Outcomes Star™

Development Report

Parent and Baby Star™

The Outcomes Star for perinatal mental health and well-being

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The Outcomes Star™
This Star is part of a family of Outcomes Star tools. For other versions of the Outcomes Star, good practice and further information see www.outcomesstar.org.uk.

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1. Introduction

The Outcomes Star is a suite of person-centred tools for supporting and measuring change when working with people, including versions for children, people with learning difficulties and people with long term health conditions.

The Parent and Baby Star has been developed to help parents who need support with their perinatal mental health and well-being.

All versions of the Outcomes Star have a number of five or ten-point scales arranged in a star shape. Each point on each scale has detailed descriptors setting out the attitudes and behaviour typical of that point on the scale. Underpinning these scales is a model of change (the Journey of Change) describing the steps towards the end goal that both the service and service user are trying to achieve.

In the case of the Parent and Baby Star, the end goal is **managing well**, where the parent mostly feels stable and OK, can look after their baby well and can deal with life's ups and downs.

Like all versions of the Outcomes Star, the Parent and Baby Star is both a keywork tool, supporting effective interventions, and an outcomes tools, giving management data on progress towards the end outcome. Because of this dual role, it brings together measurement and service delivery and can provide a shared language and framework across operations and performance management departments and between commissioners and service providers.

The Parent and Baby Star has the following resources:

- The Parent and Baby Star Chart, Notes and Action Plan for use with parents
- The Parent and Baby User Guide, with both brief visual scales and detailed scale descriptions, which can be shared with parents as needed
- The short-illustrated Scales for use with parents
- The Guidance for workers, providing guidance on how to use the Parent and Baby Star
- A web application for online completion and analysis at www.staronline.org.uk.

Background and further information about the Outcomes Star suite of tools can be found at **www.outcomesstar.org.uk**.

About this Development Report

This report outlines the theoretical foundations for the Parent and Baby Star, the process of its development and the research that supports it. The report includes analysis of the psychometric properties of the pilot version of the tool and further research into the psychometric properties of the final tool is planned. For the latest information on this please contact info@triangleconsulting.co.uk**.**

2. Theoretical foundations of the Outcomes Star™

A new approach to outcomes measurement

The approach underpinning the Parent and Baby Star and all versions of the Outcomes Star is an original way of dealing with assessment and outcomes measurement. It draws on the core principles of Participatory Action Research (O'Brien, 2001; Carr & Kemmis, 1986) – empowerment, collaboration and integration – and extends them beyond research into assessment and outcome measurement. Participatory Action Research seeks to empower the subjects of research, collaborate with them and integrate research into practical action to improve people's lives. For a fuller summary please see MacKeith (2011).

In the same way, the Parent and Baby Star seeks to empower service users within a collaborative process of assessment and measurement that is integrated with support work rather than a separate activity.

Empowerment

Underpinning the Star is a belief that, for change to take place in people's lives, service providers need to harness the motivation, understanding and skills of the person themselves to create change.

Practical changes in life circumstances (such as finding appropriate childcare or working closer to home) may be very important, but they are often not in themselves enough to enable people to achieve their goals. A key active ingredient in achieving sustained outcomes is change that takes place within the individual. For this reason, the primary focus in the Parent and Baby Star is the relationship of the individual to the challenges that they face.

Service users and front-line workers report that the Star provides a much more empowering context for keywork than other approaches because service users are active participants in the process rather than having assessment done to them. Being involved in their own process of change – and the validation of their experiences and perceptions – is often critical in helping them make the changes they seek (Burns, MacKeith & Graham, 2008). In contrast, when assessment and measurement process require service users to be passive objects of the expertise of others, it can reinforce the disempowerment and lack of self-worth that may have contributed to their need for help in the first place.

Collaboration

When using the Parent and Baby Star, the worker and parent assess the parent's needs together. The parent bases their assessment on their knowledge and understanding of themselves, and the worker applies their professional experience of working with others and their observations and reflections on this person's behaviour. The assessment emerges through a dialogue between parent and worker and this may result in a change in the perceptions of both.

The Star makes the model of change explicit and the information that is collected is immediately presented back to the service user as a completed Star. This allows the service user and worker to take an overview together and to reflect on the completed Star as a basis for deciding what actions are needed. The service user takes an active role in defining issues, identifying actions and thinking about consequences for themselves. As a result, they are much more likely to be behind the plan that emerges from the completed Star.

This contrasts with extractive approaches to assessment and measurement in which the expert collects "data" from the service user and takes that data away to make an assessment on their own. They may then decide what course of action is most appropriate and try to persuade the service user that this is the best way forward for them.

Integration

Completing the Star is an integral part of working with the service user and is intended to support as well as measure change. For the service user, the process of participating in the assessment, engaging with the model of change and reflecting on the data the Star presents can in and of itself result in change. It can also have the same impact on the staff and carers working with the person. In addition, the assessment dialogue and the Journey of Change that underpins the Star naturally lead to discussion of next steps and action planning. As a result, the assessment becomes an integral part of the intervention.

This contrasts with traditional approaches in which the collection of data is seen as a separate process to the intervention and may be regarded as intrusive by workers and service users. The differences between the Star and traditional approaches to measurement are summarised below.

	Parent and Baby Star	Many traditional approaches
Empowerment	• Parents are active co-producers of change • Their motivation, understanding, beliefs and skills are often key to creating change, while recognising external factors beyond their control • The focus is primarily on the parent's relationship with the issue	• Service users are passive recipients of help, with "experts" having the knowledge to devise solutions • The focus is on the severity of the issue
Collaboration	• The worker and parent collaborate in assessment, with the potential to build a shared perspective on issues and the action needed	• Employ either self-report measures or professional assessment measurement tools that don't build a shared perspective
Integration	• Assessment and measurement are an integral part of keywork	• Assessment and measurement are additional tasks that can be resented by workers as a distraction from "real" work

Similarities to other approaches

The values that inform the Parent and Baby Star are similar to those of person-centred, strengths-based and co-production approaches:

- The Star places importance on the service user's perspective and priorities, as in a person-centred approach
- The holistic assessment offered by the Star focuses on aspects of life that are going well in addition to areas of difficulty, as in a strengths-based approach
- As in co-production, the service user is seen as an active agent in their own life and a valuable source of expertise and knowledge rather than a passive sufferer of an affliction that the professional, with their expertise and knowledge, will cure.

As a result, implementing the Parent and Baby Star can provide an effective way of putting these values into practice.

3. Methodology and findings from the Parent and Baby Star development process

The methodology for developing all versions of the Outcomes Star is based on Action Research (O'Brien, 2001) and the Existential Phenomenological research method (McCall, 1983). Action Research is a collaborative process of identifying issues, trying out solutions and assessing what works. This phenomenological method places a strong emphasis on understanding the subjective experience of the person or people being researched and the meaning of the experience for them.

In order to ensure that parent and worker perspectives were central to the development process, the Parent and Baby Star was developed in collaboration with services providing support to parents in the perinatal period. There was an expert working group overseeing the process which consisted of managers and workers from the collaborating organisations.

The development of the Parent and Baby Star consisted of four main stages:

Stage 1: Establishing the need for the Parent and Baby Star

Stage 2: Identifying model of change and desired outcomes for parents

Stage 3: Consultation, piloting, and refining

Stage 4: Relating to existing research and frameworks

This section of the report provides details and findings of each stage of the development process.

Stage 1. Establishing the need for the Parent and Baby Star

Triangle was approached by Hertfordshire County Council, East and North Hertfordshire Clinical Commissioning Group (CCG), Herts Valleys CCG and the Stefanou Foundation to develop a Star to support parent's perinatal mental health and well-being. This was in response to Herts Valleys CCG being successful in their application to receive funding from Wave 1 and Wave 2 of the Perinatal mental health community services development fund. The Perinatal mental health community services development fund has been implemented to fulfil the ambition of the NHS England Five Year Forward View for Mental Health to increase access to specialist perinatal mental health support England by 2020. Herts Valleys CCG used this funding to develop a new service, allowing women to access specialist perinatal mental health care across the county.

Hertfordshire County Council and the Stefanou Foundation were existing clients of Triangle and many of their services supporting parents already used the Family Star Plus. However, both organisations had identified that a tool specially designed for use with parents who were struggling with their perinatal mental health and wellbeing, to both support and measure the work, was needed.

