Women's Mental Health during Pregnancy: A Participatory Qualitative Study

Abstract

Background/objectives British public health and academic policy and guidance promotes service user involvement in health care and research, however collaborative research remains underrepresented in literature relating to pregnant women's mental health. The aim of this participatory research was to explore mothers' and professionals' perspectives on the factors that influence pregnant women's mental health.

Method This qualitative research was undertaken in England with the involvement of three community members who had firsthand experience of mental health problems during pregnancy. All members of the team were involved in study design, recruitment, data generation and different stages of thematic analysis. Data were transcribed for individual and group discussions with 17 women who self-identified as experiencing mental health problems during pregnancy and 15 professionals who work with this group. Means of establishing trustworthiness included triangulation, researcher reflexivity, peer debriefing and comprehensive data analysis.

Findings Significant areas of commonality were identified between mothers' and professionals' perspectives on factors that undermine women's mental health during pregnancy and what is needed to support women's mental health. Analysis of data is provided with particular reference to contexts of relational, systemic and ecological conditions in women's lives.

Conclusions Women's mental health is predominantly undermined or supported by relational, experiential and material factors. The local context of socio-economic deprivation is a significant influence on women's mental health and service requirements.

Key words Pregnancy, participatory research, women's mental health, qualitative interviews, socioeconomic deprivation

Introduction

Department of Health (England) policy and guidance promotes service user involvement in health care and research [1]. Although there is the expectation of patient and public involvement, collaborative research remains broadly underrepresented in antenatal mental health literature, and collaborative research does not feature in current National Institute for Health and Care Excellence (NICE) guidelines in the UK on Antenatal Mental Health [2].

The aim of this participatory research was to explore women's and professionals' perspectives on mental health during pregnancy, and particularly those factors that are viewed as undermining mental health and well-being.

Table 1: Statement of Significance

Problem or Issue	There is limited public involvement in research about the factors that contribute to women's mental health problems during pregnancy.
What is Already Known	Professional and academically driven research has identified a wide range of factors associated with poor mental health during pregnancy. These include socio-economic adversity; lack of support; self-criticism/judgement and judgement by others; experience of current and historic abuse; confounded expectations; stigma and shame; relationships; the role of alcohol and drugs.
What this Paper Adds	This paper adds a detailed qualitative analysis of women's accounts of the factors they associated with their mental health problems. This research was designed and conducted with and by women who have firsthand experience of poor mental health during pregnancy.

Background

Literature

Maternal mental health during pregnancy has been widely researched and associated with negative outcomes for affected women's children. The effects of poor mental health include preterm labour, low birth weight and early neonatal complications [3-5], childhood neurodevelopmental problems and adolescent mental health and behavioural problems [6, 7].

Beyond the potential impact on her children, a woman's mental health during pregnancy is also closely connected to her risk of ongoing mental health problems after delivery. A review of the research literature establishes the association between antenatal and postnatal depression. Particular factors associated with postnatal depression were pre-existing depression, anxiety, life stresses and low levels of social support during the pregnancy [8]. Enquiries into maternal deaths in the UK (CMACE) have illustrated the relatively rare but tragic consequences of poor maternal mental health for families with new babies. These reports show statistics of 71 maternal deaths from 'psychiatric causes' recorded from 1994 to 2008 [9].

A review of qualitative literature exploring women's experience of mental health problems during pregnancy was undertaken at the outset of this research (currently under review). The literature search included specific common mental health conditions such as depression, anxiety and severe childbirth fear, and self identified mild to moderate emotional distress. This search also identified research that focused on conditions in women's lives that were associated with mental health problems such as intimate partner abuse [10], diagnosis as HIV positive [11], a history of sexual trauma in childhood or adulthood [12, 13] and previous perinatal loss.

Major themes identified in this literature included the causes of distress such as

- Socio-economic adversity

- Lack of support
- Self-criticism/judgement and judgement by others
- Experience of abuse
- Confounded expectations
- Stigma and shame
- Relationships
- The role of alcohol and drugs.

Many papers described pregnancy/mental health interactions and women's strategies for managing mental health problems (both positive and negative). Further common themes examined self and identity, and hopes or anxieties about being a good mother.

Method

The research was initiated by the first author (XX) as part of her PhD studies, supervised by the other two authors (YY and ZZ).

