & Fisher, 2010; Wilson et al., 2018, 2019b) were reported amongst participants. Kohlhoff & Barnett (2013) additionally demonstrated that parental self-efficacy was inversely correlated to maternal depression, anxiety and attachment insecurity and predicted by infant gender, receipt of abusive parenting and attachment avoidance. Adult separation anxiety was, in turn, associated with unsettled infant behaviour (Kohlhoff, Barnett, & Eapen, 2015).

Other contributing risk factors at admission included: recent major stress (Fisher, Feekery, Amir, & Sneddon, 2002; Khajehei & Finch, 2016; Priddis, Thornton, et al., 2018; Rowe & Fisher, 2010), including from infertility (Khajehei & Finch, 2016); social problems such as changes to family environment, lack of family support and inconsistent parenting skills between parents (Halle & Smout, 2004); postnatal health concerns (Fisher, Feekery, Amir, & Sneddon, 2002; Khajehei & Finch, 2016), for example postdelivery pain and mastitis (Fisher, Feekery, Amir, & Sneddon, 2002); fear of partners, the perception of them being overcontrolling (Rowe & Fisher, 2010) and emotionally unavailable (Fisher, Feekery, Amir, & Sneddon, 2002; Rowe & Fisher, 2010); lack of confidence (Halle & Smout, 2004; Rowe & Fisher, 2010); unrealistic expectations of parenting (Halle & Smout, 2004); and insufficient practical/emotional support (Fisher, Feekery, Amir, & Sneddon, 2002; Halle & Smout, 2004; Rowe & Fisher, 2010).

Interestingly, Fisher, Feekery, Amir, and Sneddon (2002) found that rates of previous personal or family history of psychiatric illness, childhood sexual abuse and domestic violence were low amongst admitted mothers; however, reproductive difficulties and unsatisfactory postpartum care were common.

3.5.6 | Fatigue/exhaustion

Ten measurement tools were used, along with some purposively designed questionnaires to assess symptoms of sleepiness/fatigue

TABLE 1 Standardized instruments used in assessment of parent/infant characteristics and outcomes of residential parenting services

Standardized instrument	Assessment	Source
Mood disorders		
Depression, Anxiety & Stress Scale (DASS-21)	Depression, anxiety and stress-21-item 3 subscales of 7 questions self-reported	(Lovibond & Lovibond, 1995)
Edinburgh Postnatal Depression Scale (EPDS)	Depression 10-item self-reported	(Cox et al., 1987)
Beck Depression Inventory (BDI)	Depression-21-item self-reported	(Beck et al., 1961)
Beck Anxiety Inventory (BAI)	Anxiety-21-item self-reported	(Beck & Steer, 1990)
Centre for Epidemiological Studies Depression Scale (CES-D)	Depression-20-item self-reported	(Radloff, 1977)
Composite International Diagnostic Interview (CIDI)	Mental health disorders: definitions and criteria of ICD-10 and DSM-IV-structured diagnostic interview (lay person/clinician administered)-20 major and 59 sub questions, 3 subscales: alcohol dependence, alcohol abuse or harmful use and alcohol withdrawal	(WHO, 1997)
Mini International Neuropsychiatric Interview (MINI)	Psychiatric disorders 17-item-structured diagnostic interview (lay person/clinician administered)	(Lecrubier et al., 1997)
Structured Clinical Interview for DSM-IV Diagnosis (SCID)	Psychiatric disorders-a semi-structured interview guide for making DSM diagnoses of major mental disorders (SCID-I) and personality disorders (SCID II)—clinician administered	(First et al., 2002)
Profile of Mood States (POMS)	Mood disorders-37 (short-form) or 65(long-form)-item self-reported-6 dimensions over time	(McNair et al., 1981)
Hospital Anxiety and Depression Scale (HADS)	Anxiety and depression -14 questions, 2 subscales of 7 questions -self-reported	(Zigmond & Snaith, 1983)
State-Trait Anxiety Inventory (STAI)	Psychological inventory-40 questions using a 4-point Likert scale-self-reported	(Spielberger et al., 1983)
Adult Separation Anxiety Questionnaire (ASA)	Separation anxiety>18 years of age-27-item using a Likert scale-self-reported	(Manicavasagar et al., 2003)
Parenting Stress Index (PSI)	Assessment of dysfunctional parent-child system 101-item self-reported. Optional extra 19-item Life Events stress scale	(Abidin, 1983)
Irritability Depression Anxiety Scale (IDA)	Irritability Depression Anxiety 18-item self-reported. Incorporated in is the Self-Assessment of Irritability Scale (SAIS-6)-six-item assessment	(Snaith et al., 1978)
Dysfunctional Attitude Scale (DAS)	The presence and intensity of dysfunctional attitudes (as part of depression) 40-item, 7-point Likert scale self-reported	(Weissman, 1979)
Psychosocial risk		
Vulnerable Personality Style Questionnaire (VPSQ)	Personality traits which increase the risk of PPD 9-item self-reported	(Boyce et al., 2001)
Life Event Scales (LES)	Stressful events (obstetric) 54-item self-reported	(Barnett et al., 1983)
Burden of Infertility and Treatment (BIT)	Difficulty with conception 7-item self-reported	(Hammarberg et al., 2005)
Emotional Go/No-Go task (EGNG)	Test of emotional processing in healthy adults/patients with affective disorders-operator administered	(Gomez et al., 2007)
Postnatal Risk Questionnaire (PNRQ)	Psychosocial risk factors in the postnatal period -12-item self-reported	(Austin et al., 2005)
Sleepiness and fatigue		
Fatigue Assessment Scale (FAS)	Long-term fatigue 10-item self-reported	(Michielsen et al., 2003)
Fatigue Severity Scale (FSS)	Fatigue severity 9-item self-reported	(Krupp et al., 1989)
Karolinska Sleepiness Scale (KSS)	Level of sleepiness (during the day) 9-point Likert scale- self-reported	(Akerstedt & Gillberg, 1990)
Epworth Sleepiness Scale (ESS)	Sleepiness during activities 8-item, 4-point scale-self-reported	(Johns, 1991)
Circadian Energy Scale (CIRENS)	Energy levels during the day/night 2-item, 5-point scale-self-reported	(Ottoni et al., 2011)

(Continues)

TABLE 1 (Continued)

Standardized instrument	Assessment	Source
Pittsburgh Sleep Quality Index (PSQI)	Usual sleep habits 19 self-rated questions/5 questions rated by bed partner/ roommate (if available)	(Buysse et al., 1989)
Multivariate Apnoea Prediction Index (MAPI)	Sleep apnoea risk 3 breathing-related questions/demographics → probability of having sleep apnoea	(Maislin et al., 1995)
Insomnia Severity Index (ISI)	Nature, severity, and impact of insomnia 7-item self-reported	(Bastien et al., 2001)
Psychomotor Vigilance Test (PVT)	Reduced alertness (from sleep deprivation) 10-min computer-based reaction self-test	(Dinges & Powel, 1985)
Visual Analogue Fatigue Scale (VAS-F)	Fatigue and energy 18-item self-reported	(Lee et al., 1991)
Relationships and parenting		
Intimate Bonds Measure (IBM)	Care and control in intimate relationships-24 questions, 2 subscales, 4-point scale-self-reported	(Wilhelm & Parker, 1988)
Parental Bonding Instrument (PBI)	Parental styles as perceived by children>16 years 25-item (12 "care"/13 "overprotection")-self-reported	(Parker, 1989)
Being a Mother and Bonding Scale (BaMB)	Experiences of mothering and bonding with her baby 13-item self-reported	(Matthey & Speyer, 2008)
NCAST Parent-Child Interaction (PCI) Teaching Scale	Mother-child assessment of behaviour and responsiveness 73-item, 4 caregiver and 2 child subscales- assessor administration	(Barnard, 1994)
Social Provisions Scale (SPS)	Perceptions of social support 24-items, 4-point Likert-type scale-self-reported	(Russell & Cutrona, 1987)
Maternal Attitudes Questionnaire (MAQ)	Cognitions relating to role change and expectations of self and motherhood -14-item self-reported	(Warner et al., 1997)
Measure of Parental Style (MOPS)	Perceived parenting styles-30-item, 3 subscales-self-reported	(Parker et al., 1997)
Parenting Sense of Competence Scale (PSOC)	Parental competence (satisfaction and efficacy) 16-item, 6-point Likert scale self-reported	(Ohan et al., 2000)
Karitane Parenting Confidence Scale (KPCS)	Parenting confidence 15-item self-reported	(Črnčec et al., 2008)
Attachment Style Questionnaire (ASQ)	Attachment style 22-item self-reported	(Feeney et al., 1994)
Goal Achievement Scale (GAS)	Child's actual behaviour change reported by the mother, compared to goal set (%)	(Matthews & Hudson, 2001)
Infant temperament and behaviour		
Early Infant Temperament Questionnaire (EITQ)	Temperament characteristics (1-4-months)-76-item-parent administration	(Medoff-Cooper et al., 1993)
Short Infant Temperament Questionnaire (SITQ, also referred to as short temperament scale for infants STSI)	Perceptions of their infant's behaviour (≥4 months) 30-item, 5 temperament factors-parental administration	(Sanson et al., 1987)
Infant Characteristic Questionnaire (ICQ)	Screening device for difficulty (4-6-months) 24-item, 7-point scale-maternal administration	(Bates et al., 1979)
Child Behaviour Assessment (CBA)	Frequency and severity of 1 infant behaviour rated using a 5-point scale-maternal administration	(Bruininks et al., 1996)
Alcohol consumption		
The Alcohol Use Disorders Identification Test (AUDIT-C)	At-risk drinking- 3 questions, 5 choices per question-self-reported	(Bush et al., 1998)

amongst parents. Eleven studies assessed levels at admission. Wynter et al. (2019a, 2019b) used the Epworth Sleepiness Scale (ESS) to identify statistically significantly elevated fatigue symptoms in both mothers and fathers, when compared to healthy adults. In addition, the authors' reported that 89.6% of mothers (Fatigue Severity Scale, FSS) and 52.8% of fathers (Fatigue Assessment Scale [FAS]) achieved scores that were above clinical thresholds. Giallo et al. (2011, 2012) similarly reported statistically significantly elevated FAS scores

amongst parents when compared to a community sample. Likewise, in three studies provided by Wilson et al. (2018, 2019a, 2019b), high proportions of women scored either in clinical ranges or above clinical thresholds for fatigue, sleepiness or insomnia using the FSS, ESS and the Karolinska Sleepiness Scale (KSS). In regard to studies using other types of assessments, sleep deprivation and or moderate to high levels of fatigue were also reported amongst parents (Fisher, Feekery, Amir, & Sneddon, 2002; Halle & Smout, 2004; Giallo

TABLE 2 Characteristics of parents and infants using residential parenting services

Study	Parent			Infant		Service	
	Reference (data collected)	Sample N = gender age: Mean (SD) range	Socio-demographics social support, N (%)	Birth parity (multiples, primiparous, IVF); N (%)	Gender, N (% age/ (SD) range)	Reason for admission	RPS and State stay length Mean (SD)
1	(Barnett et al., 1993) (1990)	100 Female 31.6 (5.0) 19-41 Partner 34.0 (6.3) 20-50.	Tertiary education (30%) Partnership conflict (38%) No partner (6%).	Primiparous (71%) Age >30 years (64%) Caesarean (10%) Twins x 5 (4 1st time mothers).	105 Female (51%) 9.7 (NR) 1-40 weeks Premature 16%.	Infant feeding and settling issues and maternal MH and early parenting difficulties.	Karitane NSW 8.3 (3.2) 1-18.
2	(Christl et al., 2013) (Jun 2010-Nov 2011)	232 Female: 33.6 (4.7) 17-45 Residential unit (66.4%) Day stay unit (33.6%).	Married/de-facto 222, (95.7%) Emotionally unresponsive partner (2.7%) Australian born 145 (62.5%) University (68.1%).	Primiparous 144 (62.1%) Caesarean: elective 35 (15.1%) Emergency 50 (21.6%) Instrument 27 (11.6%) Complications 82 (35.3%).	232 Male 120 (51.7%) 5.7 (2.9) weeks.	Infant feeding or settling problems.	Tresillian NSW 5 days, 4 nights.
3	(Corr et al., 2015) (6-months's time frame NR)	138 Female: 33.0 (4.3).	Married 105 (81%) Australian born (84%) Postsecondary school education (81%).	[Qualitative study].	Infants aged <52 weeks.	Unsettled infant behaviours and early parenting difficulties.	Masada MBU. & Tweedle Child & FH, VIC 5 days.
4	(Cosson & Graham, 2012) (Late 2009)	27 fathers Age range mid 20s-40s.	Most ≥2 children & working full-time. Corporate or self-employment Spent a period caring full-time 1 (3.7%) Extended leave caring full-time 1 (3.7%) To be full-time/partner also working 1 (3.7%).	[Qualitative study].	Children aged 0-4 years.	Infant sleeping, settling, feeding and behavioural issues.	Tweedle Child & FH, VIC 3-4 days.
5	(Dahlen et al., 2019) (Jan 2000-Dec 2013)	33,035 births Female: 32.2 (5.36) 12-54.	Australian born (78.1%) SEIFA socio-economic adv/disadv (>5th decile, 72.5%) SEIFA education & occupation (>5th decile, 67.2%) Health Insurance status: Public (Medicare) 17,214 (52.1%) Private health 15,799 (47.8%).	Primiparous (62.8%) Singletons 31,294 (94.7%); twins 1,698 (5.1%); triplets 40 (0.1%); quads 3 (0.0%) Induced labour (27.8%); Epidural (38.4%); Episiotomy (15.0%); Forceps (5.3%); Vacuum extraction (9.9%). Caesarean: elective (18.9%), emergency (15.9%).	33,035 228 (12-336) days 3 days-237.4 weeks Male (55.4%) Apgar <7 (1.4%) SCN/NICU (20.1%) Resuscitation (43.8%) Gestation 38.8 (2.10).	Infant settling, feeding and crying and maternal MH and parenting issues.	Tresillian & Karitane NSW 4.4 (1.35) 0-29 days.