In response to this, Triangle conducted an initial review of the existing tools used when working with parents to support their perinatal mental health and wellbeing during the perinatal period. A more comprehensive review of relevant tools was conducted later in the process (see Appendix 5). This revealed that most tools currently used in the perinatal period are narrowly defined, typically focusing on constructs covered by a single outcome area in the Parent and Baby Star (e.g. postnatal depression or emotional connection with the baby). While a small number of tools cover a wider range of issues, we are not aware of any that offer the holistic view of contributors to the well-being of mother and child provided by the Parent and Baby Star. The Parent and Baby Star is also different in that it is designed for collaborative completion as opposed to self-report methods used in other tools.

Stage 2. Identifying the model of change and desired outcomes for parents

Workshop One (May 2017): A one-day workshop was held to identify intended outcomes and processes of change in work supporting parents with their perinatal mental health and wellbeing. This workshop was attended by an expert working group made up of professionals and included a series of focus groups to provide insight about their experiences. The workshop looked at the criteria that determines whether the support that is delivered to parents to address their perinatal mental health and wellbeing results in positive change.

The key questions asked in Workshop One for all versions of the Outcomes Star are as follows:

- What are the main areas in which services and service users are seeking to create change? *These areas become the points of the Star*

- What is the desired outcome of the change process? *This becomes the end point on the Journey of Change that underpins all the scales*
- What model of change describes the steps that service users take on the journey towards that end point? *This is described in a series of steps – the Journey of Change – showing a clearly discernible, qualitative difference between each step of the journey.*

A range of techniques were used to draw out participants' subjective experience and knowledge including:

- Using the Outcome Triangle tool to identify the overall aim of services, the specific outcomes they are trying to achieve and the activities they carry out to achieve these changes
- Bringing to mind an individual who has undergone a substantial change and identifying the key steps involved in their process of change
- Hearing feedback about suggested outcome areas and discussing how they would work in different situations and with different service users.

Triangle compiled all the material gathered from the focus groups at Workshop One and reviewed it to allow meaning and common strands to emerge. An initial review of the literature was also conducted to examine outcome areas found to be important for supporting parent's perinatal mental health and wellbeing. Based on this learning, the provisional model of change and outcome areas for the Parent and Baby Star were developed. These were then used as an outline or 'skeleton', based on which the first draft of the Parent and Baby Star was created.

Workshop 2 (July 2017): A one day workshop was held to present the first draft of the Parent and Baby Star to the working group and to hear feedback to inform the pilot version of the Star.

The Journey of Change and outcome areas for the Parent and Baby Star that emerged from the analysis are shown below:

The pilot Parent and Baby Star **Journey of Change**	5 Managing well 4 Finding what works 3 Believing and trying 2 Accepting help 1 Things aren't OK

The pilot Parent and Baby Star **Outcome Areas**	1 Mental and emotional health 2 Physical health 3 Housing and essentials 4 Relationships 5 Support network 6 Looking after your baby 7 Connecting with your baby

Stage 3. Consultation, piloting and refining

Once the first drafts were completed there was an iterative process of sharing, listening, refining and sharing again to hone the outcome areas, Journey of Change and descriptions of the steps towards change in each outcome area until they resonated with the parents and workers participating in the development process. This stage also involved testing the psychometric properties of the tool.

Health visitors, children's centre staff, midwives and mental health practitioners working across Hertfordshire and practitioners working for the 'For Baby's Sake' project, delivered by the Stefanou Foundation, were trained to use the Parent and Baby Star over a six-month pilot period. Data gathered during the pilot was analysed to test the tools' psychometric properties and feedback forms from workers and parents were used to inform the need for further changes.

Parent feedback

- Triangle received 23 completed questionnaires from parents who had used the Parent and Baby Star during the pilot period
- 87% of parents enjoyed completing the Parent and Baby Star
- 94% found it helpful to complete the Parent and Baby Star with their worker
- No parents indicated that the Star took too long to complete
- 87% of parents agreed that the scales described how life was for them now
- 83% of parents indicated that the Parent and Baby Star helped them understand what they needed in the way of support

Worker feedback

- Triangle received 12 feedback forms from workers completing the Star with parents
- All respondents reported that the Parent and Baby Star described the situation, strengths and needs of parents fairly well or very well
- 83% of respondents agreed the Star helped them get an overall picture of parent's situation and needs
- Only 17% of respondents felt that it took too long to complete the Star with parents
- 92% agreed that the Star helped them focus work with parents

See Appendix 1 for more detail on parent and worker feedback.

Analysis of the pilot data

The Star data collected during the pilot of the Parent and Baby Star was analysed in order to provide an initial assessment of the psychometric properties of the pilot Star. A small number of Star readings were completed, with 59 first readings and 26 reviews so these findings are tentative, and a larger sample and longer time-period will be used when formally evaluating the psychometric properties of the final version of the Parent and Baby Star.

Distribution
Analysis of the data showed that across the Star scales there were parents with readings at all stages of the Journey of Change, indicating that that all stages are meaningful in capturing a parent's current situation (see Appendix 2).

However, as is often the case for ordinal data, there was some skew in the scale *Looking after your baby.* The data was skewed towards the higher end of the Journey of Change , which could make it more difficult for a service to demonstrate change. This result could be partly explained by the fact that many of the service users completing the Star in the pilot had been receiving support from a service for some time, so are likely to have already made progress before the first Star reading.

Internal consistency
The Parent and Baby Star was found to have a high level of internal consistency (Cronbach's α = .81), with a Cronbach's α of .7 taken as indicating good internal consistency. Further analysis on a larger data set is needed to confirm the internal consistency of the final version of the Parent and Baby Star.

Item redundancy
There was evidence of heterogeneity (correlations below .3 indicating item redundancy) in the Parent and Baby Star. Low correlations were found between the scale *Having what you need* and the scales *Mental and emotional health, Your physical health* and *Connecting with your baby.* Low correlations were also found between the scale *Support network* and the scales *Connecting with your baby* and *Understanding and expectations.* There was no evidence of repetition (all correlations between domains were above 0.7). See Appendix 3 for inter-item correlations.

Factor structure
An exploratory factor analysis showed one factor explaining 49% of the variance in Star readings. However, the sample size was small (*N* = 59).

Responsiveness
A Wilcoxen Signed Ranks test was used to test the responsiveness of the Parent and Baby Star. Four outcome areas produced a small-medium effect size and the other four produced a small effect size. The change was not statistically significant in any area, but this is likely to have been because the analyses was underpowered (*N* = 26). This result could also be explained due to the relatively short time period between first and second Stars and because many of the first readings were done with existing service users rather than those new to the service, resulting in high start readings with service users having less room to change.

Workshop Three (April 2018)
Further feedback was gathered on the pilot version of the Parent and Baby Star at the third and final meeting of the working group. This workshop also provided an opportunity for reviewing the format of the tool, its scope (for example, whether it was unsuitable for any of the service user groups it was piloted with), the guidelines for use and the value of the data generated to the pilot services. This informed the final version of the Parent and Baby Star.

Workshop 3 feedback:

The working group was asked some specific questions about the Parent and Baby and the answers are summarised below.

What did you think of the pilot Parent and Baby Star?

The working group was generally positive about the Parent and Baby Star. Some members had found it difficult to complete the Star during the pilot due to having limited time with parents and having to complete other assessments, so this limited their ability to comment on it. Comments included

- Members of the working group commented that the Parent and Baby Star helped to highlight issues for both parents and workers and, that it worked for both mothers and fathers. They also noted that it worked better for pregnant women than the Family Star Plus

- The members of the working group from the project For Baby's Sake were very positive about the Parent and Baby Star and said it was a good introduction into talking about sensitive issues:

'I found it useful in introducing conversations we might not otherwise have had. It's a sensitive introduction. Clients saw the journey they'd been on and it highlighted things for them' Worker, For Baby's Sake

When did the Parent and Baby Star work well and not so well?

The working group was asked to discuss any problems they encountered when using the Star during the pilot, where it wasn't suitable to use and why in some cases it had not been completed with parents. Comments included:

- The Parent and Baby Star was difficult to use with parents where there was lots of other paperwork which had to be completed, due to concern that an overload of assessments could cause some parents to disengage

- It was also suggested that in some cases, particularly for Health Visitors, practitioners would just be dealing with a specific issue such as breast feeding and therefore holistic assessment such as the Star might not be appropriate

- It may be best to introduce the Star after the worker has had a couple of sessions with the parent, especially where there is lots of other paperwork to complete

- It works best if introduced as a conversation rather than an assessment

- The general consensus from the working group was that the Parent and Baby Star worked best and was easiest to use in a Children Centre setting.

