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Introduction

Pregnancy and childbirth are, generally, regarded as life affirming and joyous times in a family's life (McGowan & Sinclair 2007). However, for some expectant and new mothers this time of their life can be marred psychological and emotional distress. This briefing sets out the mental ill-health problems that can affect new and expectant mothers, the factors that may cause the mental ill-health and the research around the Mellow Parenting programme designed to help new mothers and pregnant women during and after pregnancy.

Mental Ill-Health in Pregnancy & Motherhood

Several mental health disorders are reported during pregnancy; anxiety, depression and psychosis are all reported in the academic literature. Suicide has also been reported as one of the leading causes of maternal death in the last three Confidential Enquiry in Maternal and Child Health (CEMACH 2015).

Anxiety disorders are reported in up to 20% of pregnant woman and new mothers (Ford et al 2016). Generalized anxiety disorder (GAD) have been reported in 8% of women during pregnancy. A further 3% report meet the diagnostic criteria for a panic disorder and Obsessive Compulsive Disorder (OCD) is reported in 3% of pregnant women. Post-partum, GAD is reported in up to 8% of women, 9% of women report panic disorder and 2-3% of new mothers report a new onset of OCD. Post-Traumatic Stress Disorder is reported in 3% of cases. Interestingly, Beck et al (2013) report that between 1/3 and ½ of all mothers report the birth of their child as being traumatic.

Depression is similarly prevalent in expectant mothers. It is estimated that up to one in five new mothers will meet the diagnostic criteria for mild or moderate depression (Ford et al 2016). Likewise, depression is reported in 1:10 new fathers (Cameron et al 2016). The risk of a new mother developing a psychotic illness (mania, schizophrenia or postpartum psychosis), both during pregnancy and after childbirth, is comparatively low with a prevalence rate of around 60 cases per 100, 000 live births (Berginik et al 2016; Brockingtom 1996). The risk of a recurrence of a psychotic episode in subsequent pregnancies is estimated to be around 20- 50% (Berginik et al 2016).

Suicide is a major public health issue. A recent 15-year (1997–2012) retrospective study, from the UK National Confidential Inquiry that evaluated all suicides by people who had been in contact with psychiatric services, compared suicides among perinatal and non-perinatal women. Findings reported a suicide in perinatal period in 2% of women aged 16–50 years and in 4% among women aged 20–35 years (Khalifeh et al 2016). Maternal suicides have been and remain the leading cause of maternal death in the twelve months following birth since 2003 in the United Kingdom.

Aetiology of mental distress in pregnancy & motherhood

As with the general population the causes of mental ill health during the peri and post-natal periods are not fully understood. In addition to the biological, psychological and sociological factors known to be risk factors for the development of mental health problems, physiological variations, such as hormonal changes have been implicated in the development of anxiety and depressive disorders (O'Hara 2014). Marital status, having a caesarean section and a history of mental health problems (bi-polar disorder or schizophrenia) are noted to increase the risk of a post- partum psychotic episode. The fear of childbirth and or still birth increases the likelihood of the development of anxiety disorders such as GAD and PTSD (Beck et al 2013). Additionally, a history of mental health problems (anxiety & depression), sexual assault, childhood sexual abuse, unplanned pregnancy and low social support, as well as a traumatic delivery are reported in the literature as being additional risk factors for the development of PTSD. Likewise, previous development of these illnesses during prior pregnancies may indicate a pre-existing vulnerability to further episodes (O'Hara 2014).

Parenting Programmes

In recent times, effective parenting has increasingly been a major public health issue. This is reflected in the development of public policy to help parents and support the development of children. It is recognized that parental mental health, particularly maternal mental health, has a significant impact of the development of the child. Macbeth et al (2015) highlighted that poor mental health in mothers is shown to have a negative impact on the psychological, social, educational and, in turn, economic outcomes of the child. They note that this has led to a propagation of parenting programmes including the Triple P, Incredible Years, and the Nurse- Family Partnership and Mellow Parenting interventions.

These programmes however have been subject to criticism. For example, although the Triple P programme has an extensive evidence base (Wilson et al 2012), it has been suggested that risk of bias in these studies is extensive. Furthermore, its effectiveness has been questioned in deprived communities (Thomas & Zimmer-Gembeck 2007) and with younger children (Hahlweg et al 2010). Wilson et al (2012) also noted that much of the published literature had been authored by affiliates of the Triple P organization, again questioning the "independence of the evidence" (p2). Macbeth et al (2015) noted that programmes such as the Nurse- Family Partnership have limited focus on the mental health of the mother, although the Nurse- Family Partnership intervention has been shown to improve the mental well-being of mothers and child development. However, it is noted to be expensive to commission and deliver. The 'targeted' approach (to adolescent mothers) also limits its general usefulness.