Researcher subjectivity

As a qualitative study, the authors recognise the importance of reflexivity and transparency regarding researcher subjectivity [14]. The first author had prior experience as an NHS clinical psychologist in the researched locality and was inspired by community psychology (15). The second author is a registered midwife with an interest in mental health and the third author has background in social work, mental health and interest in women's well being and intimate partner abuse.

Developing the research team

The process of the research began with consultation with local professionals for discussion on the research topic and approach and to contact local mothers with experience of mental health problems who might be interested in taking part in the research.. After attending many local

mothers' groups and following up recommendations from professional contacts, three community members were recruited to the research team. All had first- hand experience of mental health problems during pregnancy. Two were pregnant during the early stages of the research and one had three children, one of whom was approximately one year of age at the start of the study.

All members of the team were involved in study design, recruitment, data generation and analysis. The non-academic members of the research team received some basic training on qualitative interviewing and analysis from the first author (XX) and due to their limited experience of this approach, a relatively straightforward design of thematic analysis was recommended by the academically trained members of the team. Epistemology was discussed within the team and a realist approach was agreed for the purposes of this project. Research Questions were decided within the team to focus on 'what undermines and supports women's mental health during pregnancy, and what are their experiences of health services'. Additional questions were included for professionals about their own experience of work and training about pregnant women's mental health.

NHS Research Ethics Process

Ethical approval was gained from the National Health Service Research Ethics Committee (Reference number 09/H0301/69). A full account of the complex issues arising within this process for participatory research is provided elsewhere[15]. Prior to approval, the Research Ethics Committee required inclusion of assurances of confidentiality, support to be made available to participants who experienced distress during data generation, and actions to be taken as legally required in the event of concerns arising from disclosure of harm to children. Plans were in place to refer participants for support in the event of distress arising during interviews. There were no occasions on which these issues emerged during data generation.

Participants

Maximum variation and theoretical sampling [16, 17] were used to guide sampling decisions as the research progressed. Decisions were informed by emerging themes from preliminary analysis of the initial data and discussion in the research team, together with developing familiarity with the community being researched and advice from relevant local professionals. The aim was to incorporate into the study design an appreciation of the issues from as diverse a range of perspectives as was feasible within the timescale of the research.

Fifteen professionals were recruited from services working with pregnant women within statutory and independent sector agencies. Initial participants for the professional sample were sought from the research teams' existing professional networks. This stage of recruitment was followed by 'snowballing', whereby existing contacts were asked to suggest other people who had knowledge of the research issues. The approach to snowballing aimed to contact a range of professionals in different roles and different services, including the statutory mental health and maternity services and voluntary sector services for pregnant women.

Seventeen participants were recruited from the local population of antenatal and recently postnatal women. This research aimed to be inclusive and develop a comprehensive understanding of the many experiences of mental health during pregnancy. The researchers contacted both statutory and third sector services and community groups to recruit participants. These included primary care, maternity services, mental health services and community services for women with young children. Because some potential participants may not have been in contact with services, the research was presented in the local press and on local radio to make interested potential research participants aware of the study and give information about how to contact researchers. In addition to raising awareness in local media, the community co-researchers shared information with their personal networks and two participants were recruited in this way.

All participants were provided with comprehensive Participant Information Sheets and given opportunities to ask questions and consider participation prior to deciding whether to sign a form to confirm their consent to participate in an interview and for their words to be used in written reports of the study. No incentives were offered to participants to take part in the research. Further information was given at the beginning of each individual or group interview to explain the intended focus of the interviews, give assurances of confidentiality and outline exceptional circumstances in which researchers would be legally required to disclose information, such as under the terms of safeguarding children legislation.

Data

Data were generated in individual and group interviews during the early part of 2011. Interviews lasted between 60 and 120 minutes, depending on the participants' preferences. Two mothers preferred to be interviewed with their partners as a couple. Any data from partners were not included in the primary analysis, but provided context for the mothers' data. The data from women who took part with their partner present was analysed using the same strategy of thematic analysis as other data collected in groups. The analysis of group data does not focus on the interactions within the group or couple, although it is acknowledged that the data from within these settings is affected by the context. Many interviews were conducted by the first author (XX) and one of the community co-researchers, except in the cases where no co-researcher was available or the participant expressed a preference to be interviewed by only one person. At the time of all data generation the Criminal Records Bureau (now Disclosure and Barring Service) checks for co-researchers were all outstanding and therefore the first author (XX) who had an existing CRB disclosure was required to be present for all contact with research participants. Data were collected in community locations that were convenient for participants, including clinic and community workplaces for professional participants and local children's centres and participants' homes for

mothers. The Data were stored securely at the University of East Anglia and transcribed verbatim from audio recordings by the first author (XX).