- The original plan was that the newly established Community Perinatal Team (CPT) in Hertfordshire would pilot the Parent and Baby Star. However, this did not happen in practice because:
  - the CPT had far more referrals than they were expecting
  - referrals were mostly parents with higher needs than they felt the Star was designed for
  - they were required to use a number of other tools.

Which areas of the Star do you think need some changes or more refining?

The working group thought all areas of the pilot Star were important and that there was very little duplication between areas. The exception to this the scale 'Understanding and expectations' which overlapped with some other scales and was found to be difficult to communicate and complete, especially at post-natal support. In addition, the working group reported that the title of the 'Having what you need' scale had caused some issues because what people think they will need for a new baby can be broader than what they need.

Conclusions from the pilot and Workshop Three

The feedback from the pilot shows that parents, workers and managers were generally positive about the Parent and Baby Star. The feedback from parents was particularly positive. Improvements to the Parent and Baby Star were agreed at Workshop 3 in the light of the feedback gathered, discussion in the workshop and the psychometric evaluation of the Parent and Baby Star.

These improvements included minor changes to the wording in some places and two other larger changes. Firstly, the outcome area 'Having what you need' was renamed to become 'Housing and expectations' in the final version of the Star. Secondly, the outcome area 'Understanding and expectations' was omitted from the final version and the essential content of it included in other scales.

Stage 4. Relating to existing research

A literature review was conducted to validate the Parent and Baby Star Journey of Change and outcome areas as key factors in supporting parents during the perinatal period.

The Journey of Change

The Parent and Baby Star is underpinned by a 5 stage Journey of Change designed to describe where a parent may be in terms of their perinatal mental health and wellbeing: *Things aren't OK, Accepting help, Believing and trying, Finding what works and Managing well*.

This model shares some similarities with Prochaska and DiClemente's transtheoretical model of change (TTM; 1982), which has previously been adopted in the context of tailoring interventions and explaining a variety of factors in the perinatal period, such as breastfeeding intention (Humphreys, Thompson & Miner, 1998), smoking in pregnancy (Lawrence, & Haslam, 2007), post-partum weight management (Ohlendorf, 2012) and preparation for childbirth (Rasouli et al., 2017). The Journey of Change in the Parent and Baby Star is also similar to that used in the Outcomes Star for mental health recovery (the Recovery Star), with both the Recovery Star and TTM stages mapping well onto other accounts of personal recovery in mental illness (cf. Leamy, Bird, Le Boutillier, Williams & Slade, 2011).

While only one of the Parent and Baby Star outcome areas directly explores mental health and well-being, each of the other areas is interlinked with mental health – for example postnatal depression can cause issues with bonding. The Journey of Change in the Parent and Baby Star fits with ecological models of recovery, as discussed below. It is also in line with the Stages of Recovery model, in which awareness of the need for change is positioned before "starting to work on recovering" and "working towards goals and resilience" (Andresen, Oades & Caputi, 2003).

Further support for the stages in the Parent and Baby Star's Journey of Change, and relationships with other frameworks are set out below.

Moving from "Things aren't ok" to "Accepting help"
The first stage on the Parent and Baby Star's Journey of Change is *Things aren't ok*. At this point the parent and/or their baby has problems but they aren't talking about them or accessing support. In order to move on, they must acknowledge the issues and progress to the next stage of *Accepting help* from the service. At this stage they may want to change, or they may just want to avoid negative consequences of not engaging so they go along with help and support being offered. The motivation is external at this stage and the service user may be doubtful that change can really occur.

This stage transition aligns with ecological models of recovery, which identify the first step as individuals beginning to see the possibility and need for recovery and state that self-determination and agency are key elements in subsequent stages (Onken et al, 2007).

In support of these two stages, research has shown that individuals experiencing perinatal mental health problems need to first recognise their symptoms and accept the possibility of illness and have trust in those who can support them before they can access this support (Russell, Lang, Clinton, Adams & Lamb, 2013). Russell and colleagues (2013) found that acknowledging the problem was often seen as the most important step in recovery although many people do not open up to midwives and health visitors because they feel that they wouldn't be able to help them. Lack of knowledge about postnatal depression also explains why many cases remain undetected and untreated (Dennis & Chung-Lee, 2006), which can result in much poorer outcomes compared to those receiving specialised support (Dennis, 2005).

There is also evidence of the relevance of these first Journey of Change stages in other areas related to perinatal wellbeing. For example, studies have shown that a substantial proportion of pregnant women are not yet contemplating change in terms of preparing for childbirth or stopping smoking if they are currently smokers (Lawrence & Haslam, 2007; Rasouli et al., 2017). In the case of smoking, women at this first stage feel less responsible for their unborn child's health, are less likely to adopt health-promoting behaviour (Lawrence & Haslam, 2007) and can be reluctant to access help when professionals are perceived as judgemental (Tod, 2003). Fear of judgment and acknowledging that 'things aren't ok' may be heightened amongst parents with children at risk, with a stage of overcoming fear before they begin to trust and open up to health visitors and a final stage of seeking mutuality in which they seek to participate as equals (Jack, DiCenso, & Lohfeld, 2005). Completing the Parent and Baby Star should help in identifying these issues as well as providing a framework for a strengths-based, non-judgemental conversation.

Moving to "Believing and trying"
Through consistently engaging with support, the Journey of Change describes service users moving forward to a stage in which they are motivated, believe change is possible and are taking responsibility, for themselves and their behaviour. Service users experience an internal shift and are developing a sense of what they actively want. The motivation comes from them and they may begin to use their own initiative to make changes.

The importance of this stage is reflected in the research literature. For example, McMillan and colleagues (2008) showed that attitude and intention were important predictors of breastfeeding. Providing support to enhance confidence that change is possible has also been shown to be effective in reducing parenting stress (Bloomfield & Kendall, 2012) and in optimising physical and psychological healthy living interventions for pregnant women (Smith et al., 2010). Interventions based on motivational interviewing, have also been shown to support women in becoming motivated and moving towards taking personal action to prepare for childbirth (Rasouli et al., 2017). More generally, optimism about the future and a sense of personal agency and control have been identified as key components of mental health recovery (Andresen et al., 2003).

The process of trial and error central to the *Believing and trying* stage often occurs in the perinatal period. Both mothers and fathers frequently report feeling overwhelmed and underprepared for the transition to parenthood, with a phase of finding it hard to develop the skills that are needed (Barnes et al., 2008; Deave & Johnson, 2008).

And in a qualitative study, new mothers described trying different things when learning to care for their baby, for example: ‘You really are feeling your way along, you learn through trial and error, if it doesn't work you don't try that next time’ (Barclay, Everitt, Rogan, Schmied & Wyllie, 1997).

This phase maps onto the Preparation phase in the Stages of Recovery model (Andresen et al., 2003), which involves reflecting on strengths and weaknesses regarding recovery and starting to work on developing recovery skills.

Moving to “Finding what works”
The *Finding what works* stage is characterised by some of the new things the individual has tried making a difference, finding ways to do things that help you cope or feel better, build a positive connection with your baby or sort things out at home. Support is still needed to stay on track. This maps onto the penultimate stage of Rebuilding in the Stages of recovery model (Andresen et al., 2003), which is defined as ‘actively working towards a positive identity, setting meaningful goals and taking control of one’s life’. Building confidence as a parent is important for maternal well-being and parenting practices and has been shown to be enhanced by support from external sources and interventions (Salonen et al., 2009; Shorey, Chan, Chong & He, 2015).

Moving to “Managing well”
When service users move to *Managing well*, things may still feel new and they are still adjusting but they can look after themselves and their baby well enough support from their partner, family, friends, community and/or non-specialist services as needed. Moving from *Finding what works* to *Managing well* is similar to the distinction between ‘making a change’ and ‘feeling better’ identified as the final stages of recovery from perinatal mental illness (Hine, Maybery & Goodyear, 2017). Reaching this stage is more likely if services emphasize strategies that will maximize positive mental health throughout the perinatal period as opposed to focusing only on recovery from a mental illness (Bowen, Harris & Zdunich, 2012).

