Mellow Bumps: An attachment-based programme for pregnancy

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It has been difficult to show robust research evidence that antenatal education is effective, even for physical aspects of birth and research has largely omitted the more emotional and psychological aspects of becoming a parent and infant mental health. This journal is a clear indicator in the radical change in that focus. Christine Puckering's article describes the roots and development of the Mellow Bumps programme and the early evaluations of its effectiveness. Further developments of the programme for parents with learning difficulties and disabilities, fathers and families where there is domestic violence are planned.

Antenatal education for parents has traditionally been offered to parents-to-be in the third trimester and has concentrated largely on the physical aspects of pregnancy and delivery, with some reference to early parent craft. Despite good intentions, it has been difficult to show it is effective even for delivery outcomes, let alone the more emotional and relationship aspects of becoming a parent (Gagnon & Sandal, 2007). In addition, antenatal education has been shunned by the most vulnerable groups, for whom it might be most helpful. The Growing up in Scotland study of a large sample of families reported that 55% of parents-to-be did not use antenatal classes. The classes were less used by second and later parity mothers. Among first time mothers, younger mothers were the least likely to attend antenatal education, reporting that they did not like groups, feeling that they would be stigmatised or that they did not know where to find groups. To understand more fully the reasons for non-attendance, the researchers questioned whether the non-users were more likely to be using informal supports from family or friends. This was not the case: non-users were simply more isolated and had access to neither formal nor informal support (Maybellis & Marryat, 2011). It became clear that a different model of an antenatal programme was needed to reach the most vulnerable families and that attachment theory might lead to an answer that would better meet the needs of the parents and offer a framework to address emotions in pregnancy and the social and emotional development of the baby . Where parents have insecure states of mind with respect to attachment, not only are they at higher risk of making less than optimal relationships with their babies, they are also less likely to have confidence in approaching and using services (Van IJzendoorn,1995). Parents who feel stigmatised because of their youth, substance use, poor literacy or homelessness are less ready to seek or accept help. We describe these as poor attenders: we do not so frequently ask what we might do differently to make the service more accessible and attractive.

A further spur to attempt to address the needs of high risk parents came from emerging evidence of the adverse effects of elevated stress in pregnancy on the baby's long term development and the high salience of early interaction. Midwives, health visitors and social care practitioners have been all too aware of these findings, which have led to initiatives such as this Journal and inclusion of infant mental health and parenting in the Revised Scottish Antenatal Curriculum and Maternity Services Action Group Report (MSAG, 2011). The adverse

effects of stress in pregnancy, poverty, deprivation, intimate partner violence, social isolation, alcohol and substance misuse and being a teenage mum or a care leaver are all indicated as risk factors for the later well-being of the baby. To be holistic, antenatal care should include not only the physical wellbeing of the mother and the delivery of a healthy baby, but the impact that both pregnancy and the early months of life have on the long-term outcomes for children.

The programme includes reflective functioning, emotional self-regulation, relaxation, diet, stress, support and 'ghosts from the past'.

The pathways by which these antenatal stressors affect the baby are now becoming clear. Antenatal stress is associated with increased cortisol in the mother. Rising cortisol levels in response to stress are usually moderated by a homeostatic mechanism that allows cortisol to rise at the onset of stress, preparing the body for action and a feedback loop then shuts down cortisol production, allowing the body to return to a quiescent state. Through the course of pregnancy, cortisol levels rise and play a part in foetal maturation. However, excessive cortisol in pregnancy leads to a positive feedback loop instead of the usual negative feedback, exposing the foetus to ever increasing levels of stress hormones (Sandman et al., 2011). High levels of cortisol delay nervous system development, and affect the physical and stress responses of the foetus and increase the risk of premature delivery. In the longer term, this affects the development of grey matter (Buss et al., 2010) and emotional and cognitive development.

In view of this rising tide of evidence and concern, Mellow Parenting has developed a programme to address both antenatal stress in mothers and to introduce the mothers-to- be to the importance of interaction for infant mental health.

