

Exploring Cultural and Clinical Factors Contributing to Aboriginal and Torres Strait Islander Women's Resilience: A Study Utilising the Baby Coming You Ready Program.



Artist BCYR Research Participants and Trish Ratajczak

"Mothers Strength" 2023

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Thesis Declaration

I Patricia Ratajczak verify that in submitting this thesis; the thesis is my own account of the research conducted by me, except where other sources are fully acknowledged in the appropriate format, the extent to which the work of others has been used is documented by a percent allocation of work and signed by myself and my Principal Supervisor, the thesis contains as its main content, work which has not been previously submitted for a degree at any university, the University supplied plagiarism software has been used to ensure the work is of the appropriate standard to send for examination, any editing and proof-reading by professional editors comply with the standards set out on the Graduate Research School website, and that all necessary ethics and safety approvals were obtained, including their relevant approval or permit numbers, as appropriate.

Statement of Contribution

In accordance with the Murdoch University Graduate Degree Regulations, it is acknowledged that this thesis represents the work of the candidate with contributions from their supervisors and, where indicated, collaborators. The Candidate is the majority contributor to this thesis with no less than 75% of the total work attributed to their efforts.

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Preface

My thesis is to acknowledge the strengths and voices of Aboriginal and Torres Strait Islander women. In completing my thesis, I feel the need to share my worldview and contribute to the storytelling that highlights these strengths.

I am a proud Aboriginal woman, descendant of Mannalargenna chief of the Pairrebeene/Trawlwoolway Clan, Tebrakunna country Northeast of Lutruwita (Tasmania), mother, and midwife. Throughout my life, I have weathered significant identity struggles, trauma, and poverty. The trauma impacted my life from being removed from my mother as a child and placed in care, to experiencing horrific abuse that no child should ever endure.

Friends would often tell me I needed to write a book about my childhood and the horrors that I experienced. Often, the next statement would be, *"how are you ok?"*. My answer to this question always came down to resilience. I had a belief and inner strength that I wanted better future for myself and my children. I did not want to repeat the poverty cycle that I was deeply stuck in as a child. How did I overcome this you may ask?? I went out on my own at the tender age of sixteen with my ancestors in tow, got an education, and strived to make a better future for myself.

As I sit here writing my thesis, I am one of the many Aboriginal women who have bucketloads of resilience and self-efficacy that shine brightly despite significant adversity. Drawing on Aboriginal women's voices, including my own, I want this light to shine bright and for Aboriginal women's resilience to be recognised and acknowledged.

Abstract

Introduction: Limited evidence is available from Aboriginal and Torres Strait Islander (hereafter Aboriginal) women's perinatal perspectives, self-efficacy and resilience when perinatal mental health is assessed. Currently, perinatal screens and assessments focus on Aboriginal women's risks. This study has explored cultural and clinical factors contributing to Aboriginal women's perinatal mental health, using the *Baby Coming You Ready* (BCYR) digital platform.

Methods: The study was conducted on Noongar Boodjar (Perth, Western Australia) using an Aboriginal Participatory Action Research (APAR) framework. Quantitative and qualitative methods have been used to explore cultural and clinical factors contributing to perinatal self-efficacy and resilience from an Indigenous perspective.

As described by Bessarab and Ng'andu (2010) I have used the research yarning technique. The yarning technique encompassed different types of yarning and was chosen as a culturally safe data collection process to privilege Aboriginal women's voices. A total of eight Aboriginal women, who had completed BCYR in the ante/postnatal period were recruited by convenience sampling. Thematic analysis of the qualitative data was conducted by two Aboriginal and two highly experienced qualitative non-Aboriginal researchers using inductive and deductive coding, commencing with independent coding followed by member checking and consensus.

Quantitative de-identified data was drawn from specified images relating to domains of social, emotional, and spiritual wellbeing as selected by women during their assessment using the digital platform. The data comprised images selected by the women was extracted along with associated Kessler K5+2 scores from the total BCYR cohort (n=326). Descriptive statistics

(including frequencies and percentages) were used to summarise key variables and relative risk with 95% confidence intervals (CI) calculated for factors associated with a low/moderate K5+2 score.

Results: Quantitative outcomes strongly triangulated the qualitative outcomes. Six primary themes emerged from the qualitative data analysis revealing patterns of resilience in the qualitative cohort (n=8) alongside clinical factors that contribute to self-efficacy. Strengths-based quantitative analyses revealed several key factors associated with a low/moderate K5+2 score, with RR (95% CI) varying between 1.23 (1.01, 1.52) for women who had love and support during childhood and 3.03 (1.95, 5.26) for women who felt that they knew they make their family proud.

Conclusion: Findings confirm the BCYR program recognises and supports Aboriginal women's resilience, self-efficacy, and strengths in the perinatal period. It provides culturally appropriate ways of assessing and enhancing the mother's cultural strengths. The BCYR program has the potential to inform the implementation of effective, culturally safe care for Aboriginal women, children, and families to support enhancing existing strengths and address risks.

Recommendation: Embedding BCYR into maternity health care settings and policies will ensure strengths-based culturally safe care is provided to all Aboriginal women in the perinatal period to ensure improved maternal and infant outcomes and Close the Gap Targets One and Two.

Terminology

Aboriginal: Whilst Aboriginal and Torres Strait Island peoples are the recognised Indigenous, first nation peoples of Australia, throughout this thesis, the identification of Aboriginal and Torres Strait Islander peoples will be referred to as 'Aboriginal'. The use of this terminology is in alignment with the Western Australian Health Department definition. No disrespect is intended to Torres Strait Islander colleagues and Community (Department of Health WA Aboriginal Health and Wellbeing Framework 2015-2030).

Country: The term Country used with a capital 'C' refers to the deep and profound connection with the land, sea and waters as experienced by Aboriginal peoples. This connection is central to their spiritual and Cultural identity and has been maintained despite the devastating impacts of colonisation including the forced removal from their Country and of their children.

K5: This refers to the Kessler-5 measure of psychological distress. The K5 is a subset of five questions taken from the Kessler Psychological Distress Scale 10 (K-10) which was developed in 1992 by Professors Ron Kessler and Dan Mroczek (Kessler & Mroczek, 1992). The K5 was used in the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS); and the 2004-05 and 2011-13 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

K5+2: This refers to the K5 plus 2 additional questions identifying (i) inner happiness and (ii) anger towards self or others. These two additional questions were identified by Aboriginal people as being important to their mental health and wellbeing, during the development of both a) the National Aboriginal and Torres Strait Islander Health Survey (AIHW, 2009) and b) the *Baby Coming You Ready* assessment (Kotz, 2021).

Perinatal: This time frame spans from conception to 24 months after the birth of the child.

It is often referred to as the first 1000 days. This period holds immense significance as it lays the foundation for the lifelong physical and mental health of the infant.

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List of Acronyms

AIHW	Australian Institute of Health and Welfare
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies
APAR	Aboriginal Participatory Action Research
BCYR	Baby Coming You Ready
CAHS	Child and Adolescent Health Services
CI	Confidence Interval
DCP	Department of Child Protection
EPDS	Edinburgh Postnatal Depression Score
FDV	Family Domestic Violence
KEMH	King Edward Memorial Hospital
KMMS	Kimberley Mums Mood Scale
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
NHMRC	National Health and Medical Research Council
NIAA	National Indigenous Australians Agency
RR	Relative Risk
SEWB	Social and emotional wellbeing
WNHS	Women and Newborn Health Service

1. Thesis Introduction

1.1 Understanding Aboriginal health and wellbeing

Aboriginal communities have a holistic view of wellbeing, emphasising cultural strengths that promote resilience in women and their families (Dudgeon et al., 2014). Gee and colleagues (2014) describe the definition of social and emotional wellbeing for Aboriginal peoples as enhancing cultural strengths through connection to Country, spirituality, ancestry, kinship, strong community and culture to mitigate psychological distress.

Kinship, connection to Country, lore, cultural practices, art, language, music, and extended family are some of these strengths that promote self-efficacy, belonging, dignity, and respect (Hine et al., 2023). Interrelated factors such as cultural identity, family and kinship, Country and caring for Country, knowledge, beliefs and practices, are key determinants of health and wellbeing. These practices include language and participation in cultural activities and access to traditional lands. These key determinants affect health and social and emotional wellbeing of Aboriginal peoples individually and as a community (AIHW, 2023, Dudgeon, Bray, D'Costa & Walker, 2017; Commonwealth of Australia, 2020-21).

Current perinatal mental health assessments focus predominantly on Aboriginal women's risks and are driven by a Western biomedical model of health (Hine et al., 2023; Kotz et al., 2020; Marriott & Ferguson-Hill, 2014). While the Edinburgh Postnatal Depression Score (EPDS) is widely used as a screening tool for perinatal mental health in Australian maternity health settings (Cox et al., 1987), it has limitations in Aboriginal contexts (Chan et al., 2021; Kotz et al., 2016). Several studies confirm the EPDS fails to recognise the self-efficacy, strength, and resilience of Aboriginal women in the perinatal period. (Marley et al., 2017; Carlin et al., 2020; Kotz, 2021).

1.2 Research Aims

My research aimed to explore resilience, self-efficacy, and empowerment of Aboriginal women during their perinatal experience, and was conducted as part of a larger pilot study of Baby Coming You Ready (BCYR) - an innovative and new-generation digital assessment (Kotz, 2021). This study aimed to assess factors that contribute to the strength of Aboriginal perinatal women and identify if there are patterns of resilience evident.

1.3 Research Questions

- (i) What are the identified factors that contribute to the strength of Aboriginal and Torres Strait Islander women's perinatal mental health?
- (ii) Does Baby Coming You Ready identify strengths common to Aboriginal and Torres Strait Islander women and if so, are there patterns of resilience?

1.4 Hypotheses

The use of BCYR by Aboriginal and Torres Strait Islander women to identify factors and strengths that contribute to perinatal mental health is hypothesised to reveal patterns of self-efficacy and resilience.

1.5 Baby Coming You Ready (BCYR)?

The inception of BCYR began in 2013. It was co-designed on Noongar Boodjar (Perth, Western Australia) with and by Aboriginal communities from 17 differing Clans/Nations, Elders and Senior Aboriginal women and men, Aboriginal and non-Aboriginal practitioners, and Aboriginal and non-Aboriginal researchers. The BCYR digital platform is a new generation mental health and well-being assessment and screening process (incorporating patient/clinician jointly shared decision making and reflection); and is used by/with Aboriginal women in the perinatal period. BCYR is a therapeutic intervention that supports clients to

achieve their goals and directs care providers/practitioners to follow up with the women at subsequent appointments (Kotz, 2021).

BCYR is a therapeutic, culturally safe, and strengths-based program that engages the woman and practitioner through plain language and yarning. BCYR provides a strengths-based alternative to screening for family and domestic violence, mental health concerns, smoking, alcohol, and other drugs. Touch screen visual prompters on iPads and Aboriginal women's voiceovers guide women and health clinicians through specified domains of inquiry to 'gather the woman's story' (Kotz & Robinson, 2018). Figures 1 and 2 below shows the entry point into the BCYR program and the interaction between a mother and health clinician utilising the BCYR program.



Figure 1: Entry point into BCYR



Figure 2: Mother and clinician using BCYR



Figure 3: Strength Tree Image in BCYR

BCYR is designed to develop trust and engagement, identify and enhance strengths, and understand contextual factors in the life of the mother-to-be and how these might impact as assessment of risk. BCYR encourages open reflection and self-evaluation (Kotz & Robinson, 2018, Kotz et al., 2023).

BCYR aims to:

- (i) Empower the mother to have control over her perinatal care.
- (ii) Enhance her strengths and self-efficacy as a mother and woman.
- (iii) Keep families at the centre of care.
- (iv) Improve maternal and infant health and well-being outcomes.

2. Literature Review

2.1 Literature Search

A literature review was undertaken through consultation with a specialist librarian to address the study aim to identify the factors that contribute Aboriginal women's resilience, self-efficacy, and empowerment to support their perinatal mental health.

2.2.1 Data sources

Key data bases were identified and included Scopus, Google Scholar, PubMed, Pro Quest, and Informit. The key search terms were Aboriginal women AND perinatal mental health AND self-efficacy AND empowerment AND resilience, AND pregnancy strength, AND perinatal, targeting literature in peer reviewed journals in English language from 2013-2023. The search identified a small number of articles. As a result, the same search terms were used in Google Scholar identifying additional potential articles including grey literature.

Based on these findings an additional search related to perinatal screening and social and emotional wellbeing was conducted which elicited further articles.

2.2.2 Study Eligibility

Perinatal Indigenous and First Nation women in countries other than Australia were excluded from the literature review to ensure the focus was maintained on an Australian Aboriginal perspective. Despite the consistent use of search keywords through electronic databases, there were very few relevant peer-reviewed articles.