(Continues)

TABLE 2 (Continued)

Study	Reference (data collected)	Parent		Socio-demographics social support, N (%)	Birth parity (multiples, primiparous, IVF); N (%)	Infant		Service	
		Sample N = gender age: Mean (SD) range	109			Gender, N (%) age/ characteristics mean (SD) range	Reason for admission	RPS and State stay length Mean (SD)	
6	(Don et al., 2002) (Mar 1999–Jul 2000)	109 Female: 32 (4.6) 19–43.	109	“Most” from professional or semi-professional occupations.	Primiparous (77%).	109 11.9 (4.7) 4–27 weeks.	Unsettled infant behaviour, fussing, crying.	Tresillian NSW 5 days, 4 nights.	
7	(Fisher, Feekery, & Amir, & Sneddon, 2002 (Jun–Nov 1997)	109/146 (75%) [cohort 1] Female: 33 (4) 25–43 Male: 35 (4.8) 25–49.	109/146 (75%) [cohort 1] Female: 33 (4) 25–43 Male: 35 (4.8) 25–49.	Married (94%), de-facto (6%), second marriage for 1 partner (22%). Unable to confide in partner (42%); insufficient practical help (53%); coincidental distressing experiences (59%). Postsecondary qualifications (69%) Paternal hours at work 56.9 (17–105) (Australian parturient comparison 40.5).	Caesarean (23%) Primiparous (36%).	22 (14.6) 1.5–64 weeks.	Infant feeding or sleeping disorders.	Masada MBU VIC 5 nights.	
8	(Fisher, Feekery, & Rowe- Murray, 2002)	Reported above.	Reported above.	Same cohort as reported above.	As reported above.	As reported above.	As above.	As above.	
9	(Fisher, Feekery, & Rowe, 2004) (Feb–Jun 2002)	Cohort 2 81/99 (81%) Data is av. of cohort 1 (1997) and 2 (2002) Female 33.5 (3.9).	Cohort 2 81/99 (81%) Data is av. of cohort 1 (1997) and 2 (2002) Female 33.5 (3.9).	Majority socio-economically advantaged: Highly educated, in professional occupations & husbands professionally employed.	Primiparous (40%).	23 (14.4) weeks.	Infant sleeping and feeding disorders, maternal MH and exhaustion.	Masada MBU VIC 5 nights.	
10	(Fisher, Rowe, & Feekery, 2004)	Reported above.	Reported above.	Follow-up on previously published cohort.	Same cohort as above.	Same as above.	As above.	As above.	
11	(Fowler et al., 2012) (NR)	109/120 (1 father) Group 1 = 54 Group 2 = 55.	109/120 (1 father) Group 1 = 54 Group 2 = 55.	No characteristics reported. Data analysis of factors contributing to successful processes & outcomes.	[Qualitative study].	NR	Infant sleeping & feeding disorders & parental difficulties, MH & exhaustion.	Tresillian NSW 5 days, 4 nights.	

TABLE 2 (Continued)

Study	Reference (data collected)	Parent			Birth parity (multiples, primiparous, IVF); N (%)	Infant	Service	
		Sample N = gender age: Mean (SD) range	Socio-demographics social support, N (%)	Gender, N (%) age/ characteristics mean (SD) range			Reason for admission	RPS and State stay length Mean (SD)
12	(Fowler et al., 2019) (18 months-time frame NR)	100 Female, ages NR.	Australian born 90 Indigenous status 2 Metro located 71.	[Qualitative study].	Male 34; female 50 76 ≤ 12 months 34 12–60 months.	Infant sleep, settling and feeding issues and adjustment to parenting.	Tresillian NSW 5 days, 4 nights.	
13	(Giallo et al., 2011) (Mar–Jun 2009)	164 Female: 33.2 (4.77) 19–44.	Couple 154 (93.9%); single parent 10 (6.1%) Australian 146 (89%) Tertiary 84 (51.2%) TAFE, Trade, Certificate, Diploma 53 (32.3%) Language English only 157 (95.7%).	No. children in family 1.6 (0.74).	Male 83 (50.6%) Female 67 (40.9%) Age of focus child 0.98 (0.60) years 4 months–3 years.	Infant sleep, settling, nutrition and feeding and behavioural difficulties.	Tweddle Child & FH Service VIC 3–4 days.	
14	(Giallo et al., 2012) (NR)	49 Female 43 (87.8%) Male 6 (12.2%) Respondent's age 32.24 (5.28).	Partnered 43 (87.8%); Australian 39 (79.6) Tertiary education 24 (49.0%) Employment status: unemployed 25 (51.0%); part-time 17 (34.7%); paid maternity leave 22 (44.9%) SEIFA N = 43, 1,001.72 (71.42).	Total children in family 1.51 (0.71).	Infants 0–4 years admitted.	Infant sleep and settling problems.	Tweddle Child and FH Service VIC 3–4 days.	
15	(Giallo et al., 2013) (Oct 2010–Jul 2011)	144/232 (60%) Fathers: 34.4 (6.48) 17–69.	Couple 140 (97.9%); single parent 1 (0.7%) Employed full-time 107 (74.3%) Education: Tertiary 31 (21.5%); Certificate/diploma/trade 27 (18.8%).	Fathers' professional mental health supports: None 105 (72.9%) One or more 18 (12.5%).	0–4 years.	Infant sleep, settling, feeding and behavioural problems and parental difficulties.	Tweddle Child & FH Service VIC 4 days.	
16	(Halle & Smout, 2004) (Nov 2000–Feb 2001)	84 Self-selected cohort.	NR	NR	Both genders of various ages.	Infant sleep, feeding and nutrition and parenting difficulties and family issues.	Riverton EPC QLD 12 days.	

(Continues)

TABLE 2 (Continued)

Study	Reference (data collected)	Parent			Infant		Service	
		Sample N = gender age: Mean (SD) range	Socio-demographics social support, N (%)	Birth parity (multiples, primiparous, IVF); N (%)	Gender, N (%) age/ characteristics mean (SD) range	Reason for admission	RPS and State stay length Mean (SD)	
17	(Hammarberg et al., 2009) (Jul–Dec 2001)	166 women using ART 13/166 (8%) admitted Female 34.3 Partners (36.6).	Married 148 (89%) De-facto 13 (8%) More socio-economically advantaged & tertiary qualified, & in professional employment than age matched population Private health insurance.	Singletons 136/196 (69%) Twins 60/196 (31%).	196 3.4 (0.78) months.	Infant sleep, crying feeding and maternal MH and exhaustion.	Residential EPC VIC Stay NR.	
18	(Hanna & Rolls, 2001) (2 months in 1999)	28/29 invited Females 26 Males 2 Self-referred.	NR [qualitative study].	Each woman had 1 or 2 infants or toddlers.	28 6 weeks–3.5 years Most 5–9 months.	Infant sleep, settling and feeding and behaviour & parental well-being and relationships.	Queen Elizabeth Centre VIC 5 days.	
19	(Khajehei & Finch, 2016) (2013)	27 women with previous infertility selected from 144 RPS admissions Age range 20–45.	At admission: Majority Australian (74.1%) Tertiary educated (37.0%) In employment (70.4%) Supported by partner (22.2%).	Primiparous (51.9%) Caesarean (25.9%).	Under 12 months Range 0–6 (59.3%) Range 7–12 (40.7%) GORD (25.9%) Medicated (33.3%).	Problematic infant feeding, sleeping and parent–child relationships.	Karitane NSW 4–5 days.	
20	(Kohlhoff & Barnett, 2013) (NR)	83 Female 32.2 (5.1) 22–47.	Majority married/de-facto relationship (91.6%) English spoken at home (96.4%).	Primiparous only.	Male (52.4%) 5.3 (3.2) 0–11 months Sets of twins 3 0–4 years admitted.	Infant sleep, settling and feeding.	Karitane NSW 4-days.	
21	(Kohlhoff, Charles, et al., 2015) (Sep 2005–Oct 2007)	159/143 in “depressed” subsample Female 32.02 (4.8) 19.8–43.8.	Married/de-facto (93.2%) University educated (43.9%) Occupational backgrounds: Managers (40.1%) Clerical workers (32.9%) Labourers & related workers (10.2%).	Primiparous (58.4%).	Male (54.9%) 5.3 (3.1) 0.2–11.9 months Sets of twins 8 0–4 years admitted.	Infant sleep, settling or feeding and early parenting difficulties.	Karitane NSW 4-days.	
22	(Kohlhoff, Barnett, & Eapen, 2015) (NR)	Reported-same as in 2013.	Same cohort as reported in 2013.	As reported in 2013.	As reported in 2013.	As in 2013.	As in 2013.	

TABLE 2 (Continued)

Study	Reference (data collected)	Parent		Socio-demographics social support, N (%)	Birth parity (multiples, primiparous, IVF); N (%)	Infant		Service	
		Sample N = gender age: Mean (SD) range				Gender, N (%) age/ characteristics mean (SD) range	Reason for admission	RPS and State stay length Mean (SD)	
23	(Leeson et al., 1994) (NR)	20 Female: 29, 22–38 Male: 33, 25–47	20 women & their babies, some fathers also participated (number undefined). One single mother	Caesarean (39%) Bottle fed (43%) Twins 1 x t (5%) Triplets x 1	23 Male: 13 (57%) Female: 10 (43%) 10, 8–12.5 months	Infant sleep and feeding difficulties, excessive crying and lack of parenting confidence	Torrens House SA 4 nights		
24	(Matthey & Speyer, 2008) (10-months' time frame NR)	116 Female: 31, 19–50.	Married/de-facto (91.3%) Tertiary education: Women (33%) Partners (28.4%) NESB (21%).	Primiparous (53%).	Male (50.5%) 39, 3–156 weeks.	Infant sleep and settling difficulties.	Karitane NSW 5 days.		
25	(McMahon et al., 2001) (NR)	128 Female: 31 (4.2) (comparison group female: 32 [2.3]).	Tertiary education: Residential care (50%) Comparison groups (55%).	Caesarean (28%) Primiparous only Singleton.	128 Male (49%) <4 months (11 weeks) 6–20.	Unsettled infant behaviour and early parenting difficulties.	Tresillian NSW 5–7 days.		
26	(Phillips et al., 2007) (Sep 2005–Apr 2006)	160 Female: 31.49 (5.1) 17.2–44.1.	Married/de-facto (91.3%) Single (8.7%) Tertiary education (40.7%).	Primipara (68.2%) Multipara (31.8%) Twins x 10 (6.3%).	Male (54.8%) 5.39 (3.2) 0.7–11.9 months.	Unsettled infant behaviour.	Karitane NSW 5 days.		
27	(Phillips et al., 2010) (Oct 2004–Apr 2005)	Study 1, 104 Female: 30.90 (5.34) Study 2, 147 31.37 (5.26).	Cohort 1: Married/de-facto (93%) Tertiary education (44.1%) Cohort 2: Married/de-facto (90.8%) Tertiary (40.6%).	Cohort 1: First born (55.3%) Cohort 2: First born (68.2%).	Cohort 1: Male (56.3%) 5.86 (3.08) months Cohort 2: Male (57.1%) 5.44 (3.20) months.	Unsettled infants.	Mother-infant unit NSW 5 days.		
28	(Priddis, Thornton, et al., 2018) (Jan–Dec 2013)	300 31.9 (5.30), state av. 30.5 Files from Tresillian Family Care Centres (200) and Karitane (100).	Australian born (71.3%), NSW av. 64% University qualification (42%) Highest SEIFA deciles 9 and 10 (60%) Housewife/student (18.6%); employed (68.4%) Married/de-facto (92%).	Primiparous (60%), NSW av 47.3% Delivery >37 weeks (91.3%) Vaginal birth (61.5%) Multiple birth (16.3%), NSW av. 1.4%.	Male infants (58.5%) NSW male-to-female ratio (51.3% versus 48.7%) Infants <12 months.	Infant sleep, settling and feeding issues and adjustment to parenthood.	Karitane & Tresillian NSW 3–5 days.		