MELLOW BUMPS PROGRAMME

The programme was targeted precisely at those mothers-to- be who were most likely to be experiencing high levels of stress and were least likely to access good antenatal education. Given the reluctance of these groups to use antenatal programmes, particularly if they involve group attendance, careful thought was given to how to approach families and how to encourage their attendance. Previous experience with Mellow Parenting programmes had shown that initial home visits, a non-didactic approach and a nurturing and non-judgemental atmosphere were all important to parents-to-be and these were built into the programme. In addition, practical support with accessing the groups, with taxis or transport costs, was provided. The programme was designed to be offered at 20-30 weeks' gestation, a stage at which the pregnancy was relatively secure and the mother might have felt foetal movement, but before preoccupation with the impending delivery became all consuming. Six weekly sessions lasting two and a half hours were planned. A welcoming atmosphere with refreshments, low didactic content and low literacy demands were fundamental, with an optional partners' session and a reunion to follow up the group after the delivery of the babies

The topics for the mother included reflective functioning, emotional self-regulation, relaxation, good diet, exercise, sources of stress and support and 'Ghosts from the Past' (Fraiberg et al., 1975). Sessions were delivered by two trained practitioners with minimal didactic content. For example, good diet was covered in a session involving making fruit kebabs, and sorting pictures of foods into three groups following a traffic light code of green for 'eat as much as you wish' , amber for 'eat sometimes' and red for "'eat only as an occasional treat'. Relaxation was included in every session with the concept of Vitamin L (laughter) introduced as an antidote to stress (Solchany, 2001). Youtube videos proved very helpful. Messages of the session were reinforced by follow-up tasks at home such as trying a new food or something tried in the group and enjoyed. Quizzes and video excerpts were used to keep the material lively, engaging and informative.

In addition, each week a topic related to the developing capacities of the baby, both antenatally and postnatally was included. Video of neonatal imitation, social communication and brain development was used and practical tasks such as reading baby cues from pictures of babies employed. Again, "Have a Go" practice at home was used to reinforce messages from the session.

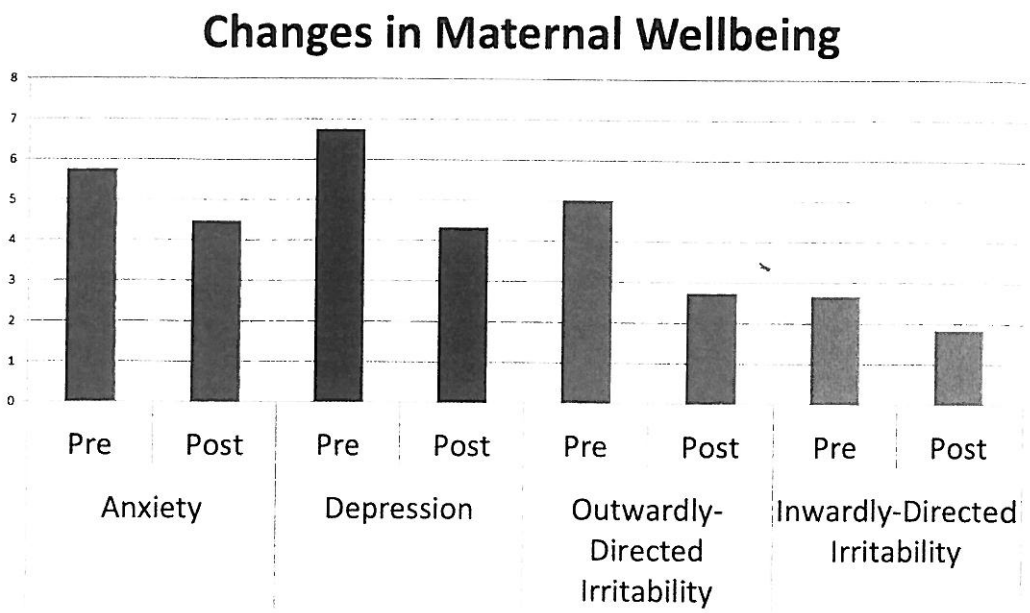
THE STEFANOU FOUNDATION

This Foundation is an independent charity that aims to promote the well-being of the very young and very old, protecting those who are suffering or at risk, but unable to tell others about it.