Research evidence for the outcome areas

The outcome areas in the Parent and Baby Star are well supported by academic research as summarised below:

Mental and emotional health

Managing mental health and emotional well-being during pregnancy and once the baby is born, including coping with change, stress, exhaustion and anxiety.

Pregnancy, childbirth and early parenthood is a time of great transition, in which it can be hard to adapt and there is increased risk of anxiety, stress, post-natal depression (PND) and post-traumatic stress disorder (PTSD; Allan, Carrick-Sen & Martin, 2013, Royal College of Psychiatrists, 2000). Factors such as sleep deprivation can also play a role, with evidence that this is associated with more depressed mood in the postpartum period (Ross, Murray & Steiner, 2005). Perinatal mental health problems are very common, affecting around one in five women, with perinatal mental illness often going unrecognised and untreated (Bauer, Parsonage, Knapp, Lemmi & Adelaja, 2014). Fathers are also at risk of mood disorders during this period, particularly when their partner is experiencing postnatal depression (Goodman, 2004).

Maternal mental health during this period affects the whole family and is universally acknowledged as one of the key determinants of healthy child development and wellbeing (Luoma et al., 2001; Murray & Cooper, 2003). Less attention has been given to paternal mental health, but there is evidence that it affects the socioemotional and behavioural development of children (Kvalevaag et al., 2013). A substantial body of evidence also shows mental illness during pregnancy is associated with higher rates of spontaneous abortion, low birth weight, and long-term adverse effects for the child such as emotional problems, symptoms of attention deficit disorder, impaired development and physical illness (Glover, 2014; Stein et al., 2014; Patel, Rahman, Jacob, & Hughes, 2004; Rahman, Bunn, Lovel, & Creed, 2006).

Perinatal support services can make a substantial difference to levels of anxiety, depression and the parent-baby relationship (Coe & Barlow, 2013; Lavender, Ebert & Jones, 2016). Medication is also widely used and may be a useful and appropriate complement to these services, as is finding time for enjoyable and relaxing activities (Lavender et al., 2016).

Physical health

Food, exercise, sleep, doctors and treatment, alcohol, smoking, drugs, sexual health.

Attending appointments with health professionals and having a healthy lifestyle is important for the physical health and wellbeing of both the parent and the child. Around a fifth of maternal deaths in developed countries are attributed to women who fail to receive adequate antenatal care (Downe, Finlayson, Walsh & Lavender, 2009). Poor attendance at appointments in pregnancy is associated with smoking and alcohol, lower birth weight, and a greater risk of foetal and neonatal death (Raatikainen, Heiskanen & Heinonen, 2007).

A parent's health and health-related behaviours such as drug use, smoking, diet and exercise can also have a significant impact on the baby after birth – both directly (e.g.

through smoke inhalation) and indirectly, through effects on the parent's wellbeing and behaviour. For example, there is strong evidence for links between diet and mood (Leung & Kaplan, 2009). Low mood in the perinatal period predicts unhealthier diet, which in turn is associated with emotional-behavioural problems in children (Pina-Camacho, Jensen, Gaysina & Barker, 2015).

Sleep deprivation and substance misuse may be particularly important to address due to negative effects on other health behaviours, mood and the baby (Armstrong, O'Donnell, McCallum & Dadds, 1998; Chang, Pien, Duntley & Macones, 2010; Nair, Schuler, Black, Kettinger & Harrington, 2003). New parents may need support to attend appointments and to maintain or move towards a healthy lifestyle, particularly when they are experiencing mental health issues, domestic abuse or the effects of socioeconomic deprivation (Bennett, Einarson, Taddio, Koren & Einarson, 2004; Bowen & Muhajarine, 2006).

Housing and essentials

A suitable, stable home, money for basics, essential equipment.

New parents clearly need a suitable, stable home with money for food, heating and basic equipment for their baby, and yet this is by no means guaranteed. It is estimated that around a fifth of families in the UK live below the poverty level and need support to provide the essentials for their new baby (NCT, 2013). Support may be needed to access financial and practical support, especially in the context of changes and cuts to the benefits that parents can receive (NCT, 2011).

The consequences of not having a suitable home or other essentials are serious and far reaching. Homeless parents and children experience physical illness and hunger twice as often as those who are not experiencing homelessness (National Center on Family Homelessness, 2006). There are also indirect effects, for example temporary housing, financial hardship and concerns about access to food have been shown to strongly predict postnatal depression- with knock-on effects for the child (Casey et al., 2004; Lee, Yip, Leung & Chung, 2000). Being preoccupied with basic survival also reduces parents' capacity to respond fully to their child's needs and can have negative effects on parenting quality (David, Gelberg & Suchman, 2012; Torquati, 2002). In relation to longer term outcomes, childhood hardships predict smoking, depression, mood disturbance and substance abuse in adulthood (Anda et al., 2006; Holzman et al., 2006).

Relationship

Respect, communication, support, avoiding unhealthy conflict with a partner and/or co-parent

It is well established that becoming parents can cause difficulties between couples, and women are most affected by this (e.g. Feeney, Hohaus, Noller & Alexander, 2001; Shapiro et al., 2000). Women with poor relationships with their partner are more likely to experience stress and low mood both in pregnancy and after birth (Bloch, Webb, Mathews, Dennis, Bennett, & Culhane, 2010; Lancaster et al., 2010). Research shows that bad marriages involve conflict, stress, or even abuse, negating any health advantage normally associated with being married (Karasu, 2007; Koepsell, Kernic & Holt, 2006).

Relationship quality is also associated with drug use and smoking (Bloch et al., 2010) and as discussed above, these effects on mood and behaviour can have significant harmful effects for the baby. Domestic abuse is also a clear risk to the baby and is reported to be more prevalent during pregnancy, when the violence is often directed at the mother's abdomen (Webster, Sweett & Stolz, 1994). It is important to provide support to address these negative consequences, and also to encourage the benefits that can result from protective and helpful relationships. Having a kind, trustworthy intimate partner protects against perinatal mental disorders (Fisher et al., 2012), and enhances well-being as well as parental effectiveness and coping (Aycan & Eskin, 2005). There is potential to create benefits from increasing a partner's understanding of motherhood, with evidence that this can significantly reduce postnatal distress and depression in first time mothers with low self-esteem (Matthey, Kavanagh, Howie, Barnett & Charles, 2004). It has also been shown that a couple's relationship and parenting education programme can enhance couple communication and adjustment to parenthood (Halford, Petch & Creedy, 2010).

Support network

Family, friends, community, social activities, antenatal and baby groups

Negative or limited connections within wider social networks can also have detrimental effects for both parent and baby, while positive connections can protect against or improve coping with negative outcomes such as postnatal depression (PND). Having insufficient emotional and practical support and hostile in-laws predicts the likelihood of perinatal mental disorders (Fisher et al., 2012) and having a strong support network is associated with better quality of life during the perinatal period (Emmanuel, St John & Sun, 2012). Quality of life is likely to be improved by the practical element of social support including the opportunity for rest. For example, mothers are key in providing advice and emotional help as well as childcare and time to rest or enjoy social activities (Cronin, 2003).

Well supported parents are less affected by the daily hassles of parenting (have fewer competing demands on their time, and as a result are more available to their babies (Bornstein, Putnick, Suwalsky & Gini, 2006). Social support improves parenting quality and sense of competency in the parental role (Cochran & Niego, 2002; Levine, Garcia-Coll, & Oh, 1985; Mercer, Hackley, & Bostrom, 1984). Support from nurses and others is also extremely important in the breastfeeding experience and positively influences breastfeeding intention and duration (Grassley, 2010).

Activities in the local community such as antenatal or baby and toddler groups can be a valuable source of social support. Most women who choose group antenatal care hope to build friendships and support networks for sharing knowledge, ideas and experiences (Teate, Leap, Rising & Homer, 2011). Online support groups can also be beneficial, providing women experiencing PND a safe place to connect with others and receive information, encouragement and hope (Evans, Donelle & Hume-Loveland, 2012). Fathers could benefit from greater social support as well, with lack of support predicting psychological distress amongst new fathers (Boyce, Condon, Barton & Corkindale, 2007).