(Continues)

TABLE 2 (Continued)

Study	Reference (data collected)	Parent		Infant		Service	
		Sample N = gender age: Mean (SD) range	Socio-demographics social support, N (%)	Birth parity (multiples, primiparous, IVF); N (%)	Gender, N (%) age/ characteristics mean (SD) range	Reason for admission	RPS and State stay length Mean (SD)
29	(Priddis, Keedle, & Dahlen, 2018) (Jan-Dec 2013)	8/70 female respondents 36 (29–51).	Australian (100%); married (100%) Postgraduate degree (50%); University degree (37.5%); certificate/diploma/trade (12.5%) Employment: full-time (12.5%); part-time/casual (75%); at home parent (12.5%).	Primiparous (37.5%) Birth interventions: forceps (12.5%); Ventouse (25%), 1 of 2 PPH; vaginal delivery PPH (12.5%); emergency caesarean (50%), 1 of 4 due to cord prolapse.	[Qualitative study].	Infant crying, sleep or feeding difficulties and maternal exhaustion and MH.	Karitane & Tresillian NSW 3–5 days.
30	(Rolls & Hanna, 2004) (2 months in 1999)	28 women, 2 men, 1 grandmother; 1 declined Self-referred.	NR [qualitative study].	Primiparous-one third.	6 weeks–18 months, most between 5–9 months.	Infant sleep problems causing family distress.	Queen Elizabeth Centre VIC 5 days.
31	(Rowe & Fisher, 2010) (NR)	146/153 Time 2, 66/79 (84%) Female Time 3, 58/79 (73%) remained in the study Female: 32.2 (4.9) 18–43.	Married/de-facto 68/79 (86%) Single/separated/widowed 11/79 (14%) Australian born 67 (85%).	IVF 5 (6%); twins 4 (5%) Vaginal births: spontaneous 19 (24%); Instrument assisted without labour 11 (14%), Unplanned pregnancy 21 (27%); pleased 49 (62%); unhappy 4 (5%).	79 Female 33 (42%) 31 weeks (11.7) 5–52 Diagnosed with colic or reflux prior to admission 21 (27%).	Infant sleep, crying, fussing and behavioural issues and maternal MH and early parenting difficulties.	Tweddle Child & FH Service VIC 4–5 nights.
32	(Treyvaud et al., 2009) (Nov 2005–Jul 2006)	43/44 Female: 31.3 (4.9).	Married/de-facto 33 (85%) Tertiary education (33%).	Primiparous 29 (74%).	43 13.6 months (9.3) 3–42.	Infant sleeping and behavioural issues and early parenting difficulties.	Queen Elizabeth Centre VIC 5 days.

TABLE 2 (Continued)

Study	Reference (data collected)	Parent		Infant		Service	
		Sample N = gender age: Mean (SD) range	Socio-demographics social support, N (%)	Birth parity (multiples, primiparous, IVF); N (%)	Gender, N (%) age/ characteristics mean (SD) range	Reason for admission	RPS and State stay length Mean (SD)
33	(Wilson et al., 2018) (Jun–Oct 2015)	167/380 Female: 34.26 (4.23).	Married 144 (86.2%), de-facto 21 (12.6%); separated 1 (0.60%); single 1 (0.60%). Tertiary degree or above 129 (77.3%) Certificate/diploma/trade 29 (18.0%) Completed secondary school 4 (2.4%) Non-completion secondary school 1 (0.60%) Australian born 117 (70.0%) Mainly English speaking 146 (87.4%).	Primiparous 83 (49.7%) Multiparous 58 (34.7%) Single birth 162 (97.0%) Twins 5 (3.0%).	167 Infants <24 months Average 8.51 (4.16). Infant health: Excellent 84 (50.3%) Very good (41.9%) Good (5.39%) Fair 2 (1.2%).	Unsettled infant behaviour.	Masada MBU VIC 5 days.
34	(Wilson et al., 2019a) (Jun–Oct 2015)	78/85 recruited Female 34.46 (4.16) 44 completed additional EGNG tasks 31/63 agreeing (40%) completed survey 5–12 weeks postdischarge.	Tertiary education 61 (78.2%) Australian born 53 (67.9%) Predominantly English speaking 70 (89.7%) Married/de-facto 77 (98.7%).	Twin births N = 2 (2.56%).	8.68 (4.82) months Birth weight 3.32 (0.62).	Unsettled infant behaviour and maternal psychological distress/or fatigue.	Masada MBU VIC 5 days.
35	(Wilson et al., 2019b)	Reported above Additional data provided: Maternal age range 27–49.	Not currently in paid employment 54 (68.9%).	Primiparous 40 54.1% Caesarean last birth 29 38.7% Currently pregnant 2 2.70%.	Age range 3–23.50 months 37 49.3% Female.	As above.	As above.
36	(Wynter et al., 2019a) (5 months in 2015)	53/120 (44.2%) males completed the survey. Mean age was 36.3 (5.2).	Married/de-facto (100%); Australian born (75%) University degree (81.1%) English usually spoken at home (86.5%). In paid employment (100%).	N/A	8.4 (4.2) months Children <2 years admitted, majority ≤12 months (75%).	Infant sleep & feeding, maternal MH & adjustment disorders.	Masada MBU VIC 5 days.

(Continues)

TABLE 2 (Continued)

Study	Reference (data collected)	Parent		Birth parity (multiples, primiparous, IVF); N (%)	Infant		Service
		Sample N = gender age: Mean (SD) range	Socio-demographics social support, N (%)		Gender, N (%) age/ characteristics mean (SD) range	RPS and State stay length Mean (SD)	
37	(Wynter et al., 2019b) (19 weeks in 2015)	167/380 (44%) Female: 34.26 (4.23), 24–49 141 consented to medical records being accessed.	Married 165 (98.8%). Australian born 117 (70.9%). Tertiary degree or above 129 (78.6%) Mainly English-speaking 146 (87.4%) Sometimes lacking in practical support 133 (81.6%); sometimes lacking in emotional support 108 (66.3%); stressful life events 86 (61.4%).	Primiparous 83 (58.9%) Multiple 5 (3.0%) Conceived ART 26 (18.8%).	8.36 (4.18, 2–23) months Gestation 38.53 (2.43, 29.1–42.3). Infant health (maternal rating): good/v. good/excellent 163 (98.8%). Cried/fussed \geq 2/24 hr 84 (61.3%). Woke > 3 \times O/N, 101 (72.1%).	Unsettled infant behaviour & maternal psychological distress.	Masada MBU VIC. 5 days.

Abbreviations: ART, artificial reproductive technology; EGN, emotional Go/No-Go task; EPC, early parenting centre; FH, family health; GORD, gastro-oesophageal reflux disorder; IVF, in vitro fertilization; MBU, mother-baby unit; MH, mental health; NESB, non-English speaking background; No., number; NR, not reported; O/N, overnight; PPH, postpartum haemorrhage; RPS, residential parenting services; SCN/NICU, special care nursery/neonatal intensive care unit; SD, standard deviation; SEIFA, Socio-Economic Indexes for Areas; TAFE, technical and further education.

et al., 2013; Priddis, Thornton, et al., 2018). In the study by Priddis, Thornton, et al. (2018) fatigue was identified to be a substantial problem with 84% of mothers identifying themselves as fatigued, and staff estimating that 72% of mothers were suffering from this issue.

Findings in addition demonstrated that and fatigue being a risk factor for mental health vulnerability, clinically statistically significant levels of fatigue were also associated with low parental self-efficacy and satisfaction, and greater hostility towards infants (Giallo et al., 2011). Furthermore, fatigue was found to be an independently important issue to postpartum depression (Fisher, Feekery, & Rowe-Murray, 2002; Wilson et al., 2018), and statistically significantly predicted by minimal self-care, unrealistic expectations of sleep and a high need for additional social support (Giallo et al., 2011).

3.5.7 | Relationships/parenting & infant temperament & behaviour

Adjustment to parenting, and relationships with children, partners and others was assessed using 11 standardized measures. Four additional tools were used to examine infant temperament and behaviour (see Tables 1 and 3). Of the six studies providing details of participants at admission, Fisher, Feekery, and Rowe-Murray (2002) identified that psychological distress was associated with oversensitivity and under assertiveness in mothers, combined with partners appearing to be hypercritical. Rowe and Fisher (2010) similarly reported under assertiveness in combination with overly critical/controlling partners increased risk of MH concerns. Higher admission rates of women identified with personality types of increased vulnerability (worrying/sensitivity and less assertiveness) and fertility issues were also reported by Hammarberg et al. (2009), in which it was noted that more difficult conception was associated with lower parenting confidence. Priddis, Thornton, et al. (2018) observed low parenting confidence amongst admitted mothers, that had been sufficiently low to trigger referrals.

With respect to infant behaviour, Hammarberg et al. (2009) reported statistically significantly higher proportions of admitted women had infants exhibiting dysregulated sleeping and feeding behaviour compared to norms. In addition, McMahon et al. (2001) reported infants were statistically significantly more temperamentally difficult than a comparison group. Likewise, Fisher, Rowe, and Feekery (2004) reported that at admission, infants were statistically significantly more difficult to manage, irritable and likely to withdraw from people/situations than population norms.

3.6 | Outcomes for parents and infants using RPS

Post-RPS intervention assessments were conducted in 14 studies, with eight assessing changes at discharge, and a number also performing longer-term follow-ups at one, three (Halle & Smout, 2004), four (Leeson et al., 1994; Don et al., 2002; Fisher, Feekery, & Rowe, 2004;

TABLE 3 Characteristics and outcomes for parents and infants using residential parenting services—Quantitative

Study	Reference (data collected) Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics Mean (SD) range, <i>p</i> value	Outcome of residential stay for participants
1	(Barnett et al., 1993) Descriptive Follow-up	To elicit: 1. frequency of PND 2. acceptance of screening for PND.	Descriptive cross-sectional; correlational association between maternal and infant variables. EPDS.	EPDS: $N = 97$, 12.57 (5.58) 1–28, 39% > 12.5; 61% ≥ 10 Seen by a social worker 67% Referred to a psychiatrist 19% Marital discord depressed group 40%.	EPDS statistically significantly associated with: prematurity 15.71 (8.63) $p < .05$ primiparous 11.63 (5.29) $p < .05$ Associations with GORD in infants (36%) NS; previous psychiatric problems (13%) $p < .01$; and partner conflict (40%) $p < .001$.	N/A
2	(Berry et al., 2016) (Aug–Nov 2011) mixed-methods Follow-up	To: assess RPS influence on parents' capacity, self-efficacy and satisfaction.	Quantitative pre–post-test follow-up, ($N = 14$, 2-week stay), PSOC.	PSOC subcomponent results demonstrated: a large effect size for "parenting satisfaction" ($p < .001$); medium for "parenting efficacy" ($p = .048$), and small (NS) for "parenting interest" ($p = .538$).	N/A	Statistically significant improvements to parents' perceptions of parenting competence were observed.
3	(Christl et al., 2013) Correlational	To examine: 1. psychosocial risk factors amongst admitted mothers 2. relationships between risk factors and MH diagnoses 3. acceptability of psychosocial risk assessments.	Correlational; descriptive cross-sectional to assess birth and parenting experiences; infant feeding and settling problems. PNRQ, EPDS and MINI.	PNRQ psychosocial risk factors = high trait anxiety (40.9%), past mental health problems (40.7%), perfectionistic traits (38.1%) and "abuse/trauma" of any kind (31.6%). Most women felt moderately to very comfortable completing the questionnaire (78%).	EPDS: 29.9% > 12; 9.8 (5.1). MINI: 27.5% current anxiety disorder and 43.1% past psychiatric diagnosis. Criteria for mental illness statistically significantly increased with emotional abuse during childhood ($p = .006$), high trait anxiety ($p = .003$) or negative birth experience ($p = .015$). When EPDS > 12 statistically significantly greater likelihood of current MINI diagnosis ($p < .001$) and anxiety disorder ($p < .001$).	N/A
4	(Dahlen et al., 2019) Linked data population-based study	To examine: 1. characteristics of admitted women and babies (1st year postbirth) 2. changes in these characteristics over a 12 year period.	Linked population data assessing 3 time frames (2000–2003; 2004–2008; 2009–2012), admitted women (cohort 1) versus non-admitted (cohort 2).	Cohort 1 were more likely to be: older, private patients, Australian born and primiparous; and having more multiple births, male infants, birth intervention, infants requiring resuscitation and scalp trauma. Over 12 years, admitted babies were older; instrumental birth and mean ages of women increased (by 2 years); and vaginal delivery and smoking decreased.	N/A	Admitted women were more socially advantaged and had more birth intervention (likely due to higher private sector usage = higher rates of intervention).