INITIAL OUTCOMES

Early results (Waugh et al., 2011) demonstrated that the programme was associated with significant reduction in maternal anxiety, depressive symptoms and irritability. Working with groups that included mums with substance abuse problems, previous removal of children and teen pregnancy, there were significant differences in subscales of the Adult Wellbeing Scale (Snaith et al., 1978): depression ($p<.05$, $d=.65$), anxiety ($p<.005$, $d=.92$), outwardly directed irritability ($p<.005$, $d=.96$) and inwardly directed irritability ($p<.05$, $d=.55$) (Figure 1). Gestational age averaged 38.8 weeks (SD=1.79 weeks) and birth weight, uncorrected for gender, averaged at 3.0kg (SD=0.36kg). Most striking was a marked change in the willingness of participants to engage with other appropriate services. Many of the parents had had previous difficult relationships with health and social care agencies, including children removed from their care. They were wary and untrusting of service providers. After the group

FIGURE 1 ADULT WELLBEING SCALE BEFORE AND AFTER INVOLVEMENT IN MELLOW BUMPS (n=55)



however, they were eager to join baby massage groups, use Bounce and Rhyme sessions and attend Mellow Babies groups.

RESEARCH TRIALS

On the basis of this early data, an exploratory study to assess feasibility of the intervention in the "real world" was undertaken with a grant from the Scottish Collaboration for Public Health Research and Policy. The inclusion criteria reflected a variety of additional social and health needs in pregnancy (Figure 2). Possible participants were assigned in randomised blocks to either Mellow Bumps, Care as Usual or Chill out in Pregnancy, a specially written programme designed to reduce maternal stress but with no reference to infant mental health. The 35 participants recruited were aged from 17 to 42 years old and all met social deprivation criteria. They were a mixture of primiparous and multiparous women. About half had mental health difficulties and for one third, there were child protection concerns. Twenty eight of the women were available for follow up, with drop out resulting from failing to finishing group (2 mothers), failing to respond to contact or advice to the study team from the referrer not to follow up (White et al., 2013). The 23 children who could be followed up were born at an average of 39 weeks' gestation, which was a positive finding for a group in whom premature delivery was a risk. Their birth weights were 3.4kg on average with none less than 2.2kg. Both Mellow Bumps and Chill Out in Pregnancy resulted in improvements in the Adult Wellbeing Scale (Snaith et al, 1978) with a small advantage to the Mellow Bumps group. It had been hoped to collect samples from mothers and babies for cortisol assays but mothers were very reluctant to provide salivary samples for cortisol testing. They found the process of spitting into a small tube repugnant but they were also concerned that the samples would be used covertly to screen for illicit drug use (White et al., 2013). They also found it difficult to collect enough saliva from the babies.

The trialas provided a foundation for the development of the THRIVE trial (Trial of Healthy Relationship Initiatives in the Very Early Years) which will be a randomised controlled trial of Mellow Bumps, Triple P for Baby (Enhanced) and Care as Usual to be conducted by Dr. Marion Henderson and funded by the National Institute for Health Research at the University of Glasgow. Recruitment of pregnant women will start in January 2014.

WHAT THE MOTHERS-TO-BE SAID

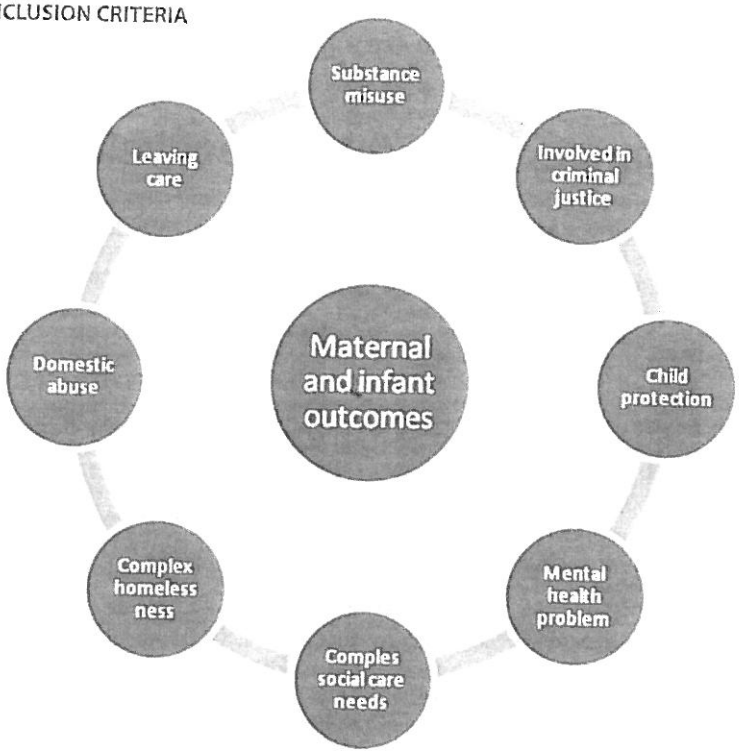
"The relaxation, that was helpful...I actually thought about that when I was in labour"
(Bumps trial participant)