Analysis

The data transcripts were analysed using Thematic Analysis [18]. The Thematic Analysis was approached as a 'bottom-up' process in which all data within the transcripts was examined and analysed for patterns of meaning to explore what themes are important in addressing the research questions. There were no hypothesised a priori themes to be sought within the data, but all themes were developed based upon what existed in transcripts of participants' accounts. Initial coding was undertaken by the team members who had been involved in generating data, except in the cases in which the interview had involved only one researcher. In such cases, another member of the team contributed to the initial coding. Indexing of all data was carried out using Microsoft Excel by the first author (XX) during the summer of 2011 using initial line-by-line codes generated by the team. Further thematic analysis was developed with one co-researcher with a particular interest in this stage of the research. Emergent themes were built from the data in a bottom-up process. This was carried out during the winter of 2011 through the spring and early summer of 2012. It was necessary to remain flexible in the stage of data analysis to respect the interest and preferences of members of the research team.

Findings overview

The focus of this paper is on commonalities between mothers' and professionals' data regarding the factors that were considered to undermine women's mental health during pregnancy.

Anonymised participants are identified as mothers (M) and professionals (P) who took part in individual (I) or group (G) discussions, for example IM1 or IP1, etc. Group members are identified by the number of the group in which they participated, plus a letter, for example, a mother who took

177 part in the second group would be GM2a, b, or c, etc. Two women who preferred to be interviewed
178 with their partners as a couple are identified as CM1 or CM2.

179 Thematic analysis generated six over-arching categories of factors and conditions that were
180 identified by maternal and professional participants as having an impact on women's poor mental
181 health during pregnancy. These were: Individual Factors; Personal Experiences; Pregnancy Related
182 factors; Relationship Factors; Social Conditions; and Material Conditions. Each of these larger
183 categories is built up from lower level themes that emerged from analysis of the data. Figure 1
184 shows an overview of findings including the social, material and relational contexts of deprivation
185 affecting women's lives and professionals' work. The segments of this diagram are outlined below
186 with quotes from the data to illustrate.