(Continues)

TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics Mean (SD) range, <i>p</i> value	Outcome of residential stay for participants
5	(Don et al., 2002) Follow-up		To assess if: 1. individualized programmes improve crying/fussing and sleep 2. behaviour changes are maintained after discharge 3. effectiveness is influenced by infant age/irritability severity.	Pre-post-test follow-up EPDS and Infant Activity Record of behaviour (24hr), validated against infant vocalization recordings. A subset also completed a 5-point scale of perceptions of infant "difficultiness" (N = 58).	Mean total unsettled time decreased 3.6 ± 2.1 → 2.0 ± 1.3 hr. Mean total time awake and content increased 3.0 ± 1.7 → 3.8 ± 1.5 hr. Mean total time asleep increased 13.0 ± 2.6 → 14.9 ± 1.8 hr (<i>p</i> < .001). At 1-month postdischarge difficulties decreased 3.9 → 3.1 (<i>p</i> < .001). Improvements seen in all ages, but especially <13 weeks.	EPDS: 11.1 (5.2) 1-26; of 37/109, 33.9% scored >12. Prior to intervention, mothers scoring >12 reported more unsettled behaviour (mean 251 min pd cf. 199 min pd; <i>p</i> = .05). 1-month follow-up data for infant behaviour only. Extremely unsettled group showed steeper rates of improvement.	The individualized programme appeared effective as statistically significant improvements were seen in unsettled behaviour, sleeping and awake/content times postintervention and at 1 month postdischarge (<i>p</i> < .001).
6	(Fisher, Feekery, Amir, & Sneddon, 2002) Descriptive		To assess the health and socio-economic circumstances of advantaged mothers admitted to RPS (cohort 1) with unsettled infants.	Descriptive and observational survey. Comprehensive 7 section self-report questionnaire including "psychometric instruments."	Physical health seriously compromised (39/105) inclusive of childbirth-related issues. Poor sleep 95/106 (90%) ≤ 6 hr, and severe deprivation associated with frequent infant nighttime waking. BF problems were common (29% mastitis).	Low rates: previous psychiatric or family hx psychiatric illness, childhood sexual abuse and DV. High rates: reproductive difficulties (6.5% IVF conception, 25% invasive prenatal testing, 26% antenatal admission, 53% operative delivery); and dissatisfaction with postpartum care (52%) and partner support.	N/A
7	(Fisher, Feekery, & Rowe-Murray, 2002) Descriptive		To characterize psychological distress amongst mother-infant dyads (cohort 1) admitted to RPS.	Cross-sectional self-report survey, EPDS, POMS, IBM PBI, SPS and VPSQ.	82.8% probably depressed versus just fatigued (<i>p</i> < .001). Associated with partner perceived as critical and controlling; mother lacking in assertiveness and having oversensitivity to opinions of others. NS findings: IBM, PBI, SPS, VPSQ.	EPDS: 12 (6.1) 1-29; 50 (48%) ≥ 13; 78/103 (76%) feeling overwhelmed Q6; 77/103 (75%) anxious Q4 POMS: 45 (45%) Tension-Anxiety; 42 (42%) Depression-Dejection 21.1 (14.1); 92 (91%) Fatigue-Inertia 20.1 (5.7); 60 (59%) Confusion-Bewilderment.	N/A
8	(Fisher, Feekery, & Rowe, 2004) Follow-up		To follow-up on mothers and infants (cohort 1 and 2) 1 month after discharge to ascertain changes.	Maternal mental/physical health and infant behaviour and temperament.	Maternal improvements to: functional efficiency; clarity of thinking; irritability; sleep (insufficient 78% → 11%); infant care (46% v. confident); AD use (9% → 4%); education and caring skills (100%); and personal (88%) and infant (93%) difficulties. At admission babies had: poor sleep (>90%), reflux (>30%) and excess crying (>40%) → improvement to: fussing/ crying (151 → 72.5 min; <i>p</i> < .001); feeding (42% → 30%); and sleep (day 70% > 3 hr; overall good 80%).	EPDS: 12 (6.1) (cohort 1) and 12.3 (5.3) (cohort 2), 48% and 43% ≥ 13 → av. 6.6 (4.6) (<i>p</i> < .0001), 13% ≥ 13. POMS (clinical range): Tension-Anxiety 26% → 3% (<i>p</i> < .0001); Fatigue-Inertia 78% to 32% (<i>p</i> < .0001).	Maternal mood improved on all dimensions, with 97% satisfied with the programme.

TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics Mean (SD) range, <i>p</i> value	Outcome of residential stay for participants
9	(Fisher, Rowe, & Feekery, 2004) Follow-up		To follow-up on mothers and infants (cohort 1 and 2) 6 months after discharge to ascertain changes to maternal mood and infant temperament and behaviour.	As described in 2004a.	Upon admission SITQ scores showed infants were statistically significantly more difficult, irritable and likely to withdraw from people/situations than population norms.	EPDS (combined cohorts): 12.14 (4.47) Statistically significant improvements to crying/fussing, nighttime waking, sleep/feeding dysregulation ($p = .001$) at 1-month postdischarge were sustained at 6 months. Slight worsening in fatigue, otherwise maternal improvements sustained at 6 months.	RPS intervention improvements to mother–infant dyads were maintained at 6 months postdischarge.
10	(Giallo et al., 2011) Correlational		To examine: 1. the extent of maternal fatigue 2. relationships between fatigue and MH concerns 3. relationships between fatigue and parental self-efficacy, hostility, warmth and involvement 4. demographic, child sleep and maternal factors associated with fatigue.	Descriptive, correlational Demographic and family background questionnaire Child sleep problems and beliefs about impact of fatigue on parenting; PSOC; FAS, DASS-21.	Child factors associated with maternal fatigue: no. nights/ week child wakes ($p = .004$); extent to which the child's sleep is a problem ($p < .001$); and duration of sleep problem ($p = .002$).	Mothers reported moderate levels of fatigue. Moderate to large associations were noted between fatigue and well-being, with high fatigue associated with high levels of depression, anxiety and stress ($p < .001$). High fatigue was statistically significantly associated with low parental self-efficacy and satisfaction, and high hostility ($p < .001$). Fatigue was statistically significantly predicted by minimal self-care, unrealistic expectations of sleep and high need for social support.	N/A
11	(Giallo et al., 2012) Follow-up		To assess: 1. parental satisfaction with the RPS intervention 2. short-term effectiveness in strengthening perceived importance, self-efficacy and self-care strategies to manage fatigue.	Pre-post-test survey. SES, adapted FAS; FSS. Purpose-designed scales: Perceived Importance of Self-Care; Self-Efficacy for Managing Fatigue; Intention to Engage in Self-care Behaviours; Participant Satisfaction Survey.	High acceptability and satisfaction of the "Wide Awake Parenting" workshop content and delivery was reported.	Moderate level of fatigue on the FAS: 17.69 (3.92) 8–25 and FSS 41.49 (11.07) 9–63. FAS scores statistically significantly higher than community sample: 14.21 (4.40) 5–25, $p < .001$.	Parents reported a statistically significant increase in their perceived importance, self-efficacy and intention to engage in self-care behaviours to manage fatigue.
12	(Giallo et al., 2013) Descriptive		To identify: 1. the extent of MH symptoms and fatigue amongst fathers 2. subgroups or "clinical profiles" of fathers 3. socio-demographic and lifestyle behaviours associated with MH symptoms and profiles.	Descriptive, correlational survey, SES; DASS-21; PSQI; Tweddle Fatigue Scale. Purpose-designed scales: Health and Self-care Behaviour; Severity of Child Sleep Problem; Professional MH Supports.	Statistically significantly higher mean DASS-21 stress subscale scores than normative sample ($p < .001$). Differences on the anxiety subscale ($p = .066$). Statistically significant predictors of stress: severity of child sleep problem ($p = .013$) and accessing professional MH supports ($p = .021$). High distress associated with poor physical health, low socio-economic position and poor self-care.	DASS-21: Moderate to extremely severe ranges for stress, anxiety, and depression were 17%, 6% and 9%, respectively. Two distinct groups or clinical profiles of fathers: mild (84%) and high distress (16%). Moderate levels of fatigue detected 3.41 (0.96), 0–5.	N/A

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TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics Mean (SD) range, <i>p</i> value	Outcome of residential stay for participants
13	(Halle & Smout, 2004) Follow-up		To determine how successful families believed they were able to maintain parenting practices postdischarge.	Self-selected cohort follow-up: structured telephone interview and self-reports. Frequencies and percentages for each question.	Social problems (30%) included: changes to family environment; lack of family support and consistent parenting skills between parents; and the effect of managing siblings.	Parental emotional problems (36%) included: tiredness impacting ability to persist with parenting practices; feelings of lack of confidence; having unrealistic expectations of time and effort needed to persist with parenting practices; and MH concerns.	Postdischarge: 73/84 (87%) continued with parenting practices. At 3 weeks, 69/83 (83%) continued. At 5 weeks, 66/82 (80%) continued.
14	(Hammarberg et al., 2009) Descriptive		To assess: rates of admission to RPS of women having used ART; infant behaviour and temperament; and maternal mood and confidence at 3 months postpartum.	Consecutive cohort. Structured telephone interview and postal questionnaire. EPDS; POMS; IBM; VPSQ; BIT; EITQ.	Admission rates following ART were higher (8%) than norms (5%). A higher proportion reported dysregulated infant behaviours (<0.0001) and smaller reported exclusive BF. More difficult conception was associated with low maternal confidence. NS findings IBM.	Mean VPSQ and POMS scores > than norm. POMS: 19.5 (34.1), clinical range (6%); IBM: care 28.4 (7.3) [comparison 27.1 (6.1) <i>p</i> = .03]; and control 5.4 (5.9) [comparison 9.6 (5.4) <i>p</i> < .0001]; VPSQ: "Vulnerability" 14.6 (4.1) [comparison 13.5 (4.3) <i>p</i> < .001]; EPDS: 5.5 (4.6); >12 8.4% NS.	N/A
15	(Khajehi & Finch, 2016) Follow-up		To evaluate: 1. effects of RPS on parenting confidence in the 1st year postpartum in women with previous fertility issues 2. factors associated with low parenting confidence.	Retrospective review of 144 admitted mothers with infant <12 months and previous infertility. Pre-post-test follow-up, with KPCS and EPDS scores evaluated in 27. Additional data: parental and infant demographics; alcohol, cigarette use; and obstetrics, gynaecological, medical, MH, DV and parenting intervention history.	At admission mothers reported recent major stress (55%) and postnatal health issues (11%). Associations between low parenting confidence; parental demographics (age, country of birth, and employment status); history of help-seeking; level of support; major stress exposure; physical health or parity; symptoms of depression; and child factors (gender, age, siblings, diagnosis of GORD and use of medication) were NS.	EPDS: 14.8 (N = 4) reported symptoms of depression. Pre-intervention scores in women at 6–12 months' postpartum were lower than those admitted 1st half, although not statistically significant. Pre-postintervention low parenting confidence fell from 59.3% → 22% and KPCS scores statistically significantly increased from 36.9 ± 5.6 → 41.1 ± 3.4 (<i>p</i> < .0001), demonstrating a large effect size.	A statistically significant increase in early parenting confidence was observed amongst women previously experiencing fertility issues.
16	(Kohlhoff & Barnett, 2013) Correlational		To examine: 1. predictors of PSE in 1st-time mothers during the 1st year postpartum 2. changes in PSE following RPS intervention for unsettled infants.	MINI DSM-IV depression and anxiety diagnoses; EPDS; KPCS; MOPS; ASQ Singleton infant behaviours were recorded on 24-hr charts.	Mean infant sleep and unsettled time in 1st full 24 hr 251.82 (39.62) and 43.11 (24.67) min, respectively. KPCS: 33.70 (5.92). ASQ: avoidance 2.98 (.61), anxiety 3.13 (.83). MOPS: indifference 3.58 (6.78), overcontrol 6.55 (5.51), abuse 2.24 (4.37). PSE was inversely correlated with maternal depression, anxiety and attachment insecurity.	EPDS depression 6.12 (3.62); anxiety 4.54 (2.13); 27 (32.5%) MDE. Anxiety disorders: panic disorder 2 (2.4%); social phobia 9 (10.8%); OCD 7 (8.4%); PTSD 3 (3.6%); GAD: 13 (15.7%); with 20 (24%) meeting criteria for ≥1 anxiety disorder. PSE predictors: receipt of abusive parenting, infant gender, attachment avoidance and depression severity.	Statistically significant improvement to PSE was observed, with lower levels of reported parental abuse, during childhood and higher depressive symptom severity being predictive of improvement.

TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics	Outcome of residential stay for participants
17	(Kohlhoff, Charles, et al., 2015)	Correlational	To examine subtypes of PND based upon symptom profiles.	Correlational/ association SCID-I; EPDS; BDI-II; BAI; VPSQ; DAS-24 MAQ; LES; SPS; ICQ.	5 symptom-based factors identified: "cognitive features of depression and anxiety;" "physiological features of anxiety;" "emotional/affective features of depression" and "fatigue." 3 clusters differed in depressive severity (the most severe also having high anxiety) but not in terms of symptom types or risk factors/ vulnerability.	Mean (SD) range, <i>p</i> value 159/413 in "depressed" subsample; 99 (62.3%) scored > BDI-II cut-off EPDS: 138 (86.8%) clinical range SCID-I: 50 (31.4%) met DSM-IV major/ minor depression. of final depressed sample 39.6% met one of the inclusion criteria; 40.3% met two and 20.1% met three.	N/A
18	(Kohlhoff, Barnett, & Eapen, 2015)	Correlational	To explore if: 1. ASAD is more common in RPS populations 2. ASAD is associated with childhood maternal overprotection; adult attachment insecurity and infant crying/sleep issues 3. attachment insecurity mediates the relationship between adverse early parenting experiences and ASAD.	Correlational/ association MINI; CIDI-ASAD; ASA-27; EPDS; MOPS; ASQ. Infants monitored via 24-hour behaviour charts.	Both ASAD and ASA symptoms were predicted by adult attachment anxiety. ASAD was associated with unsettled infant behaviour. Attachment anxiety and avoidance mediated relationship between parental overcontrol and ASAD, and between parental abuse and ASAD. Attachment anxiety mediated relationship between parental overcontrol and parental abuse with ASA symptoms.	EPDS with ASAD 11.56 (5.93); with no ASAD 10.45 (5.18) ASAD prevalence of 19.3%, > ASAD lifetime prevalence of 6.6%. ASA-27 34.9% reported symptoms placing them over the threshold for ASAD. Women with ASAD were more likely to be diagnosed with depression and anxiety disorders; report aversive parenting experiences during childhood; and show adult attachment style insecurity ($p < .05$).	N/A
19	(Leeson et al., 1994)	Follow-up	To investigate both the short and longer-term success of a RPS sleep programme.	Follow-up 1 and 3 months after admission. Sleep diary, CES-D.	Follow-up at 1 month: no. times babies waking 12.4 (5.4) 5-25 → post: 3.9 (3.5) 0-11, $p < .001$. No. "milk feeds" given pre: 7.2 (5.3) 0-20 → post: 1.0 (1.6) 0-5, $p < .001$. Time awake pre: 4.4 hr (3.4) 0-13 → post: 1.0 hr (1.5) 0-6.5, $p < .001$. 3 months, 87% slept well.	CES-D: 14 (70%) mothers "depressed" prior to programme compared to 2 (10%) 1 month after, $p < .001$. 4 (57%) fathers depressed prior to programme compared to 0 afterwards, $p < .05$. Perceived improvement to infants' behaviour and personal relationships (68%).	Statistically significant decreases in times babies woke, fed and stayed awake at night; and parent depression.
20	(Matthey & Speyer, 2008)	Follow-up	To explore the effectiveness of RPS interventions on maternal MH and bonding and infant sleep issues.	Pre-post-test design with postdischarge follow-up at 5 weeks and 4 months. EPDS; HADS-A; BaMB.	Postdischarge: at 5 weeks statistically significant improvements to infant sleep and behaviour, maternal mood and maternal-infant bonding. Improvements were maintained at 4 months.	Moderate to substantial effect sizes on all 3 measures (EPDS, HADS-A and BaMB) between recruitment and 5-week follow-up ($p < .001$). Of the 55.3% in clinical range for EPDS or HADS-A, 50% had either recovered or substantially improved by 5 weeks and sustained at 4 months.	Women (80%) reported improvement to infants' sleep and own emotional health, attributed to the strategies and support provided.

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TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics Mean (SD) range, <i>p</i> value	Outcome of residential stay for participants
21	(McMahon et al., 2001) Descriptive	Descriptive/comparison EPDS; CIDI; STAI; DAS STSI and home visit interview.	To explore: 1. maternal mood and infant temperament 2. differences according to maternal depression diagnosis 3. relationships amongst measures.	Descriptive/comparison EPDS; CIDI; STAI; DAS STSI and home visit interview.	CIDI: 79 (62%) met criteria for MDE occurring since childbirth and a further 13% minor depression. STAI: The women also scored statistically significantly higher on both state ($p = .000$) and trait ($p = .001$) anxiety and for temperamentally difficult infants STSI (20%) versus comparison grp (5%, $p = .01$). DAS: NS findings.	36% compared to 6% of comparison grp scored >12 EPDS ($p = .000$). Admitted mothers also scored statistically significantly higher on the EPDS than comparison ($p = .000$); however, EPDS was completed when the mean age of the baby was 11 weeks versus 18 for comparison. CIDI: 35% classified as highly anxious versus 9% of comparison.	N/A
22	(Phillips et al., 2007) Descriptive	Descriptive. EPDS; SCID.	To examine: 1. rates of depressive and anxiety disorders amongst admitted mothers with unsettled infants 2. depressive/anxiety disorder comorbidities.	Descriptive. EPDS; SCID.	High levels of comorbidity: 60.8% with an anxiety disorder had experienced major or minor depression since start of pregnancy, and 46.3% of those who had experienced depression since the start of their pregnancy also met criteria for a current anxiety disorder.	EPDS: 10.0 (5.2); 32.7% \geq 13; 25.1% met criteria for current diagnosis of MD. 31.7% had met criteria for MD since start the pregnancy, and 30.5% met criteria for a current anxiety disorder. 21.6% met criteria for GAD (worry about baby/mothering) with symptom onset during pregnancy (20.0%) or >birth (51.4%).	N/A
23	(Phillips et al., 2010) Follow-up	Follow-up (2 cohorts)-self-report, SCID; EPDS; HADS; PSI-SF; 24 hr Child Behaviour Chart.	To examine: 1. the effect of RPS interventions on infant behaviour, maternal MH and parenting stress 2. the impact of maternal psychopathology on infant behavioural outcomes.	Follow-up (2 cohorts)-self-report, SCID; EPDS; HADS; PSI-SF; 24 hr Child Behaviour Chart. Study 1: Intervention associated with statistically significant improvements in child behaviour and sleep; and in levels of maternal depression, anxiety and parenting stress. Study 2: Confirmed intervention associated with statistically significant improvements in infant sleeping and behaviours ($p < .001$).	Study 1: Intervention associated with statistically significant improvements in child behaviour and sleep; and in levels of maternal depression, anxiety and parenting stress. Study 2: Confirmed intervention associated with statistically significant improvements in infant sleeping and behaviours ($p < .001$).	EPDS at admission (N = 100): 27 (27%) >12 Follow-up (1 month, N = 70): 25.7% >12 \rightarrow 11.1%. Follow-up (3 months, N = 70): 25.7% >12 \rightarrow 6.9%. Total EPDS scores had on average fallen by 5.72 points (6.65) at 1 month and 8.56 (4.89) at 3 months, $p < .003$. Statistically significant main effects were found for time and depressive status for the EPDS, HADS, PSI-SF.	The RPS intervention was associated with statistically significant improvements in maternal depression, anxiety and parenting stress, and infant sleep and behaviour.
24	(Priddis, Thornton, et al., 2018) Descriptive	Sequential explanatory mixed-methods design-quantitative component: examination of medical records, inclusive of EPDS, KPCS and PNRQ.	To examine the characteristics and service needs of admitted mothers and babies in the 1st year postpartum.	Sequential explanatory mixed-methods design-quantitative component: examination of medical records, inclusive of EPDS, KPCS and PNRQ.	Intake (N = 200), 51% reported MH issues. Staff assessment of women: fatigue (71.5%); anxiety (41%); PND (17%); and other depression (16%). High prevalence of MH issues \rightarrow need for ongoing training and peer support for staff, to improve maternal care.	EPDS \geq 10 (46.6%), \geq 13 (27%, N = 300) PNRQ 30 (20-40, N = 200) [\geq 24 at risk] KPCS 35 (30-40, N = 100) [\leq 39 referral, low confidence in parenting]. Self-report mental health issues (>51%), fatigue (84%), worry (43%), previous MH issue (48.5%), and statistically significant stress (26%).	N/A

TABLE 3 (Continued)

Study	Reference (data collected)	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics Mean (SD) range, <i>p</i> value	Outcome of residential stay for participants
25	(Rowe & Fisher, 2010) Follow-up	To examine the MH and social circumstances of admitted women and the impact of the programme on maternal MH and infant behaviour at 1 and 6 months postdischarge.	Prospective follow-up. Purpose-designed questionnaires assessing risks for poor postnatal MH; current MH; and infant behaviour. EPDS; POMS; VPSQ; IBM.	Personal history of MH problems (33%); childhood abuse (physical 25%, sexual 22%, both 10%); current fear of partner (17%); ≥ 1 coincidental distressing life event; insufficient practical/emotional support (44%); unable to confide with partner (46%); 9 reported relationship improved postbirth. Risk factors: unassertive, adverse coincidental life events, partner perceived as critical and controlling and frequent infant night waking.	Admission: EPDS 11.3 (5.7), 0–25; 39% ≥ 12 . POMS (69%) in clinical range for Fatigue-Inertia subscale. Completers all forms: Admission EPDS 10.96 (5.33) \rightarrow 6.78 (4.44) 1 month ($p < .001$) \rightarrow 6.26 (5.59) 6 months NS. Admission POMS subscale: anxiety 13.27 (6.92); depression 16.34 (12.25); fatigue 17.23 (6.37) \rightarrow 1 month: POMS anxiety 7.43 (5.97), $p < .001$; fatigue depression 7.78 (9.61) $p < .001$; fatigue 12.77 (6.75) $p < .001$ \rightarrow 6 months: POMS anxiety 6.88 (5.72); depression 7.14 (9.48); fatigue 11.85 (6.46), NS. Crying and fussing (24 hr) reduced 101.02 (100.8) mins \rightarrow 37.7 (55.2) mins at 1 month ($p < .001$) and 23.8 (30.1) mins by 6 months (NS).	1 month: Very satisfied with the help (55; 85%), education (46; 70%) and support (55; 83%), social interaction with other mothers were particularly strong of the programme. Statistically significant improvements maternal psychological functioning assessments and infant behaviour 1 month postdischarge.
26	(Treyvaud et al., 2009) Follow-up	To explore changes in mothers: 1. behaviour during parent-child interaction and MH after RPS intervention 2. perceptions of the severity and frequency of their child's difficult behaviour.	Pre-post-test follow-up. DASS; PCI; CBA; GAS. Data collection: T1 2-weeks prior to admission; T2 admission; T3 last day of stay and T4 4 week postdischarge.	Statistically significant improvement over time for mothers' ratings of difficult behaviour $p < .001$, and seriousness of that behaviour $p < .001$. GAS score at T3, 54% showed 80% or better towards set behaviour goal; at T4, 52% had achieved 80% or better.	DASS-21: Depression T1: 7.1 (7.2), T2: 8.0 (8.3); T3: 3.2 (5.4); T4: 3.9 (4.9), $p < .05$ T2 \rightarrow T3; norm: 6.3 (6.9). Anxiety: T1: 4.2 (4.7); T2: 4.2 (4.0); T3: 1.9 (2.7); T4: 1.7 (2.8), $p < .001$ T1 \rightarrow T3, from T2 \rightarrow T3, and T2 \rightarrow T4; norm: 4.7 (4.9). Stress T1: 12.2 (7.1); T2: 14.4 (8.7); T3: 3.9 (4.9), T4 6.7 (7.0), $p < .001$ T1 \rightarrow T4, from T2 \rightarrow T3, and T2 \rightarrow T4; norm: 10.1 (7.9).	Statistically significant improvements were seen in mothers' MH, behaviour during parent-child interaction, and perceptions of infant behaviour.
27	(Wilson et al., 2018) Correlational	To investigate: 1. if depression and fatigue can be differentiated amongst women with elevated postpartum fatigue and distress 2. association(s) between depression and fatigue latent factor(s) and self-reported sleep efficiency.	Cross-sectional survey. 1-factor combined depression and fatigue model compared to 2-factor separate but related depression and fatigue model. DASS-21; FSS; IDA-1; ISI.	DASS-21: depression 50% scored >cut-off; anxiety (at least mild 48%); stress (64%). FSS: elevated fatigue severity (87%) >suggested clinical cut-off. ISI in the clinical range (46%). Previous mental health treatment (34.7%). Modelling demonstrated that depression and fatigue symptoms were separate but related experiences and may require targeted treatment.	Admission: FSS-9 $N = 163$, 47.92 (8.85); FSS-5R $N = 163$, 17.35 (5.24). DASS-21 D $N = 162$, 5.12 (3.81); DASS-21 A $N = 162$, 3.59 (2.90); DASS-21 S $N = 158$, 9.71 (4.11). IDA-1 $N = 165$, 7.28 (3.92). ISI $N = 165$, 13.76 (5.13). Sleep efficiency (%) $N = 159$, 62.94 (15.79).	N/A

(Continues)

TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics	Outcome of residential stay for participants
28	(Wilson et al., 2019b)	Follow-up	To explore: 1. changes to maternal sleep, fatigue, sleepiness, and PVT after RPS programmes 2. associations between PVT and self-reported fatigue and sleepiness.	Pre-post-test follow-up Self-report measures on admission and discharge Sleep items: FSS, KSS, ESS, and CIRENS; Day 1 only: demographics, PSQI, MAPI, and EPDS scores from medical records.	Medium effect size reductions in fatigue and sleepiness, and large effect size improvements in depression and sleep quality related domains were seen: increased sleep efficiency and reduced nighttime awakenings ($p < .001$). Changes in total sleep time was NS ($p = .22$). PVT reciprocal mean reaction times were faster ($p = .001$; medium effect size).	At admission scores above clinical cut-offs were observed for sleep disturbance (94%), fatigue (91%), and trait (54%) and state (67%) sleepiness. Elevated depressive symptoms were also seen in 36%.	Statistically significant improvements to fatigue, sleep disturbance, daytime sleepiness, depression and psychomotor vigilance were observed.
29	(Wilson et al., 2019a)	Follow-up	To reduce maternal distress by improving infant settling and emotional literacy skills, and infant "states" recognition via an individually tailored clinical support and psychoeducation approach.	Pre-post-test follow-up Self-report measures on admission and discharge: DASS-21; IDA-I; FSS; ISI; and an emotional Go/No-Go task (EGNG). Self-report distress measure at 5 weeks postdischarge.	Statistically significant reductions in distress scores. Large effect size reductions in depression, stress, irritability and insomnia symptoms. Medium effect size reduction in fatigue and anxiety. Clinically statistically significant changes to depressive symptoms for 25%–44%. Change from clinical → non-clinical norms for anxiety (2%). Interactions for time/valence for negative/positive emotional word stimuli were NS. Differences in depression, anxiety, stress, irritability or fatigue scores between discharge and follow-up were NS.	Previous MH treatment 28 (35.9%). Admission clinically elevated: depressive symptoms (48%); distress in ≥ 2 domains 62 (79%); ≥ 37 (47%); and 8 (10%) across all; ≥ 1 depressive forms of distress 39 (98%); anxiety 8 (20%); stress 21 (53%); irritability 6 (15%); fatigue 37 (92%); insomnia 13 (33%). Fatigue was the most prevalent symptom, with 95% reaching above clinical cut-off scores.	Following the residential stay, participants reported statistically significant improvements to a wide range of psychological distress indicators, such as fatigue, insomnia, anxiety and stress.
30	(Wynter et al., 2019a)	Descriptive	To explore levels of: psychological distress, irritability, risky alcohol use, fatigue, sleepiness and self-reported sleep quality amongst male partners of admitted women and babies.	Cross-sectional survey conducted during facilitated fathers' group meetings that occurred midway through the mother's admissions. DASS-21; SAI5; FAS; ESS; PSQI; VAS-F; AUDIT-C.	Previous MH history (20.8%). AUDIT-C (51.7%) possible alcohol misuse. Men demonstrated compromised sleep-related and psychological functioning. A high proportion reported statistically significantly more severe irritability than healthy men; 2/3 were in the clinical range for stress and 53% reported risky alcohol use. Health indicators were concerning wrt: poor concentration, attention, judgement and impulse control.	Statistically significantly elevated scores: DASS-21 stress versus norm ($p < .001$); SAI5 Inward ($p < .001$) and Outward ($p = .005$) versus First-time Fathers study ^a at 12 months; VAS-F (55.4) versus 1st-time parents at 7 weeks postpartum ($p = .028$); and ESS versus healthy adults ($p < .001$). Clinical range: FAS (52.8%) and PSQI (82%). PSQI global ($p < .001$), and all component scores—subjective sleep: quality ($p < .001$), latency ($p < .001$), duration ($p < .001$), habitual efficiency ($p < .001$), disturbances ($p < .001$), medication use ($p = .048$), and daytime dysfunction ($p < .001$).	N/A

TABLE 3 (Continued)

Study	Reference (data collected)	Methodology	Aims	Methods/methodology	Results	Parent(s) psychological distress, mood; fatigue; infant characteristics	Outcome of residential stay for participants
31	(Wynter et al., 2019b) Correlational		To explore: 1. MH and fatigue symptoms amongst admitted women for more targeted care. 2. psychosocial and socio-demographic factors associated with identified profiles.	Cross-sectional survey. DASS-21; SAIS-6; AUDIT-C; FSS-9; ESS; PSQI; VAS-F. Women indicated if they needed practical/emotional support or help from others.	AUDIT-C: 51 (30.5%) screened positive versus 18.3% in validation study. Of these, 30 identified at-risk. Women in high psychological distress grp more likely to have hx MH issues, and frequent lack of emotional support (large effect size). Mothers suffering from both low and high psychological distress displayed fatigue and poor sleep quality. Interventions are recommended to improve maternal sleep and social interaction.	DASS-21: D 5.12 (3.81); A 3.59 (2.90); S 9.71 (4.11). SAIS-6 7.28 (3.92). FSS 47.92 (8.85). VAS-F 73.78 (16.45). ESS 9.47 (4.57); PSQI 10.97 (3.03). Scores statistically significantly higher than norms for: DASS-21 ($p < .001$); ESS; PSQI. Clinical range scores for FSS (89.6%); PSQI (96.2%) and DASS-21 stress (67.8%). Statistically significantly correlations for DASS-21 with SAIS-6 (large effect) and both to FSS (medium effect); and DASS A&S & SAIS with PSQI (medium effect).	N/A

Abbreviations: AD, antidepressants; ASA, Adult separation Anxiety Checklist Scale; ASQ, Attachment Style Questionnaire; BAI, Beck Anxiety Inventory; BaMB, Being a Mother and Bonding Scale; BDI, Beck Depression Inventory; BF, Breast Feeding; BIT, Burden of Infertility and Treatment; CBA-Child Behaviour Assessment; CES-D, Centre for Epidemiological Studies Depression scale; CF, cumulative frequency; CIDI-ASAD, Composite International Diagnostic Interview -Adult Separation Anxiety Disorder; CIRENS, Circadian Energy Scale; DAS, The Dyadic Adjustment Scale; DAS-24, Dysfunctional Attitudes Scale; DASS-21, Depression Anxiety Stress Scale; DSM-IV, Diagnostic and Statistical Manual of Mental Disorders IV; DV, Domestic Violence; EITQ, Early Infancy Temperament Questionnaire; EITQ, Early Infancy Temperament Questionnaire; EPDS, Edinburgh postnatal depression scale; ESS, Epworth Sleepiness Scale; FAS, Fatigue Assessment Scale; FSS, Fatigue Severity Scale; GAD, Generalized Anxiety Disorder; GAS, Goal Achievement Scale; GORD, gastroesophageal reflux disease; GRP, group; HADS, Hospital Anxiety and Depression Scale; hx, history; IBM, Intimate Bonds Measure; ICQ, Infant characteristics questionnaire; IDA, Irritability Depression Anxiety Scale; ISI, Insomnia Severity Index; KPCS, Karitane Parenting Confidence Scale; KSS, Karolinska Sleepiness Scale; LES- Life Events Scale for obstetric groups; MAPI, Multivariate Apnoea Prediction Index EGG, emotional Go/No-Go task; MAQ-Maternal attitudes questionnaire; MD, Major Depression; MDE, Major Depressive Episode; MH, Mental Health; MINI, Mini International Neuropsychiatric Interview; MOPS, Measure of Parental Style; N/A, Not Applicable; NS, Not Significant; OCD -Obsessive Compulsive Disorder; PBI, Parental Bonding Instrument; PCI- NCAST Parent-Child Interaction (PCI) Teaching Scale; PD, per day; PND, postnatal depression; PNRQ, Postnatal Risk Questionnaire; POMS, Profile of Mood States; PSE, parenting self-efficacy; PSI-SF, Parenting Stress Index-Short-Form; PSOC, Parenting Sense of Competence Scale; PSQI, Pittsburgh Sleep Quality Index; PSQI, Pittsburgh Sleep Quality Index; PTSD, Post-Traumatic Stress Disorder; PVT, Psychomotor Vigilance Test; RPS, Residential Parenting Services; SAIS-6, Self-Assessment of Irritability Scale, six-items assessing irritability from the IDA; SCID, Structured clinical interview for DSM-IV diagnosis; SES, Socio-economic Status; SITQ, Short Infant Temperament Questionnaire (also referred to as STSI), Short Temperament Scale for Infants); SPS- Social provisions scale; SPS, Social Provision Scale; STAI, Spielberger State-Trait Anxiety Inventory; VAS, Visual Analogue Fatigue Scale (VAS-F); VPSQ, Vulnerable Personality Style Questionnaire.

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Treyvaud et al., 2009; Phillips et al., 2010; Rowe & Fisher, 2010) and 5 weeks (Halle & Smout, 2004; Matthey & Speyer, 2008; Wilson et al., 2019a); and three (Leeson et al., 1994; Phillips et al., 2010), four (Matthey & Speyer, 2008) and 6 months postadmission (Fisher, Rowe, & Feekery, 2004; Rowe & Fisher, 2010). Evaluation of improvements to parental mental health and psychological well-being were conducted in eight studies; sleep and functionality in two; parental satisfaction, capacity and confidence in four; and infant temperament, behaviour and sleeping in eight. Overall, statistically significant improvement to maternal insomnia, fatigue, sleep (Wilson et al., 2019a, 2019b), mental health and psychological well-being (Leeson et al., 1994; Fisher, Feekery, & Rowe, 2004; Fisher, Rowe, & Feekery, 2004; Matthey & Speyer, 2008; Treyvaud et al., 2009; Phillips et al., 2010; Rowe & Fisher, 2010; Wilson et al., 2019a, 2019b); paternal depression (Leeson et al., 1994); parenting confidence and competency (Giallo et al., 2012; Kohlhoff & Barnett, 2013; Berry et al., 2016; Khajehei & Finch, 2016); maternal-infant bonding (Matthey & Speyer, 2008; Treyvaud et al., 2009); and infant behaviour, temperament and sleep (Leeson et al., 1994; Don et al., 2002; Fisher, Feekery, & Rowe, 2004; Fisher, Rowe, & Feekery, 2004; Matthey & Speyer, 2008; Treyvaud et al., 2009; Phillips et al., 2010; Rowe & Fisher, 2010) were reported by parents. Specific findings of parental and infant outcomes are provided below.

3.6.1 | Outcomes of RPS interventions for parents

In regard to improvements to mental health, Matthey and Speyer (2008) reported that of the 55.3% of women in clinical ranges for the EPDS or Hospital Anxiety & Depression Scale (HADS-A) at admission, 50% had either recovered or substantially improved by 5 weeks and these benefits were maintained at 4 months. EPDS and Profile of Mood States (POMS) scores also reduced statistically significantly to below clinical thresholds at one-month postdischarge in the study by Fisher, Feekery, and Rowe (2004). Similar findings were reported by Rowe and Fisher (2010), with statistically significant 1-month postdischarge reductions to both EPDS and POMS scores remaining low at 6 months. Phillips et al. (2010) likewise reported statistically significant reductions to EPDS, HADS, and Parenting Stress Index [PSI] scores at one- and three-months postdischarge. With respect to other measures, Leeson et al. (1994) using the Centre for Epidemiological Studies Depression Scale (CES-D) demonstrated statistically significant postintervention reductions in the proportion of depressed parents at one-month postdischarge; Treyvaud et al. (2009) reported statistically significant reductions in Depression, Anxiety & Stress Scale (DASS-21) scores at discharge that were maintained one month later; and Wilson et al. (2019a) reported clinically statistically significant changes to depression and anxiety scores at discharge, that were maintained at 5 weeks postdischarge (DASS-21, Irritability Depression Anxiety Scale [IDA]).

Broad ranging improvements to irritability, sleep, clarity of thinking, functional efficiency and parenting confidence and caring skills were also reported by Fisher, Feekery, and Rowe (2004),

Fisher, Rowe, and Feekery (2004). Other studies similarly reported statistically significant improvements to parental self-efficacy (Berry et al., 2016; Giallo et al., 2012; Kohlhoff & Barnett, 2013), confidence (Giallo et al., 2012; Khajehei & Finch, 2016) and goal achievement (Treyvaud et al., 2009). Not surprisingly, improvements to maternal mental health also reflected benefits observed in maternal-infant bonding and behaviour during parent-infant interactions (Matthey & Speyer, 2008; Treyvaud et al., 2009). Likewise, improvements to depression, anxiety and distress were reported alongside a reduction in insomnia and fatigue (Wilson et al., 2019a); and reductions in fatigue and sleepiness being associated with enhanced reaction times to visual stimuli during psychomotor vigilance testing (Wilson et al., 2019b).

3.6.2 | Outcomes of RPS interventions for infants

An analysis conducted by Don et al. (2002) identified that by the fourth day of the intervention, the total time that infants were unsettled decreased, whilst contented awake and sleeping times increased, and in addition, that improvements to infant behaviour were maintained at 1 month. Notably, rates of improvement were steeper in the extremely unsettled group. In another study by Fisher, Rowe, and Feekery (2004), infants assessed upon admission using the Short Infant Temperament Questionnaire (SITQ) identified to be more difficult and irritable, and likely to withdraw from people and or situations, demonstrated statistically significant reductions to fussing/crying, nighttime waking and sleep/feeding dysregulation at one-month postdischarge. At the 6-month follow-up, improvements were seen to be maintained (Fisher, Rowe, & Feekery, 2004). Leeson et al. (1994) also followed up infants at one- and three-months postdischarge and reported statistically significant reductions to the number of times babies woke, fed and stayed awake at night (1 month) and that at 3 months, 87% were sleeping well. Parents additionally reported improvements to their own personal relationships. Further support for the success of these programmes was provided in others studies in which statistically significant postintervention improvements to infants' behaviour (Matthey & Speyer, 2008; Treyvaud et al., 2009; Phillips et al., 2010; Rowe & Fisher, 2010) and sleep (Matthey & Speyer, 2008; Phillips et al., 2010) were reported.