2.2.3 Study Selection

While the databases identified multiple articles relating to some search terms, most were unsuitable for the topic under investigation - Aboriginal women's perinatal mental health -

which also refers to self-efficacy, resilience, and empowerment. A total of 29 articles were initially identified. Following a title and abstract search of the identified articles, 26 articles were found that were within the last ten years and closely matched the topics of investigation. Four were focused on perinatal mental health; (Carlin et al., 2021, Lima et al., 2019, Marriott & Ferguson-Hill, 2014; Salter et al., 2020); one article explored Aboriginal concepts of resilience (Usher et al., 2021); three focused on perinatal empowerment (Garcia 2017; Chamberlain et al., 2019; Fiolet et al., 2023); eight were related to screening tools (Carlin et al, 2019, Carlin et al., 2020, Carlin et al., 2021; Carlin et al., 2022; Chan , Reid, Skeffington, and Marriott, 2021, Kotz et al., 2016, Kotz et al., 2018; Kotz et al.,2021; Marley et al., 2017), and two explored concepts of Aboriginal social and emotional wellbeing (Gee et al., 2014 and Kilcullen et al., 2018) and two articles examined transgenerational trauma in the perinatal period (Hoara et al., 2023 and Salter et al., 2020); one focused on midwifery continuity care models (Siversten et al., 2020); and, the remaining five articles focused on culturally secure care and services (Dudgeon and Walker et al., 2014, Hine et al., 2023, Marriott et al, 2019b and Marriott et al., 2020, and Marriott et al., 2021). The full texts were all reviewed and critiqued.

Support is crucial in the antenatal and postnatal care of Aboriginal women (Kotz et al., 2018; Kotz, 2021). Chan, et al 2021 identified there is an evidence gap in Aboriginal perinatal mental health.

From a clinical perspective, an inaccurate assessment or poor knowledge of a woman's mental health at the time of consultation can lead to inappropriate clinical and social support being offered to women. Chan and colleagues' research recommends caution on the use of EPDS due to cultural incompatibility, unreliability, and inaccuracy of the EPDS outcomes with

Aboriginal women. Cultural incompatibility is a large part of Aboriginal women's overall mistrust of health services, leading to the EPDS not being beneficial for Aboriginal women (Chan et al., 2021). The triangulation of the data collated by Chan et al., (2021) strengthened the recommendation for the adoption and/or review of the EPDS along with incorporating Aboriginal research design and methodologies into the future development of perinatal mental health screening tools.

2.2 Empowerment, Resilience and Self-efficacy

Supporting women's empowerment during the life-changing perinatal period can have a positive impact on the woman, the infant, and her family (Garcia, 2017). Empowerment is defined by Garcia (2017) as individuals making informed decisions to take control of their life and seek resources to support those decisions. The Aboriginal worldview of resilience is strongly tied to navigating adversity when faced by colonisation and maintaining a connection to country, community, identity, and social-emotional well-being (Usher et al., 2021). Self-efficacy is a concept introduced by psychologist Albert Bandura, which refers to an individual's belief and sense of confidence in their own ability to be able to influence and to take the steps necessary to make desired changes events and achieve specific and desirable outcomes to maintain a sense of control over one's environment (Bandura, 1997). He also refers to self-efficacy as an individual's belief in their ability to achieve and have confidence in accomplishing a goal.

2.3 Aboriginal perinatal mental health

The perinatal period can be a time of personal growth and healing, and studies have shown that providing culturally safe and trauma-informed care strengthens the empowerment of Aboriginal women (Chamberlain et al., 2019; Fiolet et al., 2023).

This narrative review examines Aboriginal women's perinatal mental health and explores the factors required for women to maintain a sense of self-efficacy and empowerment throughout complex circumstances during pregnancy and after the infant is born.

Accessing healthcare services "often results in high levels of fear and anxiety, and low attendance at subsequent appointments among Aboriginal women, due to inefficient communication, poor service coordination and a lack of continuity of care." (Sivertsen et al., 2020, p.829). Aboriginal women's initial engagement in such culturally unsafe services often leads to disengagement (Marriott et al., 2019b; Kotz, 2021).

Aboriginal women's disengagement is particularly true in respect of perinatal mental health screening. The risk of a diagnosis of poor perinatal mental health, such as depression and/or anxiety is a real concern for many women (Marriott & Ferguson-Hill, 2014). However, depression and/or anxiety are the most prevalent mood disorders associated with giving birth and are common within the first-year post-childbirth (Kotz, 2021; Marriott & Ferguson-Hill, 2014). Poor perinatal mental health is a contributing factor to pre-term birth, low birth weight, and poor maternal-infant relationship bonding (Carlin et al., 2021).

The occurrence of perinatal mental health disorders in the Aboriginal and Torres Strait Islander populations is 19%, compared to 9% for non-Aboriginal pregnant women (Chan et al., 2021). Aboriginal women and families experience a significant burden of adversity influencing maternity outcomes. Several studies have shown that the significant burden is due to the continued impact of colonisation, transgenerational grief and loss, racism, and discrimination (Chamberlain et al., 2019; Dudgeon, Walker et al., 2014; Haora et al., 2023; Salter et al., 2020; Usher et al., 2021).

The reductionist biomedical health system approach focuses on assessing de-contextualised health behaviours. It lays the responsibility at the feet of the individual. It fails to prioritise or meet Aboriginal women's cultural strengths and needs (Marriott et al., 2020). Failing to recognise this perpetuates the impacts of colonisation. Women are also alienated by the impacts of power inequities in health services which are a result of imperialism.

2.4 Screening measures of Aboriginal perinatal mental health

As an experienced Aboriginal midwife and more recently a researcher who has worked extensively with Aboriginal pregnant women, it has frequently been stated that the Edinburgh Postnatal Depression Score (EPDS) is not culturally safe or appropriate to be used with Aboriginal women. My observations are confirmed by several studies (Carlin et al, 2021; Chan et al., 2021; Kotz, Marriott & Reid, 2021). Aboriginal women frequently feel marginalised and disempowered using the EPDS and there is no evidence to support its validity in this population group (Kotz et al., 2021; Chan et al., 2021).

The EPDS is a risk score-based screening tool intended to be used in the detection and prevention of women with perinatal mental health involving anxiety and depression (Chan, et al., 2021). The Centre of Perinatal Excellence (2021) acknowledges EPDS scores are recorded as being lower in Aboriginal women, indicating a low risk of anxiety and depression. However, the evidence of poor mental health among young Aboriginal women suggests otherwise. A recent Western Australian linked data study found 30% of Aboriginal babies were born to mothers with a hospital admission for mental health problems in the years leading up to their birth (Lima et al., 2019). Cultural considerations such as women's mistrust in health services need to be considered in the use of the EPDS in relation to skewed EPDS

results. Chan et al., (2022) and colleagues recognise the EPDS is not culturally validated for use by Aboriginal women.

Based on clinical use and research evidence, it can be argued that the EPDS lacks recognition of the self-efficacy, strengths, and resilience of Aboriginal women in their maternity journey and post-birth of the infant (perinatal period). The EPDS is seen by Aboriginal women as a tick-box exercise and is often linked with the anxiety of being referred to a clinical psychology and social work department, or, not provided with any follow-up at all.

Aboriginal women commonly decline to complete the EPDS due to its lack of an Aboriginal cultural perspective. Combined with the historical context of perceived poor mental health during pregnancy and minimal antenatal care, perinatal mental health screening is also associated by many Aboriginal women with the removal of their children from their families. Aboriginal infants admitted into care in 2019-2020 was ten times higher than non-Aboriginal infants confirming Aboriginal women's concerns (Hine et al., 2022).

The (EPDS) is commonly referred to as the current gold standard of perinatal mental health screening in healthcare used to identify women at risk of depression and/or anxiety in the perinatal period (Kotz, 2021). A study by Kotz et al., (2016) identified that the EPDS focuses heavily on deficit risk factors during perinatal mental health screening and is not currently validated for Aboriginal women. Kotz and colleagues conclude that using a strength-based approach to mental health screening is more likely to holistically and accurately assess the social and emotional well-being of Aboriginal mothers and the health outcomes of their infants (Kotz, 2021).

Perinatal mental health screening is further exacerbated by the cultural biases held by clinicians about Aboriginal women (Marriott et al., 2021). For example, clinicians tend to focus

on adverse risks rather than the strengths of Aboriginal women, leading them to make assumptions about women's perinatal mental health.

2.5 Perinatal risk and protective factors

Carlin et al., (2019) examined protective factors in relation to risk factors in Aboriginal perinatal mental health using an adapted EPDS, known as the Kimberley Mum Mood Scale (KMMS) with (n=91) Aboriginal women in the Kimberley. The KMMS was developed with the intention of improving perinatal mental health screening with Aboriginal women (Marley et al., 2017). Psychological protective factors identified in the study by Carlin et al., (2021) included self-regulation, self-esteem, intimate relationships, and a good childhood. Aboriginal women with an absence of these protective factors were associated with having a higher risk of perinatal mental health disorders using the KMMS (Carlin et al., 2021). Family-based support was identified as the strongest protective factor (64%) (Carlin et al., 2021).

Risk factors correlated to diagnosing perinatal mental health disorders were family stress, lack of emotional regulation and intimate family violence. Carlin and colleagues' study relied on a small sample size which they noted made it difficult to ascertain the effect of individualized protective factors along with the possible biases pertained from the qualitative data collated.

Nonetheless, Carlin et al., (2021) showed that protective factors such as strong support and family are contributors to Aboriginal perinatal women's resilience and mitigate the risk of developing a perinatal mental health disorder. These authors concluded that protective factors need to be considered and adopted in the screening of perinatal mental health for Aboriginal women (Carlin et al., 2021). Their findings reinforced an earlier study by Kilcullen and colleagues (2018) who recognised the importance of Aboriginal women's strengths and values in having a strong cultural linkage to identity.

2.6 Aboriginal perspectives of resilience and wellbeing

Usher et al., (2021) adopted a decolonising approach in their scoping review focusing solely on studies of Aboriginal perspectives of resilience and mental health and wellbeing, reiterating the importance of acknowledging Aboriginal culture, strength and belonging contributing to Aboriginal resilience and self-efficacy. Importantly, several Aboriginal researchers, Elders, and Aboriginal Advisory groups informed and contributed to the scoping review methodology providing a context that is focused and specific to Aboriginal peoples' worldviews (Usher et al., 2021).

Aboriginal leadership in academia is of the utmost importance to guide Aboriginal research. Both the studies by Usher et al., (2021) and Kotz et al., (2021) shared methodological approaches of decolonisation contributing to the cultural credibility of the reviewed research. Collaborating authors included Aboriginal research leaders in the data analysis, interpretation of the findings and manuscript development enhancing the authenticity and cultural credibility of the studies.

Usher et al., (2021) identified resilience in relation to global Indigenous communities lacks relevance to the Australian Aboriginal context. The lack of research relating to Australian Aboriginal people's worldview of resilience and self-efficacy confirms the need to capture Aboriginal women's ways of knowing and being. Further research is required to bring the spotlight on the strengths Australian Aboriginal women have and continue to hold throughout the adversity of colonisation and racism. Usher et al., (2021) confirmed the need to identify and build upon Aboriginal women's strengths and self-efficacy specific to perinatal mental health. Supporting and uncovering Aboriginal women's perinatal self-efficacy and resilience through an Aboriginal woman's worldview during her maternity journey, is vital to improving

social and emotional wellbeing. Protective factors can have a mitigating impact on Aboriginal women developing clinical depression and anxiety during the perinatal period (Carlin et al., 2021).

2.7 Conclusion

There is limited available research evidence from Aboriginal women's perinatal perspectives, relating to their own self-efficacy and empowerment in the assessment of perinatal mental health. Self-efficacy, resilience, and empowerment are critical features of strong social and emotional well-being. Aboriginal women have identified a contributing factor to disengagement from health services can be a reflection of imposed clinician's cultural biases and racism (AIHW, 2022; Goodman et al., 2017; Kotz et al., 2016). Aboriginal women are frequently assessed and considered for their risks, whilst culturally inappropriate perinatal mental health assessments limit the recognition of their strengths as women and mothers, contributing to their reluctance to participate in optimum perinatal care.

Providing culturally safe and secure health care with a strength-based approach is required to reduce pregnancy-related complications and to increase the social and emotional wellbeing of Aboriginal women. Ensuring clinicians have the knowledge, skills, and commitment and assessment resources to provide culturally secure care may potentially lead to increased engagement with health services by perinatal Aboriginal women. Engagement in culturally safe perinatal mental health assessments that recognise the importance of identifying cultural strengths and self-efficacy is vital to improving health outcomes for Aboriginal mothers and their infants.

3. Methods

3.1 Study Context

This research study was undertaken within and has continued since the completion of the larger pilot study. The BCYR pilot commenced October 2021 and finished in June 2023. Ongoing negotiations are taking place with key health stakeholders and the Western Australian Health Department to ensure the BCYR program will be embedded as practice as usual across the majority of the pilot sites and throughout Western Australia.

The BCYR pilot sought to demonstrate acceptability, feasibility and fidelity of the program at several metropolitan and some regional Western Australian sites.