Looking after your baby

Feeding, bathing, sleeping, stimulation, your baby's health and development

Many parents feel overwhelmed by their role during the first year of infancy and doubt their ability to look after their child's practical and developmental needs. Feeling confident in the parental role ('parenting self-efficacy', PSE) is important for the well-being of both the parent and child and predicts both parenting satisfaction and success (Coleman & Karraker, 1998; Hudson, Elek & Fleck, 2001). In a review of the PSE construct, Coleman and Karraker, (1998) note that research studies into PSE 'dramatically illustrate the gravity of this variable for understanding personal satisfaction or adjustment to parenting and the quality of the environment (both physical and psychological) that parents are able to provide for their children'.

Mothers and fathers who feel worried about their ability to care for their child are more likely to experience low mood and depression postnatally, and this can in turn increase feelings of inadequacy and make it more difficult to succeed. Research has shown that having these concerns in pregnancy predicts perceptions of infant temperament, with women worried about their ability viewing their newborn baby as more unsettled (Verhage, Oosterman & Schuengel, 2013). In one large survey, over a fifth of women reported that 'pressure to do things right' contributed to postnatal mental health problems, with subsequent beliefs about not being the best person to care for their baby (Russell et al., 2013). Paternal self-efficacy is also linked to elevated psychological distress during the first year of their child's life (Giallo et al., 2013).

Providing support to increase confidence in caring for a new baby has been shown to be effective and important in the transition to parenthood (Deave, Johnson & Ingram, 2008; Kohlhoff, & Barnett, 2013). High quality postnatal education significantly increases confidence and can reduce levels of postnatal depression (Shorey et al., 2015; Shorey et al., 2017).

Connecting with your baby

Bonding with your baby, their emotional security, enjoying and responding to your baby

The parental connection is crucial for the child's well-being and development (Murray, Stanley, Hooper, King & Fiori-Cowley, 1996; Kumar 1997). However, there can be a delay in the onset of affection after childbirth and this can be longer lasting and is more common amongst mothers with depression (Kumar 1997; Murray et al., 1996). Maternal depressive symptoms in the first few months after birth are strongly associated with lower quality of maternal bonding, difficulties interacting with the baby in the first year and the baby having an insecure attachment (Coyl, Roggman & Newland, 2002; Moehler, Brunner, Wiebel & Reck, 2006; Murray et al., 1996). Fathers are more likely than mothers to experience impaired bonding, particularly when they themselves have depressive symptoms (Edhborg, Matthiesen, Lundh & Widström, 2005).

Fortunately, it is possible to strengthen the connection and enjoyment of the parenting role. Research suggests that attending baby massage classes can be beneficial, perhaps in part through the hormonal effects of physical contact (Gürol & Polat, 2012). Factors such as hospitalisation and infant ill health can also interrupt the ability to bond reciprocally (Mercer

& Walker, 2006) and studies in the neonatal intensive care environment show that nurses play a vital role in supporting positive parent-infant interactions, for example by supporting skin-to-skin contact (Feldman, Eidelman, Sirota & Weller, 2002; Gale et al. 2004). Interventions designed specifically to promote a more secure attachment have also been shown to be successful (Santelices et al., 2011). In some cases, these interventions seek to improve parental sensitivity to perceive and respond to signals adequately, because this can affect attachment (Ainsworth, Blehar, Waters & Wall, 1978; De Wolff & Van IJzendoorn, 1997).

Conclusion

The research discussed above supports the Journey of Change and the importance of the outcome areas in terms of the wellbeing of both the parent and child. It is clear that identifying the need for support and providing support to parents in these areas can have a substantial effect, both in the short-term and long-term. The Parent and Baby Star aims to support this process.

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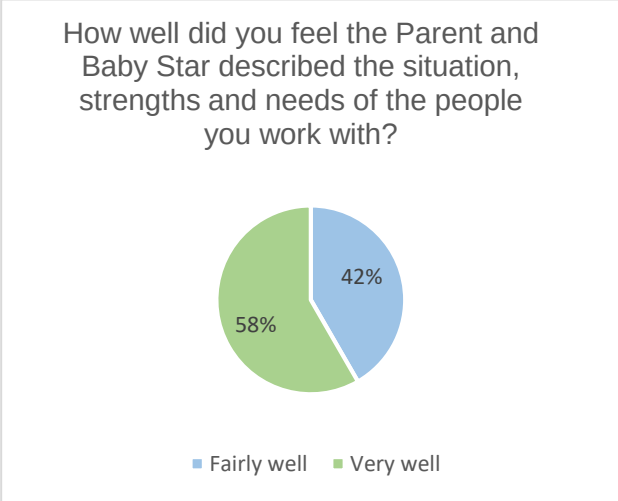
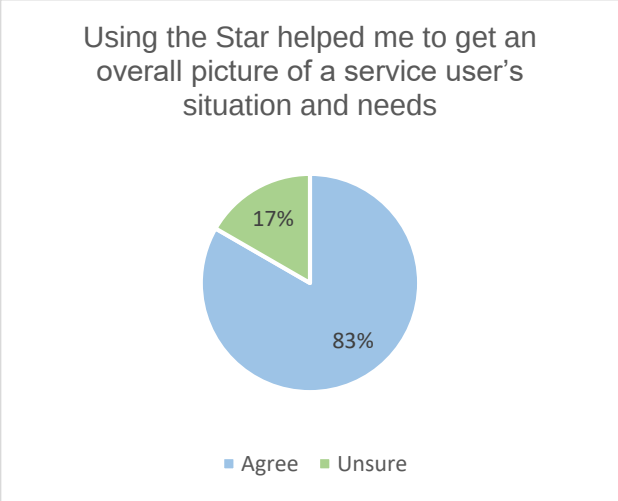
5. Appendices

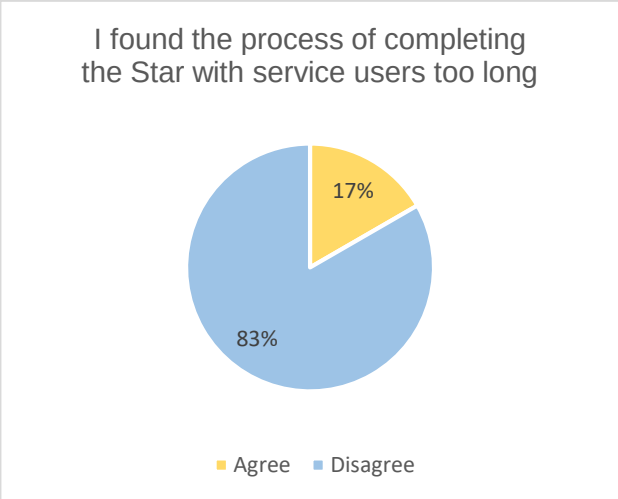
Appendix 1: Worker and service user feedback following the Parent and Baby Star pilot

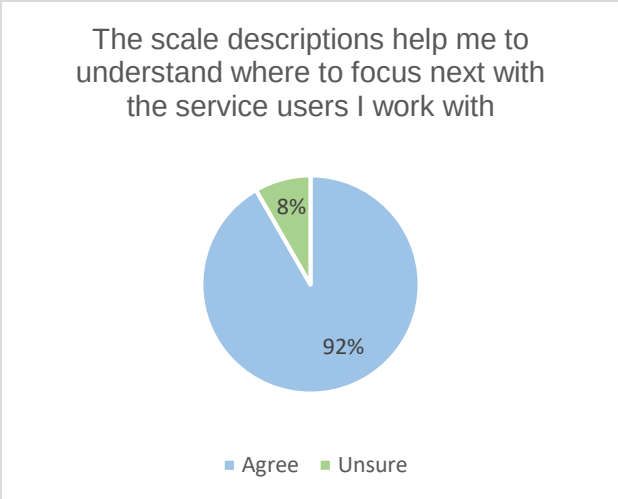
Parent and Baby Star worker feedback

Triangle received 12 completed feedback forms from workers on using the Parent and Baby Star









Worker open-ended feedback in response to the Parent and Baby Star

What did you most appreciate about using the Parent and Baby Star?