3.7 | Parent and staff perceptions

In most cases, research was conducted at the conclusion of the RPS stay (interviews and focus groups), or by telephone following discharge. Table 4 presents 10 studies incorporating qualitative methods. In one study, pre-intervention focus groups and mid-intervention observations were performed (Berry et al., 2016); whereas in another, participants were asked to return their responses sometime during their stay (Corr et al., 2015). In the qualitative component of the mixed-methods study by Priddis, Keedle, and Dahlen (2018), retrospective interviews were conducted with a subset of women

TABLE 4 Parent and staff perspectives of residential parenting services—Qualitative

Study number	References (collection period)	Aims	Methods/methodology	Results	Outcomes for participants
1	(Berry et al., 2016) (Aug–Nov 2011)	To examine: 1. how nurses implemented an RPS programme (2-week stay) 2. the facilitators and barriers to implementation 3. the influence on parenting capacity, perceptions of parental self-efficacy and satisfaction with the programme.	Mixed-methods-qualitative thematic analysis aspect. Parents: 14 eligible/13 consenting/11 interviewed. Nurses:34 invited/24 consenting for observations of interactions between nurses and parents (checklist conducted 1st few days and on a weekend); and two focus groups with nurses (N = 15), conducted prior to and after the RPS.	Themes identified: 1. engaging families 2. building parenting capacity 3. transitioning back to the community. Facilitators and barriers identified included: nurses' attitudes and feelings about the programme; policies and procedures that affected delivery of care; and parents' willingness to participate.	Parents reported significant improvements to parenting capacity and confidence as a result of the programmes. Nurses used a gentle approach to engage parents and build trust by displaying genuine interest, positive regard and respect. Nurses used observations of parent–child interactions to reinforce parenting behaviours via targeted teaching, coaching and role modelling. Nurses also provided referrals and transfers, to assist return to their community.
2	(Corr et al., 2015) (6-months' time frame NR)	To investigate women's perceptions of RPS care provided by GPs and family health nurses.	Qualitative thematic analysis. Cross-sectional, structured open-ended question survey format provided upon admission and returned prior to end of stay.	Themes identified: 1. Positive perception of maternal care: a product of caring emotional support, technical expertise, and accessible providers providing adequate time. 2. Negative perceptions of care: feeling judged or rushed, receiving poor advice and being excluded from decision-making.	Findings provided residents' perspectives about the quality of care received, and what is important to women entering RPS for unsettled infant behaviour for further improvement of service provision.
3	(Cosson & Graham, 2012) (Nov–Dec 2009)	To gain: 1. understanding of client needs and address access issues for fathers 2. insights into the barriers to men's engagement with RPS support programmes.	Qualitative thematic analysis 27 fathers/5 focus groups conducted by market researchers. Note taking method, discussion not recorded Participants paid \$70.	Themes identified: 1. The "team" in meeting the demands of both parenting and working 2. The "good" father 3. Exclusion from professionals, as "a third wheel."	Fathers believed themselves to be part of a "parenting team" and lack of recognition in this regard impacted levels of engagement with support services.
4	(Fletcher et al., 2017) (NR)	To identify: 1. instruments and procedures used to screen fathers attending RPS 2. pathways for referral of fathers with MH problems 3. the acceptability to staff of screening fathers' MH.	Qualitative Thematic analysis. Telephone interviews with prompts for further elaboration. 9/10 EPS centres accepted, from which 18 (17 females/1 male) interviews were conducted (clinicians [8]; managers [10]). Text was coded and "on-coded" to identify underlying thoughts, ideas and attitudes.	Themes identified: 1. identifying fathers' MH needs 2. the process for explaining the screening to fathers 3. screening for paternal depression when fathers are not present 4. addressing fathers' MH needs and barriers to screening.	The absence of an effective and uniform approach to identifying and addressing the mental health needs of fathers. Specifically, clinicians agreed screening of fathers was important; however, it was identified that access to fathers differed and protocols and clinicians' approaches were variable. It was also identified that there was a lack of recognition that fathers may require different screening methods.

(Continues)

TABLE 4 (Continued)

Study number	References (collection period)	Aims	Methods/methodology	Results	Outcomes for participants
5	(Fowler et al., 2012) (NR)	To explore the response to a postdischarge telephone interview about parents' experience of nursing care during their residential stay and parenting experiences since discharge.	Descriptive qualitative approach. Thematic content analysis. Telephone interview (approx. 1 month postdischarge, av. 32 days). Participants recruited in 2 groups, approx. 12 months apart.	Themes identified: 1. Gaining greater confidence 2. Greater knowledge about their babies 3. Changing expectations of parenting and their infants 4. Sustainability of parenting skills.	Women felt more in control; trusting of their abilities; able to interpret infant cues and behaviours, and affirmed in existing skills. With increased knowledge, women were better able to understand their babies wants; and adapt parenting to infant cues. By taking charge, women adjusted strategies for home and better resisted pressure from relatives.
6	(Fowler et al., 2017) (2000–2015)	To investigate staff perceptions of the changing complexity of mothers and infants admitted to RPS centres.	Qualitative descriptive design. Semi-structured interview questions. 8 focus groups including: 25 child family health nurses (female); 10 Enrolled/mother craft Nurses (female); 2 psychiatrists; 6 paediatricians; 2 general practitioners.	Major themes identified: Dealing with complexity; changing practice; appropriate knowledge and skills to handle greater complexity Subthemes: Identifying multiple problems; changing complexity; educational support; clinical supervision and case discussions; and continuing to learn.	Opinions differed regarding increasing psychosocial complexity facing admitted mothers over the past decade, with some believing in increases, whereas other thought better assessments had increased detection. Either way increased complexity had been observed and ongoing education and clinical supervision support is required to better assist mothers with psychosocial difficulties and disrupted infant behaviours.
7	(Fowler et al., 2019) (18-month period-time frame NR)	To explore mothers' experience of RPS in order to increase the "parent voice" in the service and provide mechanisms for staff to understand their impacts, and measure the quality of the service.	Qualitative Thematic analysis A descriptive approach was taken to analyse routinely collected questionnaires asking about RPS stays.	Themes identified: 1. Not knowing what to expect; 2. Working collaboratively with parents 3. Facilitating maternal learning.	Mothers identified increased parenting confidence, and the gaining of parenting knowledge and skills after the stay. Mothers expressed surprise at the willingness of nurses to incorporate their preferences in relation to the care of their child, and work with them to adapt interventions to their cultural/home context.
8	(Hanna & Rolls, 2001) (2-month period in 1999)	To explore: 1. how an unsettled infant/toddler affects family life 2. the perceived benefits of participating in RPS for unsettled infants.	Qualitative Thematic analysis 4 Focus groups: 5–10 females/grp; 2 men/1 grp. Conducted final day of the stay.	Themes identified: 1. Taking the first step 2. The peer network, environment and the nurse making a difference The men stated hating coming home to an unhappy household and being confronted with an exhausted wife, unsettled child and household duties. The women claimed they felt isolated at home, as they had very few opportunities to venture out with their child.	Parents needed a variety of strategies such as instructional, emotional and physical supports to develop confidence to manage infant's sleep disturbance at home.

TABLE 4 (Continued)

Study number	References (collection period)	Aims	Methods/methodology	Results	Outcomes for participants
9	(Priddis, Keedle, & Dahlen, 2018) (NR)	To gain insight into: 1. how traumatic birth and early parenting experiences impacts upon mothering and the need to access RPS services 2. the outcomes of RPS stays.	Qualitative Thematic analysis Semi-structured interview format incorporating open-ended questions, with 8 women who self-identified as having suffered birth trauma and used RPS.	Themes identified: 1. Overarching: "the perfect storm of trauma" encompassing the cumulative effects of trauma experienced from pre-conception to early parenting. 2. Subthemes included: "bringing baggage to birth," "trauma through a thousand cuts;" "thrown into the pressure cooker;" and "trying to work it all out."	After accessing RP services, women felt more capable as mothers, and more hopeful for the future. This resulted as a consequence of being provided with: a deeper understanding of the need to look after themselves in order to be a better parent; and education and support that facilitated parenting, such as help understanding baby's cues. Access to ongoing support also provided a safety net, if further difficulties were encountered.
10	(Rolls & Hanna, 2001) (2-month period in 1999)	To gain understanding from the women's perspective of their experiences of having a child with sleep problems and to assess whether RPS are of benefit to families.	Qualitative Thematic analysis 4 focus groups: 5-10 females/grp; 2 men/1 grp.	Major themes identified: "Motherhood role confusion" and "A good mother does it all." Subthemes: "Motherhood is entrapment" and "Partners opt out of the scene."	Persistent infant crying and sleep deprivation exacerbated loss of identity and self-image in mothers and caused anger and confusion in some partners. Professional support facilitated confidence building, feelings of normality and women to feel good about themselves and their abilities to manage future sleep problems.

Abbreviation: RPS, residential parenting services.

identified as having experienced birth trauma. With respect to studies assessing providers' perspectives, all were conducted independently of specific RPS admissions. Overall, perspectives were sought to ascertain the benefits of administered programmes, and to refine services, with the focus of the studies being: mothers only in three; fathers only in one; parents in three; providers and parents in one; and providers only in two. In the eight studies assessing parents' perceptions of RPS, data were collected by researchers independent of RPS providers, or from the self-reported measures/questionnaires filled out by parents.

3.7.1 | Perspectives of parents

Mothers in the study by Priddis, Keedle, and Dahlen (2018) identified that it was only after reaching breaking point and realizing that they needed help, that they reached out and either self-referred or were referred by health professionals to RPS:

I was pretty broken actually. I was at my wits end and I was worried that if I kept going, I was worried that I was going to hurt [the baby] through just exhaustion and depression and being unable to cope anymore.

Further exploration of the needs of parents by Hanna and Rolls (2001) revealed a variety of strategies such as instructional, emotional and physical supports were required in order to develop confidence to manage infant's sleep disturbance at home. This support enabled parents to progress from despairing to feeling confident about the future:

You're so sleep deprived, you just can't cope, all you start to think about is, I've got to sleep, I've got to sleep.

It's been all the praise, and pat on the back when things have gone right and congratulations if you do get your child to just go to sleep. I felt proud of myself, but always knowing that there's someone there to tell me that, 'hey you're doing well'. I feel so much more confident in going home.

In addition, assistance with developing more realistic expectations of parenting and being a mother was highly regarded, in that it helped women to feel good about themselves, and return some sense of normality to their lives: ... "It's been really terrific to ... hear that you are not the only one who's having exactly the same problem" (Rolls & Hanna, 2001).

Mothers also expressed their pleasant surprise at the willingness of nurses to adapt their services around their personal preferences for their child, and cultural and home life considerations (Fowler et al., 2019). They reported they had expected the programme to be a "one size fits all" approach, but instead "The

one-on-one nature of [the] service is definitely the best – it's obvious that time has been taken to understand my baby and myself – the time that's given to you."

Corr et al. (2015) further identified that women felt RPS experiences were positive when they were associated with caring emotional support combined with technical expertise; however, negative perceptions occurred when mothers felt rushed, judged and excluded from decision-making. Focus group assessments of fathers' experiences of RPS providers also identified that not being regarded as part of the overall "parenting team" left them feeling undervalued and "secondary or part-time" parents (Cosson & Graham, 2012). Some fathers for example expressed the view that "the service was for their partner's mental health"; and that they were "there as a support person" and "... this is not about me..."

Looking beyond discharge from RPS, Fowler et al. (2012) explored parents' views on skills gained and sustained and found that women reported greater confidence and knowledge about their babies; and the changing expectations of parenting and their infants; and longevity in regard to their learned parenting skills. As a consequence of such benefits, these women stated they were more able to adapt to their specific challenges at home, and better protect themselves from the pressures of relatives: "I am more trusting of myself about being a parent. I am able to not listen to others and elicit information that suits my family's needs."

3.7.2 | Perspectives of staff

While assessing providers' perspectives, Berry et al. (2016) reported that nurses were typically supportive of programmes, and respectful and flexible in their approach to parents..."Certainly an important component too is building a therapeutic relationship with them in those first few days. Umm, not being overly critical about their skills or anything else but really nurturing that relationship." Such a finding aligned with the previously reported views of admitted mothers.

One area highlighted as potential issue by Fletcher et al. (2017), however, was that incomplete consideration of the father's role by RPS providers could lead to fathers perceiving a "...[p]atronising, adjunct kind of attitude that ... they're kind of an add-on to the mother, rather than a very significant part, as much as the mother in the child's life ..." Again this observation reflected the views provided by fathers. Furthermore, it was identified that RPS centres may provide a unique opportunity to screen for and assist fathers with their mental health concerns, as: "[There are] a lot of men, basically, either suffering in silence, or, of course, self-medicating with alcohol ..."