3.2 Cultural Governance

The BCYR Program, which commenced in 2013, has actively collaborated with the Aboriginal community over this time with the Aboriginal Lead Research Advisory Group, an Elders Cultural Safety Group, and an Aboriginal Working Party Group to ensure co-design of the research, governance, accountability, evidence gathering, and analysis of BCYR. These governance groups were complemented and led by the Aboriginal Elders Advisory Council and Kaadininny Aboriginal Advisory Board at Ngangk Yira Institute for Change.

Through active engagement with the community and in consultation with the working groups, it became apparent that there is a need to recognise the cultural strengths of Aboriginal mothers and address the risk deficit narrative and cultural biases commonly found in healthcare. I shared my desire with the Elders and the Aboriginal Lead Research Advisory Group to conduct this research and they offered consistent advice and cultural governance on the development of my research project.

3.3 Ethics

This study was conducted as part of the BCYR pilot with existing ethics approvals applied. All research phases, including this project, were approved by the Murdoch University Human Research Ethics Committee (Approval: 2013/202); the Western Australian Aboriginal Health Ethics Committee (Approval: 553/20170519); the Women and Newborn Health Service/KEMH Human Research Ethics Committee (Approval: WNHS-2014062E- RGS2649); the St John of God Human research Ethics Committee (Approval: E1162) and the Western Australian Country Health Service Human Research Ethics Committee (Approval: RGS-2649). Site Specific Agreements were obtained from Child and Adolescent Health Services (CAHS) and East Metropolitan Health Service (Armadale Hospital).

3.4 Study Design

The research study design incorporated both qualitative and quantitative data within an Aboriginal Participatory Action Research (APAR) framework (Dudgeon, Bray, Darlston-Jones, Walker, 2020b) and incorporated decolonising approaches through the use of Aboriginal research methodologies (Chamberlain et al., 2019, Dudgeon et al., 2020b). In response to the enduring colonial legacy of research which often silences Aboriginal peoples, Aboriginal research methodologies and methods have been adopted to shift the Western construct of research to privilege Aboriginal ways of knowing, being and doing (Kennedy et al., 2022; Martin & Mirraboopa, 2003).

APAR can contribute to ensuring Aboriginal women's voices and worldviews are foremost. APAR seeks to empower Aboriginal communities and address power imbalances that are a direct result of colonisation (Dudgeon et al., 2020b). Recognising and partnering with Aboriginal women to share their cultural knowledge and ways of being, and to restore balance

and healing, is imperative in the reclamation of Aboriginal cultural knowledge systems (Dudgeon et al., 2020b).

Figure 5 below illustrates the distinctive research approach, that encompasses Aboriginal knowledges (Epistemology), ways of being (Ontology) and doing, and value systems (Axiology) and methodologies.

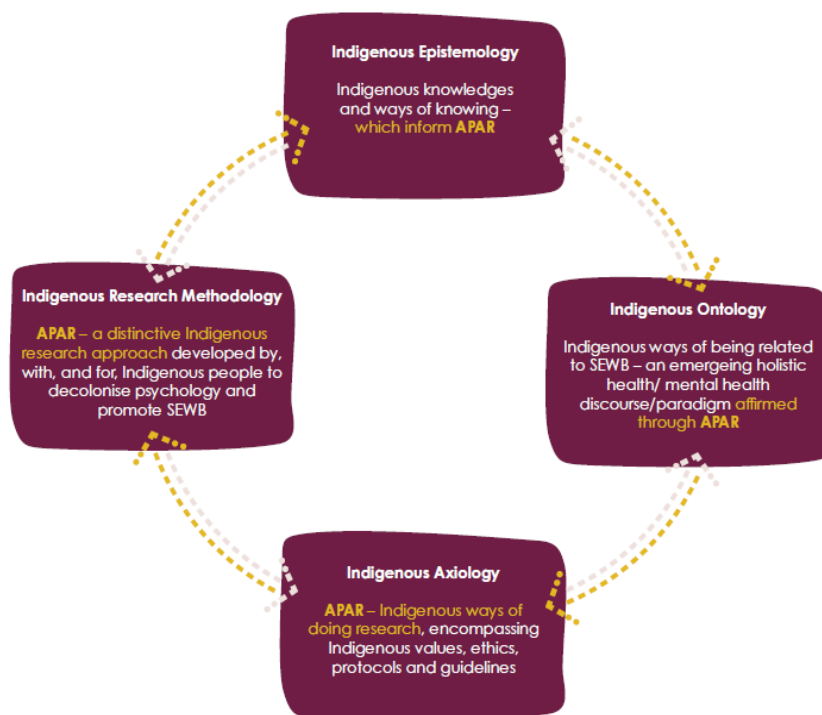


Figure 4: The four interconnected components of APAR

Image used with permission from Dudgeon et al (2020b) “*Aboriginal Participatory Action Research: An Indigenous Research Methodology Strengthening Decolonisation and Social and Emotional Wellbeing*”.

3.5 Qualitative Data Collection

Yarning was chosen as the most appropriate methodology to explore the research questions with Aboriginal women. According to Bessarab and Ng’andu (2010), who first initiated yarning as a legitimate and culturally safe Indigenous research methodology, there are four different

types of yarning: 1) 'social yarning', an informal discussion at the beginning of process with participants that assists in developing a relationship; 2) 'research topic yarning', a more focused conversation about the topic of interest which occurs during the research process; 3) 'collaborative yarning', where two or more people actively engage in sharing information about the research project (which may also occur in the dissemination of findings phase); 4) 'therapeutic yarning', where participants willingly disclose personal information including referring to a past or recent traumatic or emotional events (Bessarab & Ng'andu, 2010 p. 40).

Each of these four types of yarning were used seamlessly in most interviews with participants in this research. Research topic yarning with participants involved identifying cultural strengths and how these identified strengths impact individuals during the perinatal period. Social yarning was used to safely engage with the women through this research to explore the research questions proposed through yarning. I applied yarning as a decolonising approach to encourage the participants to share their story and lived experience, in line with cultural protocols (Kennedy et al., 2022). Yarning is both an Aboriginal cultural practice that allows a relaxed informal sharing through storytelling (Lin et al., 2016) and a legitimate and rigorous research method (Bessarab and Ng'andu 2010). Yarning was the chosen method as it is a rigorous Aboriginal methodology and is a preferred practice over semi structured interviews to conduct the sharing of information between researcher and Aboriginal participants (Lin et al., 2016; Bessarab & Ng'andu., 2010).

3.6 Recruitment

Recruitment into the qualitative data collection of this research used convenience sampling. Aboriginal women who utilised the BCYR Program during their perinatal care at the BCYR pilot sites from May to October 2023, where given the option by their health clinician to participate

in the research. The health clinician implemented the BCYR digital platform with a mother antenatally and/or postnatally. Upon completion of BCYR, the clinician invited the mother to be involved in the study with the use and guidance of the BCYR research information pamphlet (see Appendix 1). The clinician explained to the mother that the research was voluntary, and a recorded yarning session would be conducted by an Aboriginal midwife/researcher.

After women had read the pamphlet and verbal consent was given to be included in the research, the healthcare professional contacted the Aboriginal researcher to further connect with the woman via telephone to arrange a face-to-face yarn.

The initial aim was to recruit 10 women into the study however, due to limitations in timing, eight Aboriginal women were recruited through convenience sampling. Participants comprised women who were either pregnant or had a child in the last two years. No relationship between the researcher and the participants existed prior to inclusion of the participants in the research.

Women were invited based on their accessibility and availability to yarn through the BCYR pilot in the sites around Perth.

Convenience sampling has its limitations as it introduces motivation biases, and it is acknowledged the women who participated were highly motivated to be included in the research (Stratton, 2021). However, several strategies were used to overcome these limitations through culturally appropriate and sensitive methods such as completing yarning in the homes of the women and building participant engagement by developing trust through deep listening (a highly valued Aboriginal method) and yarning.

Upon the participant's agreement to be involved in the study, the clinician contacted the researcher with the participant's contact details. I then liaised directly with the participant via the phone to arrange a suitable time and location to conduct the yarning session.

Each woman was given the preference regarding the location she would feel most comfortable to conduct the yarn. One yarn was conducted over the phone due to regional location limitations to meet in person, another interview was conducted in the woman's home and the remaining six yarns were conducted at local metropolitan BCYR pilot sites.

Prior to conducting the yarn with the participant, a consent form was signed (see Appendix 2) with the support from the researcher highlighting the information below:

- Voluntary participation in the study.
- Explanation and purpose of the research.
- Withdrawal from the study at any time.
- Consent to the audio recording of the yarning session via Microsoft teams.
- Name and identity will be stored separately from the data, and only accessible to the investigators. All data collected will be analysed anonymously using codes.
- Information provided is treated with confidentiality and de-identified.
- Returning of completed transcriptions for review and additions/deletions if required.

All yarns were audio recorded and transcribed verbatim. Transcripts were de-identified and returned to each woman for their information and confirmation that they were happy for their de-identified information to be included in the analysis and reporting. The women responded positively in receiving their transcripts and wanted to keep them to pass on to their children.

In accordance with the National Statement on Ethical Conduct in Human Research (NHMRC, 2018) and APAR and acknowledging the importance of reciprocity in Aboriginal culture, participants were offered a gift or a gift card to the value of \$50 as a thank you for participating and contributing their knowledge, perspectives and experiences to the research.

The yarns took between 30–45-minutes and were guided by open ended questions.

Examples of the yarning questions:

“What keeps you strong during your pregnancy/after birth?”

“Can you share or describe what cultural practices you use to help keep your spirit strong?”

“How do these cultural practices support you during your pregnancy?”

“How do you think cultural practices or strengths can contribute to keeping you strong and deadly?”

“How do you think health professionals can better support your spirit to help keep you strong?”

“Are there any cultural strengths not on the BCYR rubric? If so, what you like to expand further?”

On meeting with the participant in her chosen location an overview of the research commenced with a social yarn, which established trust and engagement. Participants were shown the yarning questions that would loosely guide the yarn and I answered any questions that arose. The reason for doing this was to ease the participants nervousness about participating in the research.

The environment was set up for myself and participant to sit close to one another to allow me to be responsive and alert to the participant's needs and non-verbal cues. Being able to monitor signs of distress allowed me to offer comfort, empathy and reassurance to ensure a positive experience and interaction.

During the yarning sessions using social yarning enabled me to quickly establish a rapport with the women. For example, sharing my own connections to my culture, family, and Country, along with the use of humour and being open in disclosing my own life experiences. This allowed women to feel comfortable with the process and engaging in the research topic yarning. I was passionate in sharing my reasonings for wanting to conduct the research. To ensure the women's voices were heard in recognising our strengths and resilience as Aboriginal women in the face of colonisation and, for some families', intergenerational trauma. I felt that in sharing and being vulnerable in yarning alongside the women provided a culturally safe and secure space for the women to openly share if they chose too. Following on from the social yarning we entered therapeutic yarning using the questions as a guide.

On completion of the yarning session, I often felt a sisterhood with the women. Wanting to give back to the women through reciprocity I invited the women to an afternoon tea that involved art, family, food, and yarning with other mothers/participants. The afternoon tea was a time to come together to celebrate and share in the research findings. During the afternoon tea and collaborative yarning session a collective art piece was completed to acknowledge and reflect on the research findings (see the front cover art). On completion of this highly engaging process the women were excited to be able to take their individual art pieces home, they also chose to gift the collaborative shared art piece to a BCYR pilot site. The gesture was warmly received by all the staff at the BCYR pilot site.

3.7 Qualitative Analysis

Aboriginal women (n=8) aged between 22 to 44 years of age participated in the research process. Four participants were first-time mothers and the other four women had more than one child.

Thematic analysis, as described by Braun and Clarke (2006), is a robust method to identify patterns and themes in the qualitative data collected. Thematic analysis was chosen as the preferred method of analysing the data as it allows for the exploration of lived experiences of Aboriginal mothers that is culturally appropriate, sensitive, and consistent with APAR principles and processes (Dudgeon et al., 2020b). Thematic analysis is an iterative process, acknowledging emerging themes that may need to be refined as new data is collected, to ensure that new insights are collated to effectively answer the research question (Braun & Clarke, 2006).

The eight yarning interview transcripts were deidentified, transcribed and individually coded by me and reviewed and coded by two non-Aboriginal supervisors, both highly experienced in qualitative research in Aboriginal contexts. Two group analysis sessions with myself, my supervisors and a leading Aboriginal academic assisted to consolidate the thematic analysis. Emergent themes and initial impressions collated from the participants' yarns were further reviewed and confirmed by three health clinicians and a clinical psychologist.

This systematic approach enabled consensus descriptions of the emerging themes with robust Aboriginal lenses informing the analysis. Collaborative yarning as a team clearly identified emerging themes. Through collective yarning as a group, the coding was discussed with emerging commonalities and patterns of codes reoccurring in the qualitative data. Any differences were discussed, and a collective decision was made to clarify the thematic coding.

Data was subsequently uploaded and analysed in NVivo to be refined further to identify patterns, connections, and relationships between the themes (QSR International, 2021).