Mellow Parenting programmes (Mellow Bumps, Mellow Mums, Mellow Dads and Mellow Futures) are designed to support parents experiencing relationship difficulties with their children. These programmes are underpinned by the psychological theories of attachment, social learning theory and cognitive behavioural therapy (Mellow Parenting 2017). They combine group support for parents with shared video feedback of their interactions with their children.

Mellow Parenting is based on a model of nurturance (MacParland 2013) and recognizes the values

inherent in nurturing and valuing the parent. For parents to be able to nurture their child, they need to experience nurturance themselves. Mellow Parenting programmes aim to help parents understand their behaviour, the impact their behaviour has on them as well as their child and barriers to changing behaviour. Aimed at parents of children aged 0- 8 years 'Mellow Parenting' includes both strategies for developing parenting skills and strategies to ameliorate parental depression and anxiety.

The evidence base, however, for Mellow Parenting remains relatively weak. Although the intervention is recommended in UK guidelines for parenting programmes and in the California Evidence Based Clearinghouse for Child Welfare' the evidence supporting Mellow Parenting is derived from small case studies and qualitative reports. Macbeth et al (2015) attempted to synthesize research that reported quantitative outcomes for Mellow Parenting. They found only five studies from which they could calculate effect sizes. They concluded that there was a medium treatment effect on maternal well-being in comparison to control groups. However, they also report numerous sources of biases including lack of randomisation and there were no statements of conflicts of interest from authors of included studies, which may have influenced their findings (Macbeth et al 2015).

Effectiveness, and experiences, of Mellow Parenting.

Effectiveness studies are also lacking in academic literature (MacBeth et al 2015). As noted above, Macbeth et al (2015) undertook a systematic review of intervention studies on Mellow Parenting programmes. They identified a total of eight studies that reported outcomes from Mellow Parenting programmes (See Table 1).

All the studies noted above reported improvements in parental and child mental health.

An evaluation of Mellow Parenting undertaken in the Southern HSC in 2011 (MacParland 2013) showed improvements in overall mental well-being in the participants across the three sites in which it was delivered- Dungannon, Newry & Craigavon. The participants in this evaluation had been living with one or more of the following; domestic violence, child protection issues, relationship issues, mental health or substance misuse. Interestingly, there was also a very small drop- out rate which alludes to participants finding the intervention acceptable and useful.

This evaluation also mirrors findings from several national and international studies, particularly in Scotland (Puckering et al 2011) and New Zealand (Penehira and Docherty 2011). The Scottish study (Puckering et al 2011) examined the impact of Mellow Parenting in a group of a dozen children aged 6- 9 years and their parents. Levels of depression and anxiety amongst parents dropped. Interestingly, they report that there were no similar improvements in the well-being of the children involved in the programme, although as McGowan & McParland (2017) points out, the research population had been diagnosed with a Reactive Attachment Disorder and the focus of the Puckering et al study (2011) was to pilot the effectiveness of Mellow Parenting with a specific clinical population. Similarly, improvements in mental health amongst mothers and grandmothers receiving the Mellow Parenting programme in New Zealand are reported by Penehira & Docherty (2011).

There is limited research on the experiences participants have during the Mellow Parenting intervention. In what appears to be the sole qualitatively driven research, Birtwell et al (2013) sought to explore the experiences of eight expectant mothers of their pregnancy and the Mellow Bumps intervention. Using an interpretive phenomenological analysis approach to data collected in individual interviews, Birtwell et al (2013) report that the participants found pregnancy to be normalizing as well as allowing participants to build 'more positive representations' of themselves. Interestingly, they also report that participants related that the mother/ child attachment relationship begins before birth.

Further, the Mellow Bumps intervention was universally seen as helpful. This was particularly so in developing pre- birth attachment relationships which they argue started to develop the foundations of

a secure mother- infant relationship. Expectant mothers also reported that the facilitated peer support available through the Mellow Bump programme was valued by participants (Birtwell 2013).

Experiences of being involved in Mellow Parenting programmes are also reported, as part of other studies by Puckering et al (2011) and Puckering et al (2013). Puckering et al (2011) sought the views of six clinicians involved in the delivery of Mellow Parenting with mothers of children with a diagnosis of Reactive Attachment Disorder. Participants in this study reported that they observed benefits to the children as well as the carers (mothers). Again, the facilitated peer support afforded from the group intervention was highlighted as an important outcome of the group. Some participants reported observing improvements in parenting skills and improvements in some children's interactions with other children in the group (Puckering et al 2011).