"I appreciate the way that parents rate themselves and their journey"

"The Star helps to check in with parents about where they are in their lives, with their baby and with relationships and support. It keeps their goals in focus and alive"

"It was a more nurturing Star

"The Star gave me an opportunity to explore every area of her life relating to the unborn baby. I feel that this tool opened up more in-depth discussions, than we would usually have"

"It helped to open up conversations and it helped with new clients to bring their focus on different areas of their current situation. In domestic abuse cases things change frequently in relationships and I found that in the first Star completion client scored 3 and then went down to 1 in a review. It does not necessarily show the upward progress"

"The wording for the scales opened up lots of conversation relating to interventions that we could put in place"

"I liked that it was quick to use and not that overwhelming i.e. only having a 5-point Journey of Change"

"This particular client was quite guarded therefore it was useful to explain that this was her Star between us and it was for her to use and see how she improved over the weeks. I explained that we can then tailor the variety of services that is needed for her. She was very open afterwards and more engaged"

"The visual tools that are new were great. It gives the family a clear breakdown of what the sections actually mean"

"I was able to show parents the process and provide paperwork to back up the work offered. The visual Star is a great tool to show parents"

"The Star helps you take comments and plan actions if necessary"

"I did not get the opportunity to use the Star with many service users as they had already completed the large aspects of the programme. This said, the discussions I did have with service users using the Star were useful as it focused the service user in thinking about where they were in achieving their goals and where they would like to be. This gave space to explore things that they felt they needed to do in order to achieve"

"The Star should be available to all parents in the centre - gives them a real understanding of how we can support them overall"

Are there any improvements you would like to suggest

"Some of the descriptions do not apply to parents who have not yet given birth to their baby"

"Managing well implies that the lower scales would be in comparison to that. Perhaps it would be easier described in this sense first and then referring to e.g. finding what works, accepting help etc. (for both worker and user)"

"We were happy with the content it wasn't too intrusive"

"Understanding and expectations - possibly change wording to reflect that this is about how past trauma/experiences may impact"

"Having what you need could be more specific. I suggest that the heading could be changed or reworded"

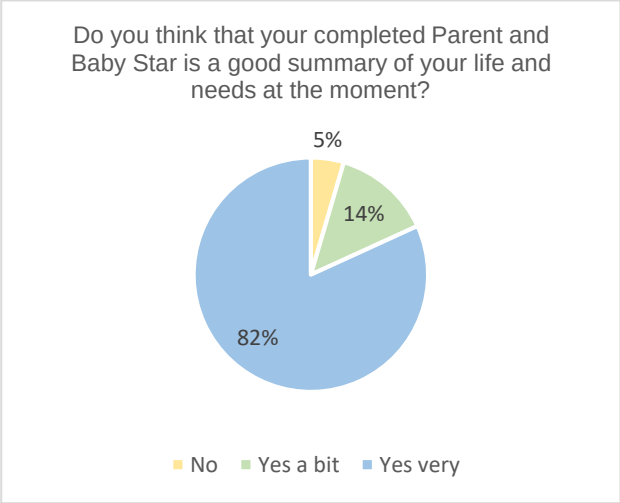
"Scale 6 does not apply during pregnancy. A couple of ladies needed number 8 explained to them"

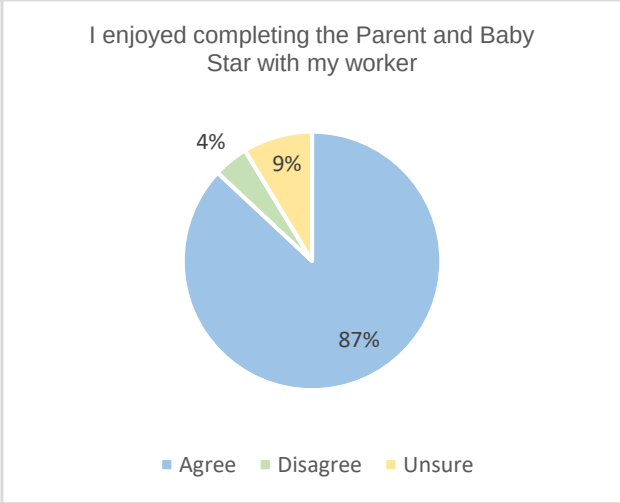
"I recommend that it is better to complete the Star before they have the baby so support and impact can show in data. Review every 2 months"

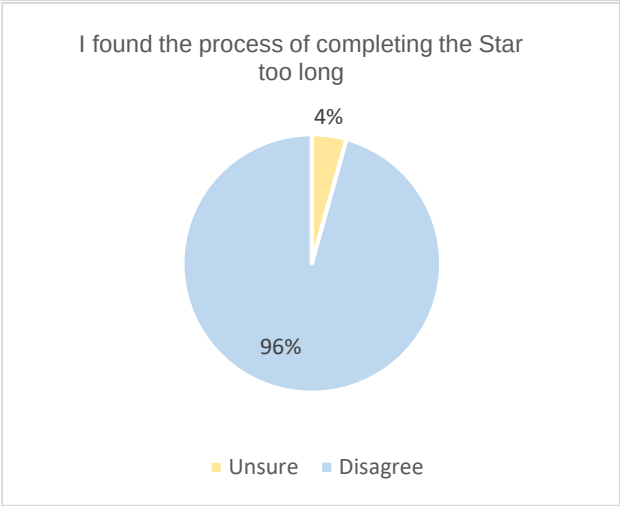
"Introducing the Star part way through service user's journey was challenging, as most service users did not take to it in session. The categories were useful topics to discuss and focus on how this affects their behaviour on how they attempt to achieve their goals. It may be useful for service users to have more of a breakdown of different aspects of the star with examples to help guide them in their reflections outside the session"

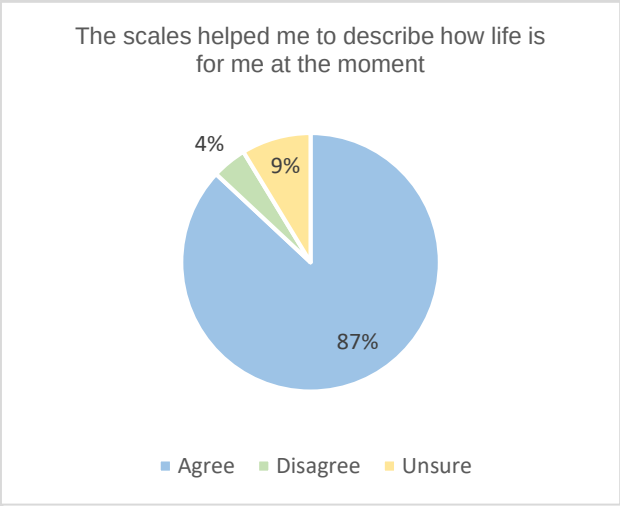
Parent and Baby Star Parent Feedback

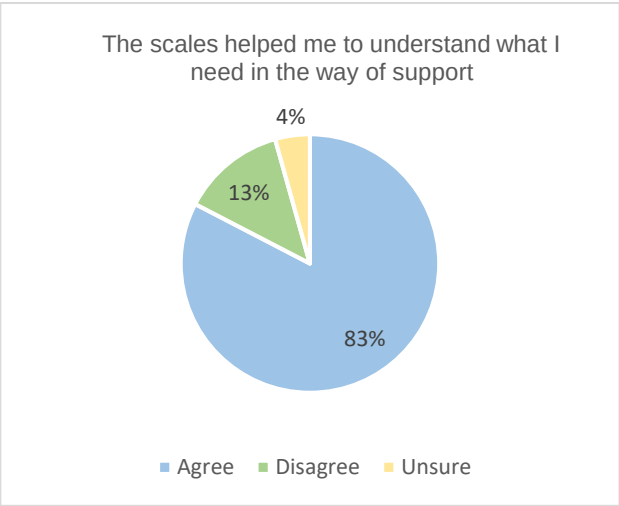
Triangle received 23 completed feedback forms from parents on using the Parent and Baby Star.


Do you think that your completed Parent and Baby Star is a good summary of your life and needs at the moment?
5%
14%
82%
No
Yes a bit
Yes very


I enjoyed completing the Parent and Baby Star with my worker
4%
9%
87%
Agree
Disagree
Unsure


I found the process of completing the Star too long
4%
96%
Unsure
Disagree


The scales helped me to describe how life is for me at the moment
4%
9%
87%
Agree
Disagree
Unsure


The scales helped me to understand what I need in the way of support
4%
13%
83%
Agree
Disagree
Unsure

Parents' open-ended feedback in response to the Parent and Baby Star

What did you like about using the Parent and Baby Star

"I liked that it made you think and realise where support was needed. It gives you the motivation to make it look better the next time"

"Made me think honestly about how I was feeling"

"It made me realise I can see the change where I've come and what progress I've made"

"I am able to reflect on how things are for me and my family"

"It made me realise areas I may struggle with and it was easy to do"

"I like the visual Star, I can see how I've achieved and its simple to understand"

"It shows areas I can improve in"

"It helps me know where I am and if I need help"

"It's visual, simple, easy to understand and recognise places for improvement"

"It's nice to see what stage I'm at and what support I need"

"After it was explained to me, I found it useful"

"I liked that it was my answers"

"It was my opinion"

"Quick and easy to understand and explained by my worker when I didn't understand"

"Shows you where you are at from the beginning and what changed for the better or worse"

"Easy to understand"

"It helped me realise where I was with my anxiety. It gave me the options of what I can do with my anxiety"

Are there any improvements you would like to suggest?