Thematic analysis was approached through the process of inductive and deductive coding based on the research questions proposed in this study. Codes were developed based on the

seven domains of social and emotional wellbeing (SEWB) outlined in the conceptual model articulated by Aboriginal psychologist Gee and colleagues (2014) as depicted in the figure below. The SEWB model is also formally recognised in state and national health and mental health policy frameworks and practice and on the basis of broad discussion with the project supervisors.



SEWB Diagram adapted from Gee et al., (2014)

Figure 5: Social and Emotional Wellbeing Model

Figure 6 above illustrates how individual, family and community SEWB is influenced by connections to body, mind and emotions, family and kinship, community, culture, Country and spirituality, as well as the interplay of the social, cultural, political and historical determinants (Gee et al., 2014).

Initial themes for this research drawn from yarning with the women included all of social and emotional wellbeing domains, as well as additional concepts related to Self - including identity, self-efficacy, empowerment, resilience and relationships with health clinicians:

- Connection to Community
- Connection to body
- Connection to mind and emotions
- Connection to family and kinship
- Connection to culture
- Connection to spirit, spirituality, and Ancestors
- Connection to Country
- Identity
- Resilience
- Empowerment
- Relationship with health clinician

These themes were subsequently refined and are reported in the findings.

3.8 Quantitative Data Collection and Statistical Analyses

3.8.1 Quantitative data collection

Quantitative data was collected from the comprehensive BCYR Program database, with a focus on images selected from the BCYR rubric strongly associated with the analytical findings of qualitative data. Each image in the BCYR rubric is associated with quantitative data. For this component of the study, data collected as part of the BCYR pilot, from the beginning (September 2021) to October 2023, were used. This involved Aboriginal and Torres Strait Islander women's self-selected images with associated quantitative data.

3.8.2 Quantitative analysis

The quantitative analysis was undertaken by me, and a quantitative epidemiologist employed at Ngangk Yira Institute for Change. The epidemiologist's expertise in STATA 18 and R enabled him to run the required analysis and his guidance greatly assisted me in analysing and

interpreting the quantitative data. After removing duplicate and incomplete data (n = 24), erroneous cases (e.g., completed in less than 10 minutes) (n = 1), and non-Aboriginal women (n = 18), the final number of BCYR completed sessions from the pilot sites was (n=326).

Relevant factors (images) included were:

Table 1: Relevant Factors selected by women in BCYR digital platform.

Solid Family support	 Solid strong support		
Grew up with and by mother	 My Mother		
Grew up with and by grandmother	 My Grandmother		
No problems with mother	 No problems with mother		
No problems with family	 No problems with family		
No problems with friends	 No problems with friends		
My partner supports me emotionally	 Supports me emotionally		
Happy in myself	 Happy in myself	 Proud & happy	
I know I make my family proud	 I know I make my family proud		
When I was young...	 Love and support	 Strong family	 Happy childhood

These were dichotomised in to yes/no. Women's level of psychological distress was measured using the Kessler 5 psychological distress scale population (McNamara et al., 2014) with two supplemented by two questions assessing frequency of happiness and angry feelings (Haswell et al., 2010). The total score ranges from 7 to 35 and categorised into low distress (8-11), moderate (12-14), high (15-24) and very high distress (24-35).

Descriptive statistics (including frequencies and percentages) were used to summarise key variables. A chi-squared (χ^2) test was used to compare the distribution of selected factors across the Kessler-5+2 categories. The collective cross-tabulation was used to assist with understanding the distribution and the relationships between the different variables of interest (Walliman, 2017). Descriptive analysis helped to identify any trends or patterns in the data. By using this method, the research is accurately and appropriately represented, and the findings are accessible and highlights the women's strengths.

Generalized Linear Models were used to examine the crude associations between selected cultural and clinical factors and the Kessler psychological distress scale (K5+2). The K5+2 categories were collapsed into low/moderate and high/very high for the regression analyses. Following the strengths-based approach, relative risk (RRs) with 95% confidence intervals (CIs) were calculated for factors associated with a low/moderate K5+2 score. Data management and statistical analyses were conducted using STATA 18 (College Station, TX: StataCorp LLC) and R. The quantitative data analysis results were used to triangulate the thematic outcomes.

3.9 Data Management

The data management processes, and Aboriginal governance and reporting structures were rigorously followed with respect to the analysis, sharing and storage of both qualitative (recording and transcriptions) and quantitative data. These processes are in accord with

Murdoch University ethics protocols and NHMRC ethical guidelines (NHMRC, 2018). All protocols on the storage of participant data were complied with; this included data being maintained on a password protected computer and drive and maintained in a secure facility on the grounds of Murdoch University. Access to all BCYR data is restricted to authorised researchers who have ethics approval.

Further, in line with Aboriginal data sovereignty principles all de-identified transcriptions were returned to research participants, who were given the further option to delete data they did not want in the research or withdraw from the project. They were also offered the opportunity to provide further insights into the project. While all the women were appreciative to receive their transcripts, none of the women felt the need to make or remove any changes to their yarns. However, throughout the collaborative yarns the women were openly sharing their life stories and experiences to share and pass onto their children. Women were actively wanting to participate and wanting to share their voices to create change, reinforcing the importance of this research.

4. Comprehensive Research Results

The following chapter describes the qualitative and quantitative results from the study, that address the research questions identified in the introduction. It outlines the main themes identified in the thematic analysis of the qualitative data (n=8 women) and how these are corroborated by the findings of the quantitative analyses (n=326 women). Comprehensive examinations of the quantitative data using descriptive and regression-based analyses highlights the associations between the self-selected strengths-based images in the BCYR digital platform and the K5+2 score.

4.1 Study Participants

Aboriginal women (n=8) aged between 22 to 44 years of age participated in the qualitative research process. Four participants were first-time mothers and the other four women had more than one child. One woman identified as Aboriginal and Torres Strait Islander and the other women identified as Aboriginal from differing clan groups within Australia.

4.2 Qualitative Findings

As part of the decolonising research approach adopted throughout the data analysis and interpretation, I have drawn on the Social and Emotional Wellbeing Framework articulated by Gee and colleagues (2014). This framework outlines the seven domains that contributed to Aboriginal mental health and social, emotional, and spiritual wellbeing. The analysis confirmed that all the women referred to some of these domains when yarning about their experiences in using BCYR. Not surprisingly, when yarning about their identity most women identified connection to culture, Country and family/kin as key cultural strengths that emerged through self-reflections and yarns with clinicians. The yarns with women revealed the complex interplay of overlapping concepts within the major themes. The yarns through

this research highlighted the women's strengths, identity, resilience, and self-efficacy through the use of BCYR.

The qualitative analysis identified 6 themes, two of these with subthemes. These themes and subthemes revealed factors and strengths that contribute to supporting perinatal mental health and are described in detail below.

- Theme 1: Strengthening Identity-reconnecting to Culture
- Theme 2: Connection to Kinship/family
- Theme 3: Connection to Country
- Theme 4: Connection to Culture
- Theme 5: Resilience and Self-efficacy
- Theme 6: Women's experiences using BCYR

-Strong partner support

-Suggested Improvement for BCYR

-Women's experiences using EPDS

4.2.1 Theme 1: Strengthening Identity-reconnecting to culture.

All of the following participants used the BCYR digital platform either with their midwife while pregnant or with their child health nurse after their baby was born. A common theme for most participants was their sense of identity. Each of the participants disclosed their strong connection or personal struggles with their identity as Aboriginal women. An unexpected finding in my research was the use of the BCYR digital platform assisted in cementing a sense of cultural identity for the majority of the participants.

Participant 3: Utilised BCYR in the postpartum period through her child health nurse. She is a first-time mum with a young infant. She has strong family/partner support and has grown up strongly immersed in her Aboriginal culture and identity.

Through the use of BCYR the participant identified the importance and strength of not only her identity but also that of her child and family identities.

“My cultural identity I'm carrying on my line. I'm carrying my grandmother's line. I'm carrying on my parents line, so culturally that's gives me a strength. I get to grow up my child and teach them what I did as a kid and what our culture is and where we come from and where our country is, because that stuff that I all know and that's something that like culturally helped me throughout my pregnancy”. (Participant 3)

The participant went on to share the impact of racism on her identity and the relief BCYR offered her.

“I grew up in a school that had no black fellas in it so it was pretty lonely at times, everything was European based and nothing was very sensitive to Black Fellas and this is.. we are going to focus on European and First Nations people don't really matter. It was pretty intense, so it is reassuring that [BCYR] is Indigenous run and it makes me feel at ease.... I'm Black history!! It's reassuring to see it's Indigenous run from growing up...in saying that doesn't mean that we didn't have strong identity but it was sad as we had no one to share it with...in our childhood.... Me and my brother and sister were the only Black fellas in the school and we have strong identity than most black fellas because we actually have country to go back to and hunt on”. (Participant 3)

Participant 6: Is a first-time mum who completed BCYR with her midwife whilst her partner was present. She is married and disclosed strong family support. The participant grew up in a strong Aboriginal family. During her pregnancy she struggled with anxiety.

“Preparing for baby. It's such a new experience, and I've lived, you know, just looking after myself. So it was kind of that next stage of how I will be as a mum but also as like a partner and as a sister and how that will change my identity a little bit.... so I think it's just the fear of the unknown. That's me and I'm an overthinker too sooooo I will dwell on stuff, which is obviously really, really horrible for my mental state, but I've identified that (through BCYR) and I'm kind of just looking at other avenues to manage it... I know that I've had that for my whole life. I'm just being very, very overthinker....but it did get me thinking around. You know, it [BCYR] actually showed all the good stuff I have and

all the supports I actually do have. It's like it's gonna be OK. It's gonna be fine. You know". (Participant 6)

Participant 1: Is a mother of three children and was pregnant with her fourth whilst using BCYR with her midwife. She has a new husband. With her ex-partner she was previously subjected to family domestic violence and significant trauma. Her grandmother was removed as part of the Stolen Generations, and this has shaped her strongly as an Aboriginal woman. She also has a strong family and cultural ties to her Aboriginal identity.

"Yeah, things are probably we wouldn't generally speak about were in there [BCYR] and brought up like just those things like how mum took us to another town to give us a better life.....So our identity. That's really hard".

When reflecting on her previous pregnancies in relation to her trauma due to domestic violence along with the fear of child removal, the woman stated her concerns in relation to Department of Child Protection (DCP).

.... I had to prove myself too [to DCP], you know that I'm a good mum. And then it gets me concerned because of little things like what I might do, like taking a six-week-old out bush, might not be ok for DCP..... but that's our identity. I feel like we're looked down on, but our values, I mean we are family orientated people. Aboriginal people they are very family orientated people". (Participant 1)

Participant 4: Is a married mother of one and was about to birth her second child when she used BCYR with her midwife. What came strongly through her yarn was the loss of her cultural connection and identity. She felt BCYR gave her a new sense of connection to her Aboriginal culture.

"I think it was the first question with the maps [AIATSIS map in BCYR digital platform]. Yep, it kind of smacked me in the face. And because we don't know a lot about where we come from, we know back as far as my great grandma. Umm, but my dad was quite estranged from his mother and he kind of denies the Aboriginal heritage a lot, so it's extremely hard to trace and their family is quite broken as well, which from my

experience is quite common. So given over 50% of children are, you know, in care are Aboriginals, so I know that's something that a lot of people are experiencing themselves. So that kind of made me stop in my tracks and go ohh this is quite confronting immediately". (Participant 4)

She reflected that she had previously and unconsciously seen herself as a white woman, as not being accepted in her culture and experiencing racism. Through the journey of using BCYR she felt increasingly validated and stronger in her Aboriginal identity.

"I am a white woman and I very much look like my mother [laughing]..... On my dad's side, it's very obvious that they are Aboriginal. And my sister takes after my dad as well....I hate to compare myself at all to darker skins people, but I have grown up with a different type of racism that I wasn't accepted into my culture... We want to fit into where you apparently have come from. But people keep telling you don't fit in that square. You're a circle...I know a lot of Aboriginal people do feel quite disconnected and don't feel necessarily very well cared for in the public system and things like that. So and I know I had that experience with my first, I didn't feel very well cared for. And I think if this [BCYR] helps make them [Aboriginal women] feel more comfortable and brings them closer.... to bridging that gap, I think that's fantastic. So I think you're doing a great job [with BCYR]" (Participant 4)

Participant 5: Is a single mother to one child and another on the way. She has experienced anxiety and depression throughout her pregnancy along with a number of concerns with her ex-partner's mental health and drug misuse. She discussed her strengthened cultural connection through the use of BCYR.

"It was awesome [BCYR] like.... I love to sit down and look at the artwork like this kind of stuff [Artwork images in BCYR]. And then when you have them popping up in the app, you've got the aunties talking to you, artwork popping up and you just literally felt connected. It was awesome...cause I've been disconnected for so long"

Through using BCYR she was able to identify with the many strengths in her culture. This reflective process enabled her to separate the strengths in her culture from the family rivalry.