An additional area of concern emphasized in the study by Fowler et al. (2017) was that providers appeared to be increasingly exposed to greater complexity in the care of mothers admitted to RPS, either as a consequence of improved methods for identification of these issues, and or the fact that lives are becoming more complex, and consequently, that further specialization of services may be required.

4 | DISCUSSION

In this integrative review we have described the characteristics of infants and parents using RPS in Australia; their prior service use; referral pathways for access; and parenting and infant outcomes after discharge. We found a range of methodologies and standardized instruments were used in the studies reviewed, yielding different outcomes that make comparisons difficult. We also noted that because the studies spanned a 30-year period (1990–2020), there were changes in recommended parenting practices; for example, "controlled crying" (Leeson et al., 1994) is no longer recommended. These changes reflect the international focus on the importance of supporting infant mental health and brain development (2016) by providing sensitive and responsive parenting (WAIMH, 2016), and when necessary early intervention.

The majority of parents using RPS were older, born in Australia, well-educated and first-time parents. Most of the studies focused on mothers rather than fathers, which reflects admission patterns in RPS. In addition, few studies included Indigenous Australian parents, or those from culturally and linguistically diverse backgrounds.

The most common admissions to residential parenting facilities relate to infant feeding, and sleep and settling concerns (Hanna & Rolls, 2001; Rowe & Fisher, 2010; Fisher et al., 2011). However, complex mental health problems, often reflecting adverse social circumstances and complicated reproductive events such as assisted conception, are also common amongst women admitted to these services (Barnett et al., 1993; Fisher et al., 2011; Rowe & Fisher, 2010). A high proportion of women admitted have elevated scores on the EPDS (Fisher et al., 2011; Matthey & Speyer, 2008) with a smaller proportion meeting diagnostic criteria for at least one of the non-psychotic common mental disorders, including: mild to moderate depression, anxiety disorders and adjustment disorders (Fisher et al., 2011). Other women experience non-specific psychological symptoms.

Some studies found women admitted to RPS have an increase in risk factors associated with poor mental health, such as: prior or current mental health problems, domestic violence, drug and alcohol misuse, past history of abuse (Bilszta et al., 2008; Buist & Bilszta, 2005); and situational factors such as poor quality of significant relationships. Given these findings, RPS may provide the opportunity for early identification, and if required, intervention for parents and their young children. Interventions such as these have the potential to diminish intergenerational transmission of negative childhood and family outcomes (National Scientific Council of the Developing Child, 2016).

There is emerging evidence of the impact that fertility, pregnancy and birth complications, and obstetric interventions have on women and on parenting. Assisted conception is increasing in developed countries (Adamson et al., 2006), and research on the effect on mothering has shown inconsistent findings (Glazebrook et al., 2004; Hammarberg et al., 2008; Repokari et al., 2006). Higher rates of admission to RPS of women having had difficult conceptions was first observed by Barnett et al. (1993), who

reported that 9% of women admitted to Karitane had a past history of infertility. More recently, other studies have similarly reported that high rates of infertility (Fisher, Feekery, Amir, & Sneddon, 2002; Hammarberg et al., 2009), and obstetric intervention during birth (Dahlen et al., 2019; Fisher, Feekery, Amir, & Sneddon, 2002; Priddis, Thornton, et al., 2018) may be impacting on confidence with parenting. Indeed, increasing life complexity as a result of negative experiences of infertility (Priddis, Keedle, & Dahlen, 2018), and the care women receive during labour, birth and postnatal period appear to be contributing factors to women's dissatisfaction with their personal circumstances, lack of confidence as a mother, and difficulty adjusting to parenting (Fisher, Feekery, & Rowe-Murray, 2002; Fowler et al., 2017; Priddis, Keedle, & Dahlen, 2018; Priddis, Thornton, et al., 2018).

The high number of women using RPS who also show psychological distress and have mental health issues stands out in this review. The literature suggests that the mother–baby relationship is put under enormous stress when the infant is unsettled. Several studies have pointed to a relationship between excessive crying and maternal depression (Christl et al., 2013; McMahan et al., 2001; Radesky et al., 2013). Maternal trait anxiety/psychological distress and anxiety disorders during pregnancy can also have an impact on the baby and emotional problems later on in childhood (Petzoldt et al., 2015). Petzoldt et al. (2014), for example found maternal anxiety before the pregnancy was associated with an increased risk of excessive infant crying, even when adjusting for maternal depression. Excessive crying, feeding and sleeping problems have also been associated with parental/baby interactions, with mothers of infants with feeding difficulties more likely to become anxious (Bolten, 2013; Postert et al., 2013); potentially contributing to feelings of failure and fear that the baby will reject the mother.

With similar findings of psychological distress also being identified in the fathers participating in these studies, it is clear that routine screening of men/partners and the incorporation of their needs into services is required for improved outcomes for families. As bidirectional relationships exist between factors contributing to the precipitation of psychological distress, and those arising as a consequence of it (Jansson-Fromark & Lindblom, 2007; Steptoe et al., 2007), further identification of risk factors in men/partners, along with the difficulties they face adjusting to parenting is required, in order to better identify at-risk individuals, and PRS areas requiring tailoring for both parents. This additional focus on men/partners may reduce their perception of being an “add-on” or “secondary parent,” and facilitate more active engagement in the parental role. This, in turn, may also benefit mothers, through the potential alleviation of the reported perception of insufficient support from partners.

While there appears to be some evidence of benefit from RPS, it is concerning that so many parents require admission to a tertiary level service for support with parenting, and this raises questions about the availability and usage of universally provided child and family health services in Australia (Rossiter et al., 2019; Hooker et al., 2020), and primary (general practice) or secondary services in the community (Jeyendra et al., 2013; Myors et al., 2015). The

review findings suggest that while many parents had accessed these primary and secondary tier services prior to RPS admission, these services were not able to address their parenting concerns. In previous studies Australian parents have reported that the community-based maternal and child and family health services and general practice are not always available, easily accessible or timely in their response (Hesson et al., 2017; Rossiter et al., 2019). In a national survey, Rossiter et al. (2019) reported that 45% of parents do not currently visit a child and family health nurse, often because they do not perceive a need but sometimes these services are unknown, inaccessible, or considered unsuitable. It is also evident that many parents attending RPS have pre-existing risk factors such as previous mental health concerns, childhood abuse, poor social support that should have been identified through the universal psychosocial assessment and depression screening in pregnancy and following birth with referral and support offered (Austin et al., 2017). It is troubling that a proportion of at-risk individuals are not being identified at antenatal and postnatal screening (Moss et al., 2020).

4.1 | Limitations

The most obvious limitation of this review is that all studies were conducted in Australia but this is due to the uniqueness of RPS to Australia. Some of the included studies reported on the same cohort in different publications (e.g. Fisher, Feekery, Amir, & Sneddon, 2002; Fisher, Feekery, & Rowe-Murray, 2002; Fisher, Feekery, & Rowe, 2004; Fisher, Rowe, & Feekery, 2004). The response rate in some of the studies was quite low; for example, 32% in the Giallo et al. (2011) study. There was considerable variation in reporting of programme characteristics, referral and discharge pathways. None of the studies reported were controlled studies but this kind of study would be difficult to conduct ethically. Consequently, improved outcomes reported at the longer-term follow-ups may have been the result of normal developmental changes leading to improvements, rather than the sustained effects of RPS interventions; which was an acknowledged limitation in all of these studies. Similarly, if mothers accessed mental health treatments during this time, improvements in this regard would also likely positively impact the infant behaviours, due to their increased capacities to cope, and regulate infant behaviour. When relevant to the study design, the authors attempted to compare findings to rates of improvement reported in community sample controls (Leeson et al., 1994), relevant interventions incorporating controls (Fisher, Feekery, & Rowe, 2004), or similar studies (Matthey & Speyer, 2008). In addition, Don et al. (2002) provided a “normal” infant comparator when exploring infant outcomes during the RPS admission. Phillips et al. (2010) and Matthey and Speyer (2008) also supported findings reflecting intervention benefits, as rapid changes were achieved over short-time frames, these were maintained over longer periods, and worsening of symptoms that could have also naturally occurred, did not arise. Whilst Khajehei and Finch (2016) did demonstrate that EPDS scores were

higher closer to giving birth than in the latter postpartum months, possibly reflecting regression towards the mean, differences were not statistically significant.

We also noted that the majority of participants were of higher socio-economic standing. Correspondingly, we are unable to extrapolate findings to all Australian women, especially to those from multicultural backgrounds, and/or living in remote and/or Indigenous communities. Nonetheless we hypothesize that similar issues would arise, and probably to a greater extent, due to the likely increased presence of psychosocial risk factors that have been shown to be associated with increased adverse parent/child outcomes.

4.2 | Implications for clinical practice and research

The fact that RPS are unique to Australia is curious as parenting difficulties in the first year of an infant's life are not unique to this country. Early intervention is well recognized as essential to ensuring the future development, health and well-being of the infant and the mental health of the parents. RPS provide an ideal environment to enable assessment and short-term intensive interventions; especially in countries such as Australia, where due to geographical distance the provision of social and parenting support can be limited or non-existent. Expansion of such services into major rural centres would reduce a disparity in equity of parenting service access. The recent COVID-19 pandemic also highlights the opportunity to examine the impact of RPS delivered in the home via telehealth.

Perinatal mental health issues are of increasing concern for parents with infants and young children. The review identified pre-existing risk factors associated with poor parental mental health and underscores the importance of routine screening and assessment and referral to services in pregnancy and following birth to ensure that women with additional psychosocial needs are supported. This requires a responsive service system with a skilled workforce in both the public and private health sectors. Many parents using RPS had received maternity care in the private sector (Dahlen et al., 2019). Research shows that women who give birth in the private maternity sector are less likely to receive depression screening and psychosocial assessment as a routine component of maternity care (Sims et al., 2020). Implementation of routine psychosocial assessment nationally requires organizational and multidisciplinary support for the programme; training and clinical supervision; allocation of sufficient resources; and access to local referral pathways (Higgins et al., 2018; Reilly et al., 2020).

Increasing the mental health skills in the RPS nursing workforce would also seem an essential action as an outcome of this review and the growing complexity of the mothers and families being admitted to RPS (Dahlen et al., 2019). Increasingly, nurses working in RPS require specialist knowledge and skills in infant and perinatal mental health as recognized in this review. The nurses' work goes beyond child health and parenting guidance when working with the complex presentation to RPS of parents and their young children.

An increased research and clinical focus are required to explore the needs and involvement of fathers during RPS admissions. While in practice father involvement may occur, the existing research does not portray this involvement, which may in part be due to fathers' perceptions of being undervalued by RPS staff (Cosson & Graham, 2012; Fletcher et al., 2017), along with seemingly prevalent levels of paternal psychological distress (Fletcher et al., 2017; Wynter et al., 2019a). An area requiring statistically significant consideration is the engagement of both indigenous Australian and multicultural families to ensure they have equal access to RPS. A review of the physical environment and engaging Aboriginal elders and cultural advisors to identify and develop strategies to accessing and accepting assistance from RPS or alternative more culturally appropriate services is needed. The development of early parenting programmes that are easy to access and have a focus on mental health promotion, infant settling and sleep and infant feeding during the antenatal period and early postnatal period need to be expanded to adequately prepare parents for the reality of parenting and steps they can take to ameliorate the issues that are likely to occur as new parents. As an early intervention strategy well-targeted parenting programmes have the potential to reduce the need for admission to RPS.

5 | CONCLUSIONS

Early intervention is now well recognized as essential to ensuring the ability to provide infants and young children with sensitive and responsive parenting. RPS provide a unique service for Australian parents experiencing dysfunction in their ability to parent their infants and young children. These services are predominately used by white, middle-class Australian parents, hence the requirement for RPS to pay attention to increasing access to more disadvantaged families or families from other cultures.

Findings demonstrate RPS have a moderating effect on maternal mental health and infant sleep and behaviour. A key issue identified is the high number of women using RPS who are experiencing psychological distress or mental illness. Early identification of issues and intervention is now identified as crucial to enabling parents to provide sensitive and responsive settling. More research is needed to assess impacts on fathers, and how to better engage their needs.

AUTHOR CONTRIBUTIONS

HD: conceived the study, defined the search strategy, reviewed papers for inclusion and contributed to writing the manuscript. SO: undertook a second search and refined the data synthesis and contributed to writing the manuscript. SB: undertook the first search of the literature and contributed to synthesis of the data and writing of the manuscript. CF: contributed to writing of the manuscript. VS: contributed to design of the review and contributed to writing of the manuscript. All authors read and approved the final manuscript.

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (<http://www.icmje.org/recommendations/>)]:

- substantial contributions to conception and design, acquisition of data or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

This is a review of the published literature, not research involving analysis of patient data. There is no need for a data sharing statement as there is no data. The papers analysed are publicly available.

ETHICS STATEMENT

As this integrative review included only previously published articles, no ethics approval was required.

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