Puckering et al (2013) reported the experiences of a single case study of one family group that had undergone the Mellow Parenting programme. They report the journey undertaken, over the period of twelve months, by a mother of two young children who was involved in a violent domestic relationship. They report the mother developing a more tolerant approach to her children, although they provide no specific qualitative data to substantiate this. Similarly changes in the mother's outlook; self- image, feelings toward her own mother and increased self- satisfaction are not substantiated with qualitative data. It should also be noted that the paper is based on a presentation given in 1996. There appears to be no further follow up post 1996, so it is unclear why it took 17 years to produce the paper. Nevertheless, it does provide a good insight into the potential benefits of the Mellow Parenting interventions.

Qualitative data collected at the end of the programmes delivered in the Southern Health & Social Care Trust area in 20111 suggested that participants in the intervention found the programme useful in developing self- awareness and improving relationships within the family.

The previous evaluation of Mellow Parenting in the Southern HSCT (MacParland 2013) examined the experiences and outcomes for a group of mothers at risk of one or more of the following; domestic violence, child protection issues, relationship issues, mental health or substance misuse. Mean group scores on the Warwick Edinburgh Maternal Well-Being Scale in all three locations- Craigavon, Dungannon & Newry- all improved over the course of the intervention. The attrition rate for the evaluation were reasonable with six of the original thirty-four participants dropping out of the programme.

Recent evaluations of Mellow Parenting in NI have shown mixed results. An evaluation of the Mellow Parenting programme in the Southern Health & Social Care Trust (McGowan 2017) reported sustained improvement over a twelve-month period in a group of mothers from three sites across the Trust. It is noteworthy that the six month follow up scores on both the HAD and WEMWBS showed further improvement over the post programme scores. Whilst these dropped back slightly at 12-month post programme, the participant's mental wellbeing remained higher than the start of the programme. Mothers in this programme also report finding the programme both enjoyable and useful. Conversely, preliminary findings from an evaluation of Mellow Parenting in the South-Eastern Trust found no significant differences in self-reported maternal mental health. However, a significant improved in the quality of the mother's interaction with their babies was found (King & Thompson 2017).

The acceptability of a programme to its participants is also an important feature of any intervention. As with the effectiveness studies, there is limited research on how participants view the programme. Also, as with the effectiveness studies the research that does exist alludes to a positive experience of taking part in the programme. Mothers in both the Health & Social Trusts in Northern Ireland reported similar positive feelings about being involved in the programme.

The experiences of being involved in Mellow Parenting programmes are reported as part of larger studies by Puckering et al (2011) and Puckering et al (2013). Both papers suggest a positive experience from facilitators delivering the programme (Puckering et al 2011) and the families taking part (Puckering et al 2013). The qualitative data collected as part of the evaluations in the SHSCT in 2011 and 2017 shows clearly that participants valued programmes.

Conclusion

Mental Ill health is a major issue for a significant number of pregnant women and new mothers. Problems such as maternal depression and anxiety can have a major impact on family and there is a need to develop services to help mothers (and the wider family) live with the negative aspects of pregnancy and childbirth. Mellow Parenting appears to be an effective and acceptable intervention for new mothers in reducing symptoms associated with depression and anxiety in relation to childbirth. Further investment and research is needed to corroborate these preliminary findings.

Authors(s)	Location	Sample Size	Findings
Puckering et al (1994/1999)	Scotland	45	Considerable positive change in interaction and child centredness was evident when before and after videotapes of the mothers and children were compared. Negative interaction dropped to one-quarter of the pre-group level and mothers were more effective in exercising appropriate control. Of the 12 children on the Child Protection Register, 10 subsequently had their names removed, with both remaining children returning to the mother's care from compulsory care.
Puckering et al (2011)	Scotland	12	The programme had a positive effect on mothers' mental health but had no measurable effects on symptoms of RAD or on parent–child interaction, although the variation between families after the group suggested that some had responded more than others.
Borjeson et al (2008)	Russia	16	Data not available
MacParland (2011)	Northern Ireland	28	Group means on the WEMWBS improved in all three cohorts
Penehira et al (2011)	New Zealand	39	Maori mothers and grandmothers attending the pilot study of HKTR parenting program reported a significant increase in their own wellbeing, their ability to cope with their parenting role/children's behaviours, their feelings of self-esteem and adequacy, and confidence in their cultural identity, along with a reduction in unwanted problematic behaviours from their children, and an increase in children's social skills. Qualitative data showed extremely positive responses to the program resources, content, and process. There were a number of requests for a program that fathers could attend.
Puckering et al (2010)	Scotland	10	Maternal mood in mothers attending Mellow Babies improved, with a significant difference in EPDS scores, relative to the control group, at follow-up. Post-intervention, there was a significant difference in levels of positive interactions between groups, favouring mothers attending Mellow Babies. The difference in negative interaction between Mellow Babies and waiting-list control group approached significance, with less negative interaction observed between mothers and infants who attended the group. Participant feedback on the content and process of Mellow Babies was highly positive

Morozova et al (2011)	Russia	14	Data not available

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