"My culture, and then all of a sudden I've got you know, cause too much family rivalry and stuff like that going on and I don't wanna get involved, so I've taken a step back

and you know, then all of a sudden this app comes along with, you know, my culture on it... it was awesome" (Participant 5)

Being given the opportunity and time to use BCYR has increased her resolve to deepen her connection to her culture; thus, increasing her self-efficacy.

"I loved it [BCYR], but again, my culture, I didn't feel I had a huge connection. Which sucks. Yeah, especially, you know, having kids. I wanna make sure that I can.....I know what services and what I can do to, you know, to strengthen it [culture]" (Participant 5)

Once women have selected their strengths and worries, selected images are generated onto separate strengths-tree and worries-tree for further self-reflection.

"And then I was like wow... and when I saw that [strengths] tree, I was like, that's basically it [images reflecting my culture] right there". (Participant 5)

Participant 7: Was pregnant with her first baby and has strong support from partner and mother. The participant's mother was removed as a child as part of the Stolen Generations and did not find out about her Aboriginal identity until she was 18. The participant disclosed that this impacted her identity as she didn't grow up in her Aboriginal culture therefore impacting her identity as an Aboriginal woman.

The participant identified the significance in the use of BCYR in shaping and strengthening her Aboriginal identity and sense of belonging.

"It's nice to hear part culture [through the use of the BCYR Aboriginal voiceovers] ...Just felt more a part of it [BCYR] actually included. Like I was Aboriginal. Pretty much it, yeah.... Think it's basically just being included in it? That's pretty much it for me. It's actually nice to be like....Well, I'm actually Aboriginal. You realise that...so it's nice... I feel like BCYR....It's a lot more informative, a lot more. You know you're involved a bit more... I think the pictures and everything actually does help a lot better....I've grown up not knowing [about Aboriginal identity] so I don't really see much difference until now, and I've been included in this whole Aboriginal groups and everything...Yes,

recently after all these years. The most I have felt included in it [Aboriginal culture]....Proud, happy and happy to be a part of it.” (Participant 7)

Participant 2: Is a single mother to seven children and completed BCYR with a child health nurse. She had experienced postnatal depression. She is also grandmother to two babies. She is a strong supportive mother who has endured significant trauma and health concerns in her life. She has highlighted through our yarn that she has limited support but is close to her sister and mother. Her father was Aboriginal, and her mother non-Aboriginal who frowned upon Aboriginal culture.

She identified in our yarn together her complexities in her Aboriginal identity and how proud she was to be able to foster deeper connections with her Aboriginal culture through the use of BCYR.

“Proud that they finally come up with something for our culture [referring to BCYR] because yeah they have the medical side of thing, but this is more of a community....When I was a kid, my mum was strongly against it [Aboriginal cultural practices from her father]. So I haven't been....apart from community stuff that I see in [suburb removed]...pretty much just not there [culture]..... Yeah, I would like to show my kids, I think it's a better way for them to connect but my kids are in [local school name deleted] and they are doing cultural things... It was just something that I wasn't taught [Aboriginal Culture].” (Participant 2)

Overall, the **Strengthening Identity and Reconnecting to Culture** theme highlighted the complexities of Aboriginal identity, pride and connection to culture and their critical role in social and emotional well-being (perinatal mental health). In support of this, as shown in the quantitative findings below and in Table 3, women who knew that they made their families proud were about 3-times as likely to have a low/moderate K5+2 score (a low to moderate level of distress), compared to women who did not believe that they made their families proud.

4.2.2 Theme 2: Connection to kinship and family.

The majority of women who participated in the yarns referred to the cultural practices and factors that positively contributed to their perinatal mental health. Three themes were identified as connection to kinship/family, (sub-theme: strong partner support), connection to Country and connection to culture providing positive support throughout women's perinatal journey using BCYR. These subthemes are well supported by the quantitative analysis findings, which revealed strong associations between family support, partner emotional support, relationship with mother, family, or friends and a low/moderate K5+2 score (Table 3).

The yarns with the women reinforced strong interrelationship between connection to family, kinship, and culture. Most of the women discussed how family support was the most important element to their wellbeing, giving them reassurance and a strong sense of connection to their culture. Just being listened to and knowing they were being cared about provided *"massive relief, massive release, burden gone"* through the connection with family which was highlighted through the use of BCYR.

"It's family. So it's always been mum, my sisters and my support network...I mean my brothers are great too. Yeah, but it's just different with sisters.. with mum, when I need her. She is there...I mean our support system from our grandmother to my mum's sisters is crazy as well". (Participant 1)

"I'm grateful that as I've said, I have a really strong family unit around... Absolutely. It broke it down [BCYR]. And I think it. Yeah, it was a good reflection piece as well. Like it, you will be ok, you got a great plan. You got a great family. You got a great, great connection to culture". (Participant 6)

"Mum, brother, that was basically it...Personally, I didn't need anything more than that... I've got plenty of support...They are actually very, very loving supportive. So I think that is my basis...Mum. She's supportive, came over immediately." (Participant 7)

"My kids, they keep me strong. My Family... Not just my kids, my mum, my sister, my dad...If I've got issues and I'm feeling down, they usually bring me up. Listen to me. Me

and my sister are pretty close. She is eight years younger than me. Were like best friends". (Participant 2)

Another participant also described how her family helped ease her stress through yarning.

"Pretty much all that I could do was just yarn about it, whether it would be my partner, whether it was with my mum, my aunts, nan...Like probably enough to speak to my dad about it...My sisters, my brother. I just basically yarned about it because the yeah...Massive relief, massive release, burden gone". (Participant 3)

Participant 8: Was the youngest mum I yarned with and was expecting her first baby. She completed BCYR with her midwife. She shared her anxiety in her changing body in her pregnancy using BCYR which at the same time confirmed the support from her family and partner.

"Just having a lot of support from my family and my partner. Especially, when it's the last couple of weeks". (Participant 8)

Furthermore, the yarns with two other participants who used BCYR with their health clinicians reinforced the importance of reflecting on their support systems and highlighting the value of these strengths during their pregnancy. As one participant said: *"BCYR brings your strength into the light"*.

"Obviously, it takes a village to raise a child...who do you actually have as a support system? Are they reliable? Are they going to, you know, help you? But also, how do you feel that, you know, bringing baby into the world? Is it gonna be the most right environment? And based on your support system, so that got me thinking more around that piece [family support system]". (Participant 6)

*"I remember at work when ladies like "Ohh do you only plan only having maternity leave until July?". I don't think you'll be able to do that like a lot of that, and it just made me think like, no, actually, if I really wanted to, I could because I have my mum, I have my mother-in-law, I have all my aunts, I have this person, that person.... It had me spinning off like all these strengths that I already had, so when it came down to BCYR, I pretty much had that in my head anyway...Friends of friends, cousins like you know, in laws they don't have the same support as I did, and it made me have it like such an appreciation for it...Because you're bringing it kind of into the light and **BCYR brings your strength into the light**. Yeah, it makes you appreciate". (Participant 3)*

Strong partner support

While not all women had strong partner support, a few of the women that I yarned with described the importance of their partners care and support for both their physical and mental wellbeing.

"... I'm in really good state. I think personally I'm confident and I'm in happy place.... 100% my husband now is just beautiful.. just so supportive". (Participant 1)

"He [partner] doesn't like seeing me in pain or stress. I'm just trying to prepare him that it is all normal. I need you to be the tough one... Definitely, I have a good one [referring to her partner]... We usually go out and do stuff together so I'm not trapped indoors by myself all the time. As it does get depressing. So I am pretty lucky there". (Participant 7)

"Being there mentally and physically. And helping me with little stuff around the house and stuff like that... And just express how I feel to my partner [referring to the support her partner provides]". (Participant 8)

Under normal circumstances it is recommended that BCYR is not completed with the partner present. However, one of the women, who had been experiencing anxiety during her pregnancy, had her partner present which gave him further insight into her worries and helped strengthened their sense of connection.

"I think it was good for him to also see, you know, some of the barriers, but also questions that do lead and connect us both as well... It's good to get them involved...if they can be involved". (Participant 6)

4.2.3 Theme 3: Connection to Country

Connection to Country emerged as an important a theme. Women's connection to Country deeply strengthened the social and emotional wellbeing for the majority of the women in this study. It provides a place of grounding and belonging that strengthens the woman's Aboriginal identity. Many of these yarns overlapped with identity and cultural connection.

" Going home bush every Easter we go home and everyone comes. I'm talking like my nanna's brothers and sisters... all their kids...and I mean I think there is like 10 of them

in the bush and everything. So we all get together. Go home [to Country]. Just doing our normal sitting around the fire yarning, listening to the oldies. Just do that it's only once a year, but it gives you that strength to move through the year and then you look forward to it again next year.... Just connected.....home.....safe.

Yeah, just grounded. It grounds you again. Yeah, you get so busy with life, you go home, it's only for four or five days we go out there and you come back and you're grounded and you're ready to move on with the year. And do it all again next year". (Participant 1)

"I would say culture in general because it's Country as well. But I just feel lighter once I have a cleanse". (Participant 6)

"I do [feel good about living on country] and just being with my family". (Participant 8)

"Just the act of going out back out on country is what keeps me strong and my family so not necessarily just my immediate family, but like my, you know, going and seeing my cousins, my aunties and my uncles...". (Participant 3)

"...you've got your connection to country, to your people there. And that's what I felt was missing for me (referring to another health site). And then, you know, you guys come along [BCYR]. (Participant 5)

Participants clearly identified the importance of being connected to country and how it impacted their social and emotional wellbeing during the perinatal period.

"I generally get to go out whilst pregnant (to Country), but this year I didn't so I'm I am feeling a little bit uneasy. I mean my support system, everything's great. But I'm feeling a little more uneasy this pregnancy. I've had a lot of anxiety and I've never had anxiety.... normally I'm just like a cheering cruisy person..... me and Mum were talking about... and she's like it's probably because you didn't go home (to Country) this year cause you were soo busy. Couldn't get out there and she is like that's probably why you're like, just up with the fairies are not grounded....where I should be". (Participant 1)

One of the women described how important it was to take her children on Country: *"it's like taking them home"*.

“I took my 7 year old out when he was six weeks old....He was born and then it was Easter time and people said like you're crazy.... there's nothing to be crazy about it and people see it as you're going camping. I see as I'm taking him home, like if he's going at six weeks, then he's going at six weeks”. (Participant 1)

Another woman described the need to go on Country when feeling stress or not feeling strong within herself. It was a strategy to reconnect with herself and realign with her social and emotional wellbeing.

“ So every time that I don't feel OK, every time that I feel stressed out, I pretty much will go back to somewhere that is a part of my Country. ..That's the kind of things that I did or that I do when I'm not feeling strong and I can't get that from the city because you need that as a blackfella, you need to go back out to where you are from to get that peacefulness and kind of like contentment.... when you go back out [to Country], kind of like escaping that reality and getting a break and getting back your peace and then coming back and resetting.... it just really clears the brain. Like it's good mentally, like, mentally. Like when you feel full it's like an outlet. It just resets everything”. (Participant 3)

Several yarns from the women confirmed that many non-Aboriginal people have little to no understanding of the deep importance of connection with Country for many Aboriginal women in pregnancy. It is also evident that women feel a connection to Country creates a sense of wellbeing and is critical for the perinatal mental health of mothers, babies, and their families.

4.2.4 Theme 4: Connection to Culture

The yarns with several of the women highlighted the cultural factors that contribute to the strength of Aboriginal women's perinatal mental health and wellbeing. In particular, women referred to their spiritual, ancestral and kinship connections as well as a range of cultural practices including smoking ceremonies, dancing, yarning, hunting and connecting with Country. One participant yarned about the importance of traditional cultural practices to welcome baby into the world safely.

"I do some traditional dancing with my cousins and my sister, and we use smoking as a way of just preparing, connecting with our Country, but also our ancestors as well. So I always use that as a big cleansing tool, especially even with my baby shower. I had a smoking ceremony just to welcome, you know, baby into the world, even though she is still coming. And it was a good opportunity to share with non-Aboriginal friends as well.. I feel like it's shakes all negativity around. You know, if I have any doubts. If I'm feeling heavy, almost like if I've just, I feel like once I have a smoking, I'm cleansed, I feel lighter and I feel more connected. That's how I personally take it". (Participant 6)

The same woman discussed how not participating in cultural practices such as smoking ceremonies, which helped to relieve tensions and worries, that had negatively impacted her sense of wellbeing.

"I just feel like I'm missing something, but it's also like I'm holding onto..... I keep saying, it's like, UM, heaviness... I wouldn't say trauma. It's more so just like there's something that I need to let loose.... like kind of take back, reflect and release. That's how I feel like it can be quite tense as well". (Participant 6)

The women described by going back on Country and connecting with her ancestors on Country made her heart full.

*"...going back out on Country, which is, you know, my grandparents Country my great grandparent's Country, it's like they were here and now I'm here learning the same things that they did, doing the same things that they did, it really helps to feel connected to who are your family connections because sometimes it can get lost because you're so busy with life. You just don't feel connected and then when you go back, it's well yeah...this is where my grandparents lived. And you hear stories and we're sitting around by the fire and it makes your heart full. **Makes your heart happy**"- (Participant 3)*

Two participants went onto to yarn about the impact of disconnection from culture and Country due to their families being part of the Stolen Generations.