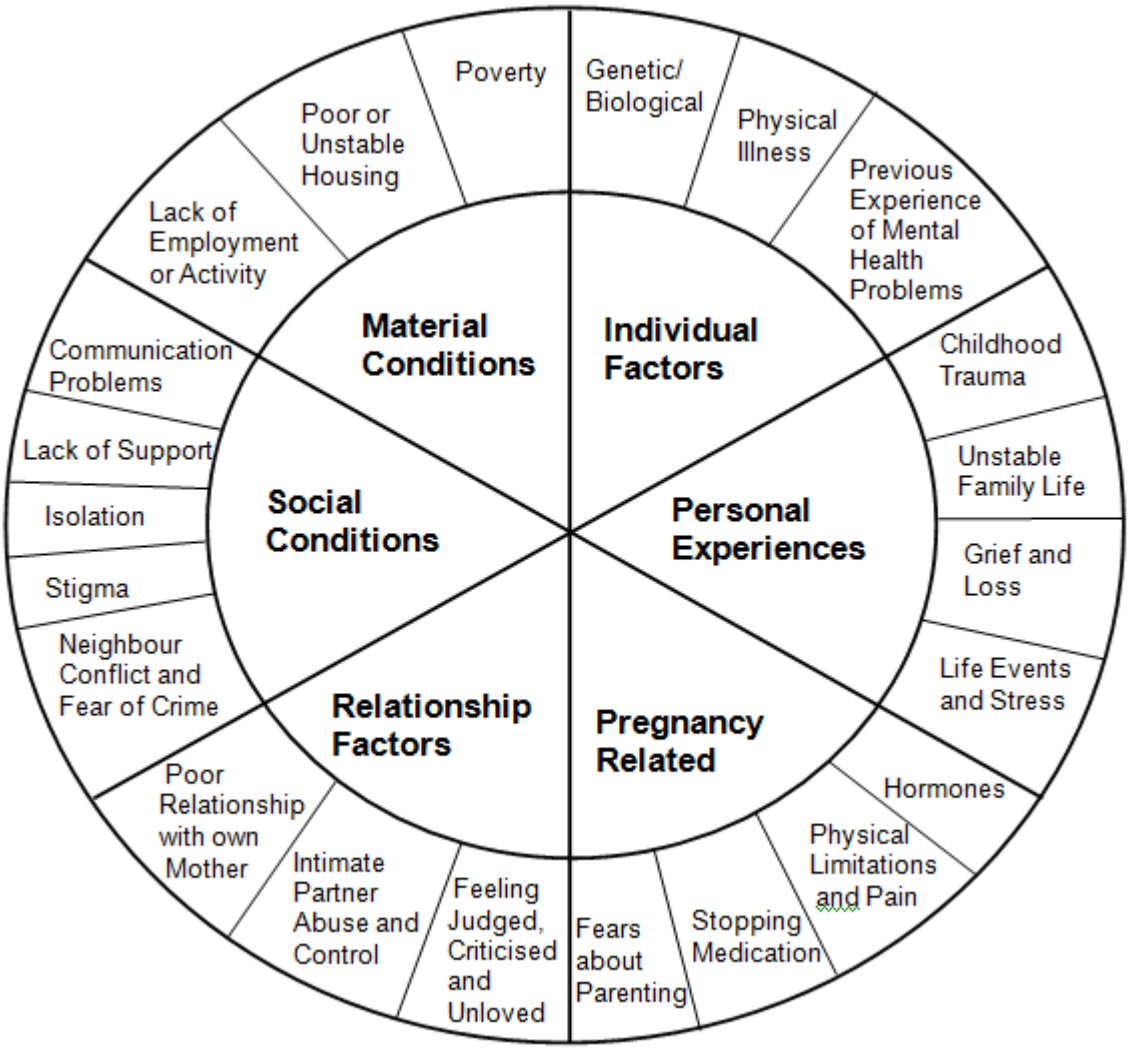

Figure 1: Contexts of Deprivation Affecting Pregnant Women's Mental Health

Individual Factors

Mothers and professionals described a number of individual physical factors that they considered to have an influence on pregnant women's mental health. These were frequently positioned as pre-disposing factors that were a distal influence on women's more recent experiences, although a small number of participants considered these to be causal.

Genes and biology

Very few professionals or mothers volunteered genetics as a cause for mental health problems, although a small number of mothers expressed strong beliefs in this factor.

'you're born with Bipolar… people who are gonna have it are born with it.. what it is, is a chemical imbalance in the brain, which renders you unable to control your own emotions' (IM4)

'even my brother suffers with mental health as well, so I think there must be some sort of genetic thing or something' (IM1)

Several mothers and professionals expressed ideas about mental health problems 'running in the family', and gave accounts of mental health problems passing down through generations, but did not give a genetic explanation for this intrafamilial process of transmission.

Previous experience of mental health problems

There was an understanding across groups of mothers and professionals that a prior history of mental health problems was associated with greater risk of relapse during pregnancy.

'there is research to show that if you've previously suffered, from a mental health problem, you're more likely' (IP3)

This may have been a concern expressed to mothers by professionals and then recounted by mothers.

'because I had depression as a teenager I had, that, what, well whatever reason, that made pregnancy high risk, just because of depression' (IM3)

Personal experiences

Childhood trauma

The majority of women and professionals related childhood neglect and abuse with the mental health difficulties women experienced during their pregnancies. Women described emotional distress stemming from traumatic memories, increasing feelings of vulnerability during the pregnancy and anxieties that their own history of abuse or neglect would affect their ability to parent.

'I then did spend days, kind of crying, and just completely.. over emotional about everything and that, 'why am I having a child' I wouldn't be able to look after it, and if I can't look after myself, and that's how people see myself, then how am I gonna look after a child' (IM2)

Sometimes those women remembered being removed from their birth families into Local Authority care and were resistant to seeking help in case their own children were also removed from parental care.

Some experienced professionals had relationships with generations of women within