"Why did they never tell me this before?"
(Mum having her fourth child)

"I panic quite a lot when I'm out and now I don't care wherever I am, I'll stop and I'll breathe and I don't care who's looking at me. I breathe in queues, like in the supermarket. (If) I can feel myself starting to panic, I just close my eyes and breathe, the way they taught me...(I noticed that) when he's being sick, pooing and peeing and scratching his face all at the same time, I was just singing away to him changing his bum and it wasn't until I was finished that I was like 'why am I not panicking?' and I realised half way through (that) I was breathing.
(Bumps trial participant)

Mellow Bumps introduces mothers-to-be to the importance of interaction for infant mental health.

FIGURE 2: INCLUSION CRITERIA



DEVELOPMENTS

On the basis of the success of the Mellow Bumps programme, The BIG Lottery in Scotland has funded the roll out of Mellow Bumps for teenage mothers- to-be in Scotland and the parallel programme for fathers-to-be, called Dad Matters. Both of these programmes are targeted at parents-to-be who are reluctant attenders at standard antenatal education classes.

Further developments have been spurred by concerns for parents with learning difficulties and their children. UK figures show that in 2010, the numbers of children looked after due to parent disability or illness reached 3,900 (Department for Education, 2010). Forty eight per cent of parents with learning difficulties were not looking after their children (Emerson, 2005) and one sixth of children subject to care proceedings had at least one parent with a learning disability (Booth & Booth, 2005). Working with Mencap, a charity supporting people with learning difficulties, a modified version of the Mellow Bumps programme is being developed for mothers with learning difficulties using volunteer mentors to reinforce and generalise learning in the group to other situations in the home or community. This programme will continue to offer parents and babies support, through a modified Mellow Babies' programme, until the child is one year old, with follow up at least until age three to track the social, emotional and language development of the children.

The Healthy Relationships: Healthy Baby programme is also in development with the Stefanou Foundation to help parents break cycles of domestic abuse and safeguard their baby's mental and emotional wellbeing. Increased stress in pregnancy is damaging to babies and intimate partner violence is one of the most common and most damaging sources of stress (Talge et al., 2007; Jasinski, 2013). The Healthy Relationships: Healthy Baby programme will prioritise secure attachment and infant development within a holistic model that addresses the needs both of perpetrator and victim. Mellow Parenting is working with the Stefanou Foundation and two specialist domestic violence agencies (Strength to Change and Domestic Violence Training Ltd) to co-design and pilot the programme.

WHAT THE MOTHERS-TO-BE SAID

"It was one of the things that I looked forward to every single week. Six weeks was nowhere near long enough!"
(Bumps trial participant)

"I dae it differently frae what I, what I did wi' the rest of thaim...we were watching the DVD and it was aboot... talking to your child and all that, aboot the brain cells and all that, I didnae know that and I found that very, very interesting...I spend mair time talking to him (this baby)...I always imagine, when I'm talking to him, these wee extra brain cells... I've got 4 (older) kids and it made me sit and think, wait the nou, I could spend a wee bit of extra time with them everyday."
(Bumps trial participant)

CONCLUSIONS

There is a recognised need for antenatal care to move from being only about a physically healthy pregnancy and delivery to a more holistic approach to the psychological and emotional aspects of becoming a parent and engaging in the warm attuned interaction most likely to support good infant and mental health. Mellow Babies has been developed to meet that need and is showing positive effects. More rigorous evaluation and longer term follow up will prove whether the aims of supporting the most vulnerable parents and their babies are met.

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