"I mean Nanna and all her siblings were all taken away...there wasn't much they could do about it. They can't teach us something that was taken from them". (Participant 1)

However, even though this mother had experienced disconnection from culture she was determined to ensure connection to culture and language culture was passed onto her children.

“I love teaching my kids. I’m probably the only one out of all my sisters that teaches it the most. Umm, I think cause I’ve grown up a bit older than them. I see the importance of it... I’ll use our language for the kids, then if I don’t...it’s gone...culture and keeping it and the love for my kids. It’s a big thing”. (Participant 1).

One of the points raised by a few mothers was the importance of passing on cultural knowledge and practices through kinship and Elders to the younger generations to maintain the strength and resilience of Aboriginal identity.

“There’s people that are older than me, way older than me. That could be my parents and my people that are my own age, who have no connection to their Country, who when I say to them “Oh yeah, I go back out on Country and I go hunting” and that they’re like, “oh, we’ve never been hunting”. And I get sad because.. that’s such an outlet for me.... that’s just lost cause of the Stolen Generations and things like that... I’m privileged because I get to still do that, I still had a grandmother who was alive who could teach me that?” (Participant 3)

4.2.5 Theme 5: Resilience and Self-efficacy

The following yarns with women confirmed how Aboriginal women and their families are continuously striving to overcome adversity through unique protective factors including connection to Country, connection to culture, family/kin, reclaiming language, and cultural practices to enhance their self-efficacy and resilience. Acknowledging and drawing on these protective factors during the perinatal period was evident throughout all yarns with the women.

One of the women (Participant 3) yarning about using BCYR identified several protective factors she draws on to build her resilience. In the first instance she described a strong self-

reflective practice to put in perspective her situation in relation to others who may be worse off.

"I don't invalidate my feelings, but to a degree I kind of do because someone is worse off. Like can I please grow up, please, right now, because there's someone who was worse off than me. But at the same time I need to do what I need to do to get better, but don't go into a well of poor me, poor me because there's actually some women out there. [who are worse off]."

Secondly, she described and stressed the importance of strength of family to centre her to provide support.

Strength of my family, like the closeness and support which like.... I don't want to sound racist. A lot of Wajela families don't have that. They don't have that closeness. Don't have that value of family, whereas in black fella families like you have that value and that's what kept me strong, especially when I came home.....that's one thing that kept me pretty at peace when I was pregnant, too. Having a good support system around me, people that cared and love me.

Lastly, the woman reflects deeply and is aware when her resilience is low along with what she needs to do to build herself up to enhance her self-efficacy and empowerment.

It's through that resilience. Especially, I know when I am feeling a bit sick of it when my resilience is low, if someone says something and I just burst into tears and I don't have any ability to bounce, no resilience at all. It's building that resilience. Getting full again.....I don't I know how else to say it". (Participant 3)

Another woman reflected on her worries and at the same time recognised her abilities to address these concerns which highlighted her self-efficacy and empowerment.

"Yeah, absolutely... I was identifying that and realizing, you know, that that's a little bit of a worry but also...Yeah, kind of thinking... unpacking it a little bit more and saying like...Why is that a worry or what can I do to kind of manage it as well.

Yeah. [BCYR] gives you a bit more power to say like, OK, this is it. This is what I wanna deal with. Let's go for it, you know.

100% and like unpack it a little bit more like I think I'd. I spoke about like my like mum and like why and I was like OK there was a little bit of, you know, head butting and just it's not wasn't always harmonious but it was like ohh it kind of brought some of those emotions back up a little bit". (Participant 6).

One woman who had experienced family domestic violence described how she overcome the trauma and adversity to move forward with her life with a supportive partner in a positive way that enhanced her happiness and confidence.

"I was because I am now married to a new partner to the other three kids, but the three kids partner before was just domestic violence...completely different to what it is now. So if you got me then, with my first three [babies]...BCYR would have been completely different to what it is now. But I mean, I'm in really good state. I think personally I'm confident and I'm in happy place that it wasn't too much for me, but if you caught me last pregnancy. It would have been a difference setting I think."
(Participant 1)

In referring to the impact of family domestic violence and the strength it took to move forward the woman was aware she was breaking the trauma cycle in her family.

"Keep pushing through and breaking cycles and giving the kids the best life possible"
(Participant 1)

Two women described how using BCYR enabled them to reflect on and yarn about their mental health concerns with their health practitioner. Both women valued the opportunity to look after their mental health and enhance their sense of self-efficacy and control during their pregnancies.

"Absolutely. Because for me, I think that the more we talk about mental health and that kind of stuff, it gets talked about more through other agencies and stuff like that. And then we can actually do more. It shouldn't be a taboo topic because a lot of us deal with it. Yeah, and I'm a huge advocate for mental health. I think the more we talk about it, the more that can be done."

No. But with this one [current pregnancy] it was like, ohh, we've got a psychologist, and we can put you on to this one and this one. And it was like, wow". (Participant 5)

"That's me and I'm an overthinker too soooo I will dwell on stuff, which is obviously really, really horrible for my mental state, but I've identified that (through BCYR) and I'm kind of just looking at other avenues and to manage it". (Participant 6)

Importantly, the results of the quantitative analysis also showed statistically significant associations (relative risks reaching 1.8-fold) between self-efficacy and a range of adversities/good experiences as child with a low/moderate K5+2 score.

4.2.6 Theme 6: Women's experiences using BCYR

In exploring women's experiences and perspectives of using BCYR many of the women confirmed that the BCYR digital platform provided a culturally safe engagement process to establish a stronger and more trusting relationship with their health clinician. For example, it allowed women to disclose more about themselves, their social and emotional wellbeing and their everyday lives.

"I think she [midwife] got to know me a bit better. On a different level.... Personal, because there was some questions on there you that you know you wouldn't feel comfortable talking to them and instead you could just show them, you know.. [midwife] is more understanding". (Participant 8)

"Before we did this [BCYR], she didn't really know at me at all... think she [child health nurse] understands me more on a personal level". (Participant 2)

"...more like a concern with for when baby is here, how to prepare and even just obviously about labour as well....it was good that, we identified that and she [midwife] was able to point me in the right direction [through use of BCYR]. (Participant 6)

*"...**you're basically seen as a vessel for this baby**... but they [midwives] forget about youWhere this [BCYR] didn't, you know it checked on me and I was telling her [midwife] about my sciatica and my mental health and stuff like that... So having that [BCYR and relationship] with her is what made me feel a lot more connected. But I've said I've never experienced anything like this and I wish that I could have more of it". (Participant 5)*

"I thought it was a lot easier to express concerns and stuff at home and visually as well blackfellas generally learn visually, soo the pictures and that were great....things probably we wouldn't generally speak about were in there [BCYR]and brought up like just those things like how mum took us to another town to give us a better life....She (midwife) got to know kind of my upbringing a little bit more." (Participant 1)

“yeah [BCYR], definitely helps them (midwives) to get a little personal view and things, especially if you're not willing to talk about certain things. It's just easier for certain people, I think. More perspective”. (Participant 7)

Participant 7 went on to yarn about how BCYR allowed her the space to share her experience, referring to the BCYR voiceovers as *“It's nice to hear part of culture”*, and which allowed her to discuss family domestic violence (FDV) in her previous relationship. Her perspective was also supported by the following from another participant.

“Yeah, definitely (BCYR gave space for woman to disclose FDV). It's hard one especially bonds in pregnancies, when it always seemed to happen (referring to FDV in pregnancy)”. (Participant 1)

In describing their experiences in using BCYR, several women yarned about the flow of images and Aboriginal voice overs. They said that these in combination reinforced their own strengths and resilience as well as encouraged their reflection to be self-determining in addressing any worries throughout their perinatal care.

*“...I've identified all the positive influence, or factors and resources that I do already have. So as I said it, it got it was a **great reflection piece for me [use of BCYR]**... BCYR brings your strength into the light. Yeah, it makes up an appreciation. But it also like I don't know, keeps you real”. (Participant 3)*

*“BCYR [is about] how you're feeling, but also **your strengths**, your weaknesses, things that you can work on, things that you have already got going for you.... BCYR doesn't make you feel so pressured like there might be something wrong... I thought it was a lot easier to express concerns and stuff at home”. (Participant 1)*

Another participant also described her perspective when yarning about the key elements that make BCYR a unique, innovative, culturally safe and responsive digital platform.

“It felt personable... literally felt like I was sitting there just talking with midwife about how I was feeling and what was going on and my concerns where... Maybe I'm just sick of the paperwork, but I love the fact that it was on the iPad, and we could and I felt like I was having that conversation... holy crap to like to actually hear it (BCYR voiceovers). It was like for me, it just made it more simple”. (Participant 5)

This perspective regarding the positive attributes of BCYR was also echoed by several other women when yarning about their experiences.

"[BCYR] it identified a lot of the positive, you know aspects of my support....also my mental health but it also identifies some key topics and can allow you to identify them within yourself. So if you find that you need any extra support or resources, you'll be able to unpack that during you know this tool [BCYR]". (Participant 6)

"It was pretty straightforward and pretty easy to follow along, and I found bit helpfully you know, especially being Aboriginal, seeing all those pictures and questions that made things easier to understand.... it was easy to follow through in the pictures.. when you didn't really understand the question, you can just rely on the pictures as well.. that ipad was easy you know, and ahh I liked that, I think that would be the best option (rather than paperwork). (Participant 8)

"[BCYR] made me stop and make me realise as strong as I am, I still have weak spots and the support that I have around me". (Participant 2)

Aboriginal people we are a minority and then going into these hospitals, that's predominantly white fellers and we're given the basic white fellow forms and all of a sudden, we get an iPad and, you know, we're having this conversation indirectly.... it's [BCYR] freaking awesome, and I think it needs to be rolled out at all hospitals... I wish I saw this in my last pregnancy...I felt like this [BCYR] really wanted to get to know what was happening with me, what was going on and what can be done to help me". (Participant 5)

Unfortunately, this same woman needed her care transferred to another hospital that did not use BCYR. She expressed her concerns in the lack of culturally secure care she was provided and the contrast to the site that used BCYR.

" I'm devastated that I've been moved to another hospital cause I've just like with my midwife and it's been amazing since, you know with BCYR.... I've only had my midwife for a few months now, but it's been amazing. And then I just got introduced to BCYR. And now I've been moved to a hospital where I spoke to the midwife and they had no idea about it. Which then I got concerned. She's like, we've got an Aboriginal department, but it's like saying, you know, we've got the Aboriginal flag up there, we get it. Yeah, you don't. It's not the same". (Participant 5)

Digging deeper into what her concerns were the same woman disclosed the following regarding the care she received in the new hospital.

"It's cultural awareness...I feel like it's was basic and clinical and I was just.... you know the file...she opened it up... Ticked the boxes... Off you go..."

"I'm just the file that's sitting on her desk (midwife) and it literally feels like that in that hospital. I'm just the baby maker machine, like, umm, it's just, you know, get her in, do a thing, get her out." (Participant 5)

Importantly, many participants by completing BCYR acknowledged the change in their health and social emotional wellbeing, for example support with mental health, addressing physical concerns such as smoking and further wrap around support services.

"...always have a little bit of doubt. No, but it's been better than you know than, definitely been before then (referring to feeling better after the use of BCYR)" . (Participant 6)

"So all mine was a [BCYR plan] because I'm a smoker. So mine was just knocking down smoking and how we're gonna tackle that.... I probably started off around 15 a day and now I reckon I'm hitting maybe 9" (Participant 1)

"I recognised when I need to take a step back and when I need to worry about me. Not staying in a stressful situation, whether it be with my older kids or if I'm feeling like it's niggling at me, I'll take a step back and just do me. Regardless about how upset I get". (Participant 2)

4.3 Quantitative findings

A total of 326 women provided comprehensive quantitative data on a range of factors. Table 2 shows selected characteristics of women participating in the BCYR pilot. Almost all (97%) women identified as Aboriginal, nearly three-quarters (73%) of the women reported as proud and happy Aboriginal or Torres Strait Islander women, over two-thirds (69%) made their family proud, and about half (52%) were happy in themselves.

Most women reported that they did not have relationship problems with their friends (82%), mothers (65%), or family (55%). While, approximately, three-fourths of women (73%) had

strong support family support, almost half of the women (49%) received emotional support from their partners. Most women grew up with their mothers and reported that they were happy, did not struggle much, and were not exposed to violence, drinking, and fights while they were young. The majority (58%) of the women fall in the low or moderate K5+2 categories (see Table 2 for details).