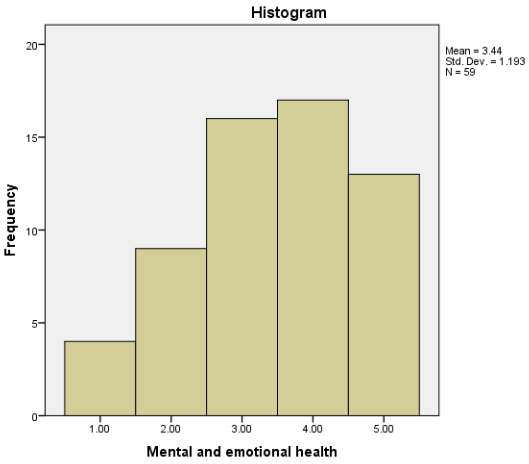
"I feel there was more impact after I had had the baby. 3 readings minimum should be done to see how far you have come"

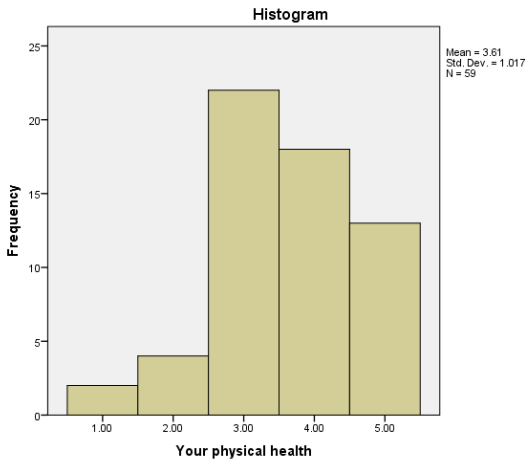
"I feel that my readings before I gave birth would have been lower. I am pleased that the readings did show some impact though. I feel there should be more support for parents going through emotional difficulties. I was pleased to be part of the pilot"

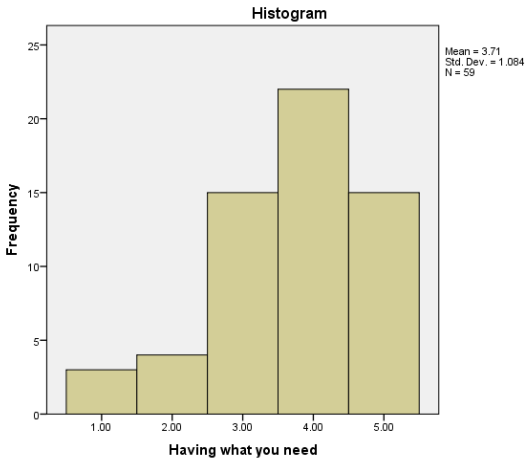
"I found it pointless and a waste of 20 minutes of my life"

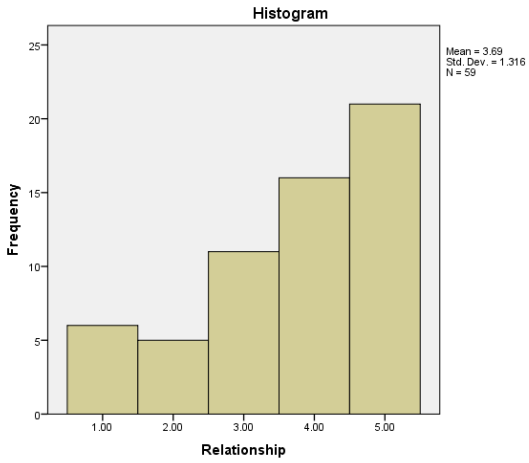
"I am still pregnancy so cannot yet comment on looking after birth"

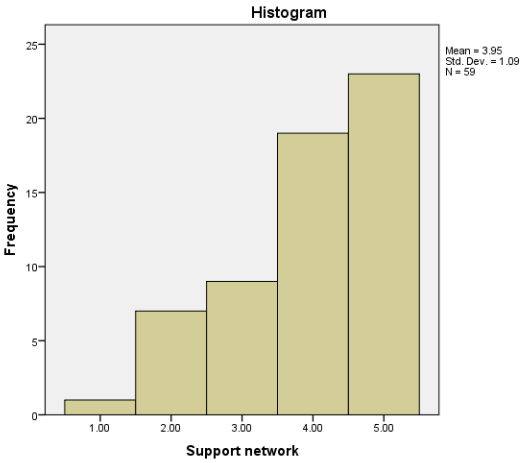
Appendix 2: Graphs showing the distribution of initial Star readings across the Journey of Change stages during the pilot of the Parent and Baby Star

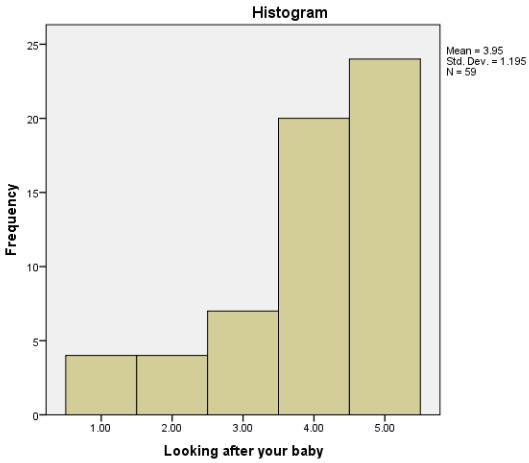


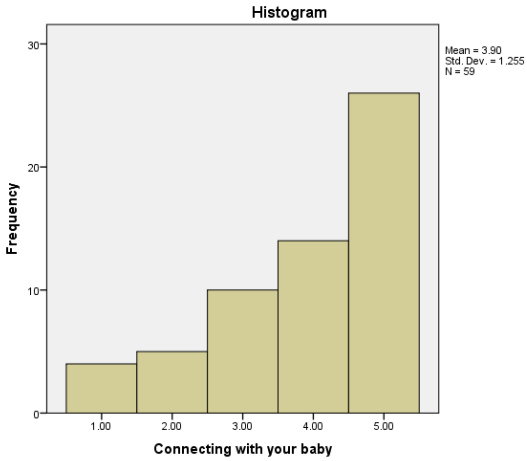


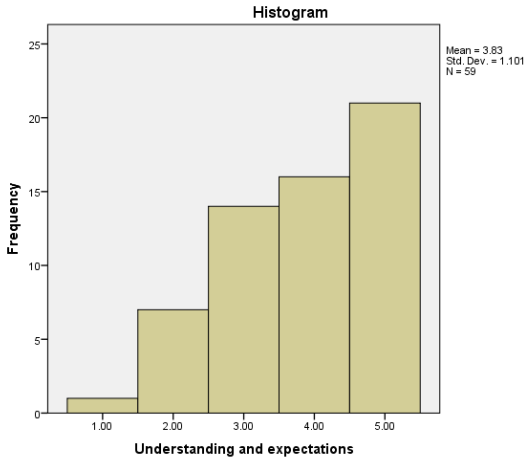












Appendix 3: Table showing the pilot Parent and Baby Star's inter-item correlations

	1	2	3	4	5	6	7	8
1 Mental and emotional health								
2 Your physical health	.41							
3 Having what you need	.14	-.07						
4 Relationship	.61	.28	.35					
5 Support network	.30	.40	.25	.35				
6 Looking after your baby	.48	.27	.32	.34	.26			
7 Connecting with your baby	.41	.25	.05	.34	.11	.65		
8 Understanding and expectations	.50	.28	.25	.46	.22	.57	.66	

Appendix 4: Table showing the results of Wilcoxen Signed Ranks Test

Outcome area	First Star reading Median	Second Star reading Median	Wilcoxen statistic *Z*	Effect size[1] *r*
Mental & emotional health	4.00	4.00	-1.88	.26
Your physical health	4.00	4.00	-0.36	.05
Having what you need	4.00	4.00	-1.29	.18
Relationship	4.00	4.00	-0.67	.09
Support network	4.00	4.00	-0.84	.12
Looking after your baby	4.00	5.00	-1.44	.20
Connecting with your baby	4.00	5.00	-1.44	.20
Understanding and expectations	4.00	5.00	-1.62	.20

*$p<.05$

[1] Cohen provided rules of thumb for interpreting effect sizes, suggesting that an r of .1 represents a 'small' effect size, .3 represents a 'medium' effect size and .5 represents a 'large' effect size.