Table 2. Selected characteristics of women participating in BCYR pilot (N = 326)

Characteristics	N	Percent
Aboriginal	254	97
Both Aboriginal and Torres Strait Islander	6	2.3
Torres Strait Islander	3	1.1
Proud and happy Aboriginal or Torres Strait Islander		
No	71	27
Yes	192	73
Happy in myself		
No	156	48
Yes	170	52
I know I make my family proud		
No	59	31
Yes	130	69
Relationship with mother		
No problems with mother	141	65
Some problems with mother	75	35
Relationship with family		
No problems with family	114	55
Some problems with family	95	45
Relationship with friends		
No problems with friends	174	82
Some problems with friends	37	18
Grew up with mother		
No	74	23
Yes	252	77
Grew up with grandmother		
No	176	54
Yes	150	46

When young happy childhood		
No	126	39
Yes	200	61
When young struggled		
No	255	78
Yes	71	22
When young abuse and violence		
No	261	80
Yes	65	20
When young love support		
No	132	40
Yes	194	60
When young strong family		
No	163	50
Yes	163	50
When young lots of drinking		
No	300	92
Yes	26	8.0
When young drinking and fights		
No	293	90
Yes	33	10
Partner supports emotionally		
No	165	51
Yes	161	49
Family support		
Sometimes support	61	27
Strong support	161	73
Kessler 5 score categories		
Low	119	37
Moderate	68	21
High	117	36
Very high	17	5.3

Table 3 shows the distributions of selected characteristics of women by their K5+2 categories. The proportions of most factors were distinctly different across K5+2 categories. For instance, the proportion of women who reported support from their partners (58.8% vs 11.8%), women who had strong family support (90.9% vs 16.7%), women who felt proud and happy Aboriginal or Torres Strait Islander (86.5% vs 33.3%) were considerably higher for women with a low score than those women with a very high K5+2 score. Additionally, women who were grouped into the low K5+2 categories were more likely to be happy themselves, they knew they made their families proud, were less likely to have adversities when they were young, and had no problems with their mother, family, or friends.

Table 3. Distributions (proportions) of selected characteristics by K5+2 scores (N= 326)

Characteristic	Kessler-5 score				p-value
	Low N =119	Moderate N = 68	High N= 117	Very high N = 17	
Partner supports emotionally					0.001
No	41.2	45.6	56.4	88.2	
Yes	58.8	54.4	43.6	11.8	
Family support					<0.001
Sometimes support	9.1	18.8	40.7	83.3	
Strong support	90.9	81.3	59.3	16.7	
Proud and happy Aboriginal / Islander					<0.001
No	13.5	21.6	34.0	66.7	
Yes	86.5	78.4	66.0	33.3	
Happy in myself					<0.001
No	37.0	42.6	53.0	94.1	
Yes	63.0	57.4	47.0	5.9	
I know I make my family proud					<0.001
No	1.6	31.6	45.9	100.0	
Yes	98.4	68.4	54.1	0.0	
Relationship with mother					0.002
No problems with mother	77.8	71.4	54.4	33.3	
Some problems with mother	22.2	28.6	45.6	66.7	
Relationship with family					<0.001
No problems with family	76.7	61.9	34.6	25.0	
Some problems with family	23.3	38.1	65.4	75.0	
Relationship with friends					0.002
No problems with friends	92.0	89.6	74.7	55.6	
Some problems with friends	8.0	10.4	25.3	44.4	
Grew up with mother					0.40
No	21.8	17.6	24.8	35.3	
Yes	78.2	82.4	75.2	64.7	
Grew up with grandmother					0.37
No	51.3	61.8	51.3	64.7	
Yes	48.7	38.2	48.7	35.3	
When young happy childhood					<0.001
No	31.1	23.5	48.7	64.7	
Yes	68.9	76.5	51.3	35.3	
When young struggled					0.009
No	85.7	77.9	73.5	52.9	
Yes	14.3	22.1	26.5	47.1	
When young abuse and violence					<0.001
No	90.8	80.9	73.5	41.2	
Yes	9.2	19.1	26.5	58.8	
When young love support					0.027
No	35.3	33.8	42.7	70.6	
Yes	64.7	66.2	57.3	29.4	
When young strong family					0.002
No	45.4	39.7	53.8	88.2	
Yes	54.6	60.3	46.2	11.8	
When young lots of drinking					<0.001
No	99.2	88.2	88.0	82.4	
Yes	0.8	11.8	12.0	17.6	
When young drinking and fights					0.003
No	95.8	91.2	85.5	70.6	
Yes	4.2	8.8	14.5	29.4	

Table 4 illustrates the (unadjusted) association between selected factors and a low/moderate K5+2 score. Although the models were not adjusted for any covariates, most factors were associated with a low/moderate K5+2 score. Notably, women who knew that they made their families proud were about 3-times, (RR = 3.03, 95% CI: 1.95, 5.26), as likely to have a low/moderate K5+2 score, compared to women who did not believe that they made their families proud. Similarly, women who had strong family support and women who reported no problem with their family or friends were around 2-times as likely to have a low/moderate K5+2 score compared to their counterparts. We found no significant associations between growing up with a mother or grandmother and the low/moderate K5+2 score.

Table 4. Bivariable analyses of factors associated with a low/moderate K5+2 score (N= 326)

Characteristics	RR	95% CI
I know I make my family proud		
No	Reference	
Yes	3.03	1.95, 5.26
Family support		
Sometimes support	Reference	
Strong support	2.53	1.72, 4.10
Relationship with family		
Some problems with family	Reference	
No problems with family	2.06	1.56, 2.84
Relationship with friends		
Some problems with friends	Reference	
No problems with friends	2.00	1.30, 3.57
Experienced drinks and fights during childhood		
Yes	Reference	
No	1.83	1.20, 3.25
Experienced a lot of drinks during childhood		
Yes	Reference	
No	1.74	1.11, 3.30
Had abuse and violence during childhood		
Yes	Reference	
No	1.72	1.28, 2.49
Relationship with mother		
Some problems with mother	Reference	
No problems with mother	1.63	1.23, 2.25
Had happy childhood life		
No	Reference	
Yes	1.53	1.24, 1.94
Happy in myself		
No	Reference	
Yes	1.39	1.15, 1.70
Struggled during childhood		
Yes	Reference	
No	1.38	1.07, 1.86
My partner supports me emotionally		
No	Reference	
Yes	1.35	1.12, 1.64
Had strong family during childhood		
No	Reference	
Yes	1.28	1.07, 1.56
Had love and support during childhood		
No	Reference	
Yes	1.23	1.01, 1.52
Grew up with mother		
No	Reference	
Yes	1.15	0.92, 1.50
Grew up with grandmother		
No	Reference	
Yes	0.97	0.80, 1.16

Abbreviations: RR, relative risk; CI, confidence interval

4.4 Supplementary findings

Women were asked to provide feedback on the potential changes that could be made to improve the usability and cultural relevance within BCYR based on their experiences. In addition, women were asked to consider their experience using BCYR compared to the EPDS.

4.4.1 Usability of BCYR

Most of the women stated they were happy with the existing design and usability of BCYR.

It's pretty straightforward and not hard to understand [BCYR].. I don't really know how you are going to make it better?? (Participant 2)

"...this is the only thing I've ever experienced, and it was freaking perfect". (Participant 5)

"I didn't have any kind of negative thoughts about it at all [BCYR]" (Participant 3)

4.4.2 Suggested Change to the BCYR digital Platform

Only one participant in reflecting on the images advised the wording could be changed to reflect more on being on Country.

"Can't really think of anything... I was just thinking if I've seen it [image of being on country in BCYR- labelled differently in digital platform].

Yeah, I think so. Because, I mean, being on Country for some people with completely different to others I mean some people are like they get to live on Country, but then our Country is bush, so we can't really live there. Life these days just doesn't work like that." (Participant 1)

4.4.3 Women's experiences using the EPDS

The participants shared strong criticism regarding their experiences of the EPDS in their perinatal care. The majority of the women who utilised the EPDS described it as a "tick boxing exercise" and stated that it did not hold much meaning to their care when compared to their experience using BCYR.

"Yeah, it is more about you [BCYR] and not just that piece of paper [EPDS] that says you're this number on this day...It's more for that person specifically. It's building a

*storyline on that person... rather than the other piece of paper [EPDS] is just.... it's not about that in the other form [EPDS] where BCYR [is about] **how you're feeling, but also your strengths**, your weaknesses, things that you can work on, things that you have already got going for you.... you definitely just feel like you're another number with something like [EPDS]compared to something like BCYR". (Participant 1)*

"It was easy [BCYR], definitely better than pen to paper. Yeah, lot quicker. A lot more simple... I feel like BCYR....It's a lot more informative, a lot more. You know you're involved a bit more.... EPDS is very generic, ticking boxes". (Participant 7)

"BCYR, its less intrusive, more relaxed. Yeah. More understanding". (Participant 2)

"It's a bit blunt [EPDS]..it's very confronting because you're like, even if I was feeling some kind of way, would I share it with you because you're sitting there with your face down reading off this piece of paper, ticking it off and reading it in probably at the most nonsensitive way ever". (Participant 3)

"[BCYR] it covered a variety of things where the questions [EPDS] that they give you, it's very basic...with the app [BCYR] it gets in depth. You don't have to get in-depth... but I was talking to my midwife about some issues that I had with family. And, you know, the baby's father and if you just gave me the questionnaire [EPDS] that wouldn't have come up.... if I just had the normal questionnaire [EPDS].

Yeah, we wouldn't have been able to have the....the outreach that I did. Which that was awesome.... with the app [BCYR] you've got aunties talking and you've got you midwife there as well. So it's literally like just sitting around the table having a conversation... Where before [prior pregnancy] it was like the questions [EPDS] with my last baby it was..... You get baby brain, so you having to constantly sleep deprived as well and then having to read this whole thing was.....done my head in". (Participant 5)

Two of the women stated that when sharing their mental health concerns using the EPDS, their care and concerns were not followed up by the health clinicians. Even when the women revealed their levels of stress or anxiety their concerns were dismissed.

"I got given a [EPDS] questionnaire [previous pregnancy] and she was like, you know, mental health. And I was like, Yep, I've got it. And then, you know, that was it". (Participant 5)

"So it's kind of useless in a way.... I was actually referred to the midwife... the first time I did that [EPDS] I was like I'm a bit stressed..I've cried if couple of times and they just kind of go (midwife)....Ohhh yeah, you're score is this. Looks like we've got a bit of anxiety. We will manage that and then they don't do anything for you... What's the point in telling you type thing.... it just didn't feel sensitive. And it just kind of felt like it wasn't coming from a place of care". (Participant 3)

5. Discussion, Dissemination of Findings and Recommendations

5.1 Introduction

This section provides a synthesis of the findings from the literature and quantitative and qualitative data to highlight the critical importance of an Aboriginal led and co-designed perinatal mental health tool with Aboriginal women to support their strengths, resilience, and self-efficacy during this transformative time in their lives.

This thesis aimed to identify factors that contributed to the strength of Aboriginal women's perinatal mental health and the potential of BCYR to support women to identify their own strengths, resilience, and strategies to address any worries to enhance their protective factors contributing to their social and emotional wellbeing. From the findings, it is clear that using BCYR in a perinatal setting contributed to these Aboriginal women feeling empowered to make positive change in their own wellbeing for their unborn child and families.

The qualitative and quantitative findings confirmed that using BCYR prompted women to reflect on the importance of interrelated factors such as strong cultural identity, connection to family and kinship, Country, and culture (including language and participation in cultural activities). Participant comments confirmed that the process of reflecting on these cultural elements was empowering, strengthening their perinatal mental health and social emotional wellbeing.

The literature review findings further confirmed that the EPDS is not culturally appropriate and fails to address Aboriginal women's perinatal needs (Chan et al., 2022). The literature revealed that current perinatal mental health assessments including the EPDS are predominantly risk focused and are driven by a Western biomedical model of health (Hine et al., 2023; Kotz et al., 2021; Marriott & Ferguson-Hill, 2014).

Both the literature and the qualitative findings confirmed that perinatal mental health screening (EPDS) is associated by many Aboriginal women with the removal of their children (Hine et al., 2022). BCYR plays a crucial role in supporting therapeutic yarning, which in turn enables participants to explore their Aboriginal identity, recognise their strengths, and to identify aspects of their lives that they wished to change. It allowed the participants in this study an opportunity to share intimate concerns in relation to their Aboriginal identity, and the cultural biases that can create concerns and fear of being judged poorly and having a child removed by the Department of Child Protection (DCP). For example, it was disclosed by one woman that going on Country with a young baby, which she viewed an essential cultural practice, might lead to the Department of Child Protection questioning her care, and fear of possible removal of her child.

The findings also showed that women perceive the use of the EPDS as being a tick-box exercise with no direct benefit to themselves. They perceive that it as being at best useful for the clinician, and at worst a challenging and alienating process. Persistent reliance on the EPDS could be seen as further evidence of the cultural biases within the health system and maintained by clinicians regarding Aboriginal women's perinatal care as identified by Marriott et al. (2021).

Moreover, several studies confirm the EPDS fails to recognise the self-efficacy, strength, and resilience of Aboriginal women in the perinatal period (Carlin et al., 2020; Marley et al., 2017; Kotz et al., 2016; Kotz, 2021). In addition, the qualitative research findings confirmed the EPDS is seen by Aboriginal women as a tick-box exercise. Some women reported in completing the EPDS during their pregnancy, had disclosed their mental health concerns with the health clinicians which did not lead to appropriate support, acknowledgement or follow up care.

In contrast, using BCYR in clinical practice aims to improve maternal and infant health and well-being outcomes by empowering the mother to have control over her perinatal care; enhancing her strengths and self-efficacy as a mother and woman; and keeping families at the centre of care. Becoming a mother is a transformative life altering experience. Using BCYR allowed one participant the space to be able to share her anxieties with her midwife regarding her sense of identity in becoming a mother. BCYR offered reassurance through the recognition of the woman's strengths and supports she had around her, with her evolving identity.

The literature shows that providing culturally safe and trauma-informed care strengthens the empowerment of Aboriginal women (Chamberlain et al., 2019; Fiolet et al., 2023). The yarns with participants confirmed that they found using BCYR culturally safe and respectful of their past and current experiences. Strength-based images in the BCYR digital platform were identified by Aboriginal women participating in the qualitative yarning sessions as significant in supporting their self-efficacy and resilience. These potential associations were strengthened by the collective knowledge from the research group in relation to the concepts of resilience and self-efficacy through the quantitative analysis.

Moreover, midwives have expressed apprehension in not knowing how to approach Aboriginal women in a culturally sensitive and responsive way to enhance culturally secure care (Kotz, 2021; Thackrah & Thompson, 2020). The yarns with women confirmed the BCYR digital platform supports and increases the capacity of midwives to provide culturally safe responsive care that builds respectful relationships.

The literature showed that using a strength-based approach to perinatal mental health screening is more likely to assess the social and emotional well-being of Aboriginal mothers in a culturally responsive and secure way (Kotz, et al., 2021; Kotz, 2021).

The quantitative findings examining the strength-based images self-selected by women using BCYR such as strong family, strong support from partner and a good childhood were associated with a low distress score using the Kessler K5+2. Further, family and kinship support were identified as the strongest strength and protective factor in mitigating poor perinatal mental health. These findings were consistent with the psychological protective factors identified in the study by Carlin et al., (2021). Further Aboriginal women with an absence of these protective factors were associated with having a higher Kessler K5+2 indicating higher distress in the perinatal period. Similar findings were reported by Carlin et al., (2021) using the KMMS.

The perinatal period can be a time for transformation and healing for women who may have experienced significant stresses, worries or even trauma in their lives. Western definitions of resilience refer to an individual's ability to cope and overcome issues in the face of adversity.

The literature review explored resilience in relation to an Australian Aboriginal context drawing on Aboriginal constructions of resilience. Given the lack of research relating to Aboriginal women's experiences regarding resilience and self-efficacy, this study provides some important insights. It has confirmed the strengths and resilience of Aboriginal women during the perinatal period through the women's self-selected responses regarding their strengths and worries using BCYR. This is in spite of the ongoing impacts of colonisation, racism and the past and present policies and practices contributing to ongoing structural and service delivery inequities. (Dudgeon, Boe & Walker., 2020a; Dudgeon & Walker., 2023)

As discussed in the literature review the importance of building upon further research to highlight Aboriginal women's strengths and self-efficacy specific to perinatal mental health is needed to improve social and emotional wellbeing outcomes. (Usher et al., 2021) The Aboriginal worldview of resilience is strongly tied to navigating adversity when faced by

colonisation and maintaining a connection to country, community, identity, and social-emotional well-being (Usher et al., 2021).

Cultural connection with ancestral song lines begins in the womb (Dudgeon & Walker 2011). In this study, participants clearly articulated that Being on Country during pregnancy is the beginning of strengthening identity for the developing bub, and that for some Aboriginal women not being able to be on Country causes distress and anxiety in pregnancy. The yarns with the women during the study have emphasised how the strength-based themes connecting to culture, Country, family/kin are protective factors which can have a mitigating impact on Aboriginal women developing depression and anxiety during the perinatal period. (Marriott & Ferguson-Hill, 2014; Dudgeon et al., 2017)

Overall, both the qualitative and quantitative findings of the study confirm the hypothesis and demonstrate that BCYR program has the potential to provide the implementation of effective, culturally safe care for Aboriginal women and families to support their strengths, resilience, and self-efficacy to further flourish in the perinatal period and beyond.

There is limited available research evidence from Aboriginal women's perinatal perspective, relating to self-efficacy and empowerment in assessing perinatal mental health. This research reinforces the benefits and the importance of applying a strength-based focus on self-efficacy and resilience, to encompass a culturally safe assessment of Aboriginal women's perinatal mental health.

The literature and qualitative and quantitative research findings build on relevant research conducted through Ngangk Yira Institute for Change in partnership with stakeholders including Government policy makers, clinicians, service providers and Aboriginal communities. In particular the research findings encompass evidence from Birthing on Noongar Boodjar

(Marriott et al., 2019a, 2019b; Marriott et al., 2020), *Kalyakool Moort - Always Family: Strong culture, strong care, strong families* (Kotz, 2021) and the BCYR Pilot Evaluation (Kotz et al., 2023) all of which provide deep insights into the array of factors that impact the provision of culturally secure maternity care for Aboriginal women. Addressing these factors includes addressing racism in health settings; strengthening the Aboriginal workforce; and enhancing the cultural competence of health practitioners and the broader system to resolve systemic and structural inequities.

These studies have also confirmed the importance and effectiveness of building relationships with women and strengthening the protective factors to enhance access and support their perinatal journey. Extending on these findings my research sought to identify the factors that contribute to the strengths of Aboriginal and Torres Strait Islander women's perinatal mental health and provide evidence of how using BCYR to identify these strengths empowers Aboriginal women and contributes to their self-efficacy and resilience.

5.2 Dissemination of Research Findings

In acknowledgement and alignment with the NHRMC research ethics and values I have placed considerable emphasis on reciprocity and respect throughout all phases of the research particularly in the dissemination of findings to the participants and the Aboriginal community involved in the study.

In coming to the end of the research the women who participated in the yarning were invited back to the Ngangk Yira Institute to come together to participate in developing a collective art piece and share in the results from the research through a collaborative social yarning process.

Importantly, the art piece named "Mothers Strength" aligns with the core themes derived from the research with family, community, identity, and culture being at the heart of our social

and emotional wellbeing and culture. The mothers were further empowered in their cultural strengths as they contributed throughout the research. Through bringing the women and children together, their voices were elevated in my research for health clinicians to acknowledge and recognise their strengths as women and mothers.

Mums, babies and toddlers contributed to the art piece that was gifted back to Boodjari Yorgas Midwifery Group Practice in Armadale in recognition of the culturally responsive care that the service has provided and adopting BCYR as routine clinical care in replacement of the EPDS, for all Aboriginal women.



Figure 6: Photos of women doing individual and group artwork

5.3 Recommendations

The following recommendations have been developed on the basis of the literature and the qualitative and quantitative research findings which provide a sound evidence base of the need to provide culturally secure strengths-based care for Aboriginal women in the perinatal period.

The recommendations are relevant to the WA State Government, particularly the WA Department of Health and WA Country Health Service, other state governments, the Australian Government Department of Health, and Aboriginal Community Controlled Health Services to maximise their effectiveness in providing culturally secure care to Aboriginal and Torres Strait Islander women, infants and their families during pregnancy and childbirth.

It is recommended that:

Recommendation 1: To contribute to the achievement of National Close the Gap Targets One and Two, state and national governments commit to implementing maternal health policies, clinical practice guidelines and sufficient resources to embed the BCYR digital platform in maternity care settings. Universal use of the BCYR digital platform with Aboriginal women will change maternal health care practice, promote strengths-based culturally safe care, and contribute to women's social and emotional wellbeing.

Recommendation 2: The implementation of the entire BCYR Program (including practitioner training for all relevant health staff and state relevant website adaptations) is supported by state and national Close the Gap Partnership working parties in close consultation with the Ngangk Yira Institute for Change Murdoch University BCYR research team. Training in the use of the digital platform is crucial to changing clinical practice approaches to maternity care for Aboriginal women.

Recommendation 3: That state government health departments provide sufficient funding for the addition of further strengths based BCYR images, developed in collaboration/co-design with Aboriginal community groups. for example: Smoking ceremonies; Going on Country; Storytelling by the fire; Dancing; Hunting and other cultural practices. This will provide opportunities for women to incorporate Connection to Culture and identity,

Family and Country and cultural practices to build and strengthen the woman's identity and resilience through the perinatal period to ensure women centred holistic care.

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Appendix 1: BCYR Research Information Pamphlet

<h3>Privacy and Confidentiality</h3> <p>Your privacy is very important to us and if you decide to talk to a researcher, your name and identity remain completely confidential. If we decide to use your stories, no names or any other details will be used.</p> <p>If you are happy to give permission to take part in this study, please complete the consent form with your Health Care Worker.</p>  <p>Thank you for your participation!</p> 	<h3>Questions or Concerns</h3> <p>We are happy to discuss any questions or concerns you may have about this study. Our Team contact numbers are below:</p> <p>Trish Ratajczak Email: particia.ratajczak@murdoch.edu.au Phone: 0460015088</p> <p>Jayne Kotz Email: Jayne.kotz@murdoch.edu.au Phone: 0418256306</p>  <p>This project has been given ethical approval by Murdoch University Human Research Ethics Committee (2017/125), the Western Australian Aboriginal Health Information and Ethics Committee (#553), Women and Newborn Health Service HREC (RGS002649) and St. John of God Health Care HREC (#1162). This project also has letters of support from this specific healthcare site.</p> <p>If you have any reservations or complaints about the ethical conduct of this research and wish to talk with an independent person, you may contact Murdoch University's Research Ethics Office (Tel: 08 9360 6677 or email: human.ethics@murdoch.edu.au) OR contact the Director of Clinical Services at KEMH for complaints/issues on (08) 6458 1633. Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.</p> 	<h3>Baby Coming You Ready Pilot</h3>  <p>(BCYR)</p> <p><i>A New Way to Support Aboriginal Mums and Dads</i></p>
<h3>How Baby Coming You Ready can help you</h3> <p>Becoming a mum can make you feel happy and excited, but it can also make you feel:</p> <ul style="list-style-type: none"> • Sad • Stressed • Anxious • Emotional • Worried  <p>If a mum feels some of these things for too long when she is pregnant, it can affect bub's growth, health and wellbeing. It can also mean:</p> <ul style="list-style-type: none"> • Bub can be stressed in the womb • Dad may feel stressed • And family may feel worried too! <p>BCYR has been developed by Aboriginal Mums to help support other Aboriginal Mums and Dads to feel good and stay strong in pregnancy and after baby is born.</p> <p>It was developed to improve the way we support the wellbeing of Aboriginal women in pregnancy and after baby comes so that mums can get support when they need it.</p> <p>Ask your Health Worker to talk to you about BCYR.</p>	<h3>How you can help us</h3> <p>We would like to talk to mums about what they think about using BCYR.</p> <p><i>We don't want to yarn with you about what you talk to your health worker about.</i></p> <p>We just want to know what you think about using BCYR.</p> <p>We would like to hear what you have to say that will be helpful to improve services for Aboriginal mums, dads and families.</p> <p>Whether you choose to help us in this study or not, it's important to remember this will not affect your care in any way.</p> 	<h3>Remember</h3> <p>If you agree to talk with someone about what you think about BCYR:</p> <ul style="list-style-type: none"> <i>It is voluntary</i> <i>You can stop at any time</i> <i>It is completely confidential</i> <i>You won't get into any trouble</i>  <p>If you decide to take part in this study, your yarn with the researcher will stay between you both and will not be discussed with your health care provider.</p>

Appendix 2: BCYR Participant Consent Form



**Baby Coming You Ready?
(BCYR)**

Participant Consent Form

Participant ID Sticker

1. I agree voluntarily to take part in this study.
2. I have read the Information Sheet provided and been given a full explanation of the purpose of this study, what I may be asked to do and how I can be involved. I can take the Information Sheet and this Consent Form away if I need to think about it or find out more before I agree to be involved.
3. I understand that I will be asked:
 - To take part in a yarn/discussion after doing BCYR.
 - This yarn/talk may be recorded on a digital audio recorder if I consent.
4. The healthcare worker and/or researcher has answered all my questions and has explained any possible problems that may come up as a result of my participation in this study.
5. I understand I am free to leave the study at any time without needing to give any reason or explanation and I will not be in trouble.
6. I understand I will not be identified in anyway in publications that are written about this study.
7. I understand that my name and identity will be stored separately from the data, and these are accessible only to the investigators. All data provided by me will be analysed anonymously using code numbers.
8. I understand that all information provided by me is treated as CONFIDENTIAL and will not be released by the researcher to a third party unless required to do so by law.

Name of participant: _____

Signature of Participant: _____ Date: ____/____/____

I confirm that I have given the Information Letter concerning this study to the above participant; I have explained the study and have answered all questions asked of me.

Signature of researcher: _____ Date: ____/____/____