Appendix 5: Relationship to other tools measuring parent's mental health and well-being in the perinatal period

This scoping review was conducted to explore existing tools used when working with parents to support their perinatal mental health and wellbeing. It is not intended to be a comprehensive list of every available tool used in this period, but instead to give an overview of the types of measures that are available, focusing on those closest to the outcome areas in the Parent and Baby Star.

The World Health Organisation recommends that perinatal care should be 'holistic, and concerned with intellectual, emotional, social, and cultural needs of women, their babies and families and not only with their biological care'. They also state that women should be involved in decision making (Chalmers, Mangiaterra & Porter, 2001; p.203). Often general measures of stress or depression are used, leading researchers to call for new tools specifically developed for pregnancy and early parenthood (Razurel, Kaiser, Sellenet & Epiney, 2013, p.74). Health visitors and community midwives also report the need for resources to support them in discussing emotional wellbeing with women in a more meaningful way (Russell et al., 2013). A tailored affective assessment tool would help health care practitioners to better identify families who require additional support in order to promote positive perinatal well-being (Allan et al., 2013).

As can be seen in the table below most tools used in the perinatal period are narrowly defined (e.g. only assessing postnatal depression) and use self-report methods with the resulting data taken away for use by professionals and researchers. There is some overlap with the outcome areas in the Parent and Baby Star, as would be expected but for the most part each tool focuses on a construct covered by a single outcome area in this Star (e.g. the emotional connection with the baby or mental health). There are a handful of tools that cover a wider range of issues – for example the What Being the Parent of a New Baby is Like- Revised (Pridham & Chang, 1989) and the Birmingham interview, but these by no means offer a comprehensive view of all relevant contributors to the well-being of mother and child in the perinatal period. The Parent and Baby Star goes beyond the existing tools by assessing not only mental health and wellbeing but also a diverse range of other areas known to relate to both maternal wellbeing and important outcomes for the child.

The Parent and Baby Star, as with all versions of the Outcomes Star, is also relatively unique in that it is also a keywork tool – i.e. it facilitates the conversation between keyworkers and service users and encourages joint decisions making and action planning. In contrast to most measures, it uses detailed descriptors for each point on the scale allowing a shared understanding of what is meant by each point and a collaborative agreement about where a parent is, based on the observable facts and the perceptions of both parent and worker. The Journey of Change underlying each of the scales is also different in that it reflects engagement with the issue as well as attitude and behaviour change- the degree to which relevant services are accessed and the extent to which the parent is self-reliant.

Construct assessed	Tool name	Description
The parenting experience	What Being the Parent of a New Baby is Like-Revised (Pridham & Chang, 1989)	25 Self-completion items within three subscales assessing parents' perceptions of themselves as parents and of the parenting experience with young infants: 1) Evaluation - satisfaction in being the parent of a new infant and in infant-care tasks) 2) Centrality - how much the infant, its care, or its physical health are on the parent's mind, including times when the parent is away from home, difficulty leaving the infant with someone else, and ease of being distracted from the infant) 3) Life Change (changes in a parent's personal life and self-image, change in life and relationships with family members, and overall stressfulness of life) The authors suggest it is 'useful for describing three major aspects of the parenting experience from a mother's perspective' and for 'evaluation of outcomes of birthing interventions and of childbearing or early childrearing programs' (Pridham & Chang 1989; p.328)
Attachment/mental health during the perinatal period	Birmingham Interview for Maternal Mental Health ('Birmingham Interview'; Brockington et al., 2006).	This interview is designed to explore the social, psychological and psychiatric course of pregnancy, giving birth and the 6 weeks after birth. It has 120 compulsory probes and 175 ratings and takes an average of one hour 45 minutes to complete. There are 8 sections: 1. Psychiatric and obstetric history 2. Social and psychological background to this pregnancy 3. Prior psychiatric disorders 4. Parturition (the birth) 5. Social and psychological background to the Pueperium (6 weeks after the birth) 6. Postpartum psychiatric disorders 7. Mother-infant relationship 8. Conclusion.
Mother-infant bonding scale	Mother-child relationship: Mother Object Relationship scale -short form for babies (Oates & Gervai, 2003)	14 self-completion items developed as a screening tool to identify potential areas of difficulty in the mother-child attachment relationship. The 'Warmth' scale: the mother's perceptions about how the infant feels towards her (e.g., "…my baby is affectionate to me…") The 'Invasion' scale: the mother's perceptions about the baby being seen as intrusive (e.g., "…my baby wants too much attention…".

Mental health assessment for the perinatal period	Edinburgh Postpartum Depression Scale (Cox, Holden & Sagovsky, 1987).	10 self-completion items for identifying patients at risk for perinatal depression. Example items are “I have been able to laugh and see the funny side of things’ and ‘Things have been getting on top of me’
	Postpartum depression screening scale (Beck & Gable, 2000)	35 self-completion items for identifying patients at risk for postpartum depression.
	Whooley questions	Two initial questions used by health professionals to identify those who may be depressed whether a woman has felt sad or lost an interest in things. These questions are not designed specifically for the perinatal period.
	Pregnancy Risk Questionnaire (Austin, Hadzi-Pavlovic, Saint & Parker 2005)	18 self-completion items assessing depression in pregnancy
	Prenatal psychosocial screening tool (McDonald et al., 2012).	Prenatal screening tool for predicting postnatal anxiety and depression based on depression and stress in late pregnancy, history of abuse, and poor relationship quality with partner
	Maternal Postpartum Attachment Scale (MPAS: Condon and Corkindale 1998)	19 self-completion items measuring pleasure in proximity, acceptance, tolerance, and competence as parent
	The Postpartum Bonding Questionnaire (PBQ: Brockington et al. 2001)	25 self-completion items within four subscales: 1) a general factor 2) rejection & pathological anger 3) anxiety about the infant 4) incipient abuse
	Mother-to-Infant Bonding Scale (MIBS: Taylor, Atkins, Kumar, Adams & Glover, 2005)	8 self-completion items assessing the feelings of a mother towards her new baby
	The Postpartum Maternal Attachment Scale (Nagata et al., 2000)	25 self-completion items including ‘‘I am not that interested in my child’’, ‘‘I don’t find my baby cute’’, ‘‘I don’t know how to interact with my baby’’, ‘‘I have trouble actually feeling the baby is mine’’ and ‘‘I have trouble feeling I am a mother’’.

Maternal social support	Social isolation: Maternal Social Support Index (Pascoe, Ialongo, Horn, Reinhart, & Perradatto, 1988).	21 self-completion items designed to quickly assess qualitative and quantitative aspects of a mother's social support
	Perinatal Infant Care Social Support scale (Leahy-Warren, 2005)	31 self-completion items measuring functional and structural social support
Coping with parenting	Parenting Morale Index (Trute & Hiebert-Murphy, 2005)	10 self-completion items measuring positive spirits, psychological energy, and enthusiasm for parenting a child with a disability. Item (e.g., "When you think of your daily life as a parent, how often do you feel optimistic?")
Parental self-efficacy	Maternal Efficacy Questionnaire (Teti & Gelfand, 1991)	10 self-completion items measuring mothers' feelings of efficacy in relation to specific infant care tasks (e.g., engaging in daily routine care, infant soothing, what the infant wants, etc.).
	Comfort with Parenting (Ballenski & Cook, 1982)	60 items across different (8–14 per age period) developmental stages from infancy through adolescence
	Maternal Self-Definition task (Deutsch, Ruble, Fleming, Brooks-Gunn, & Stangor, 1988)	33 items measuring task-specific mothering behaviours and general attributes

Appendix 5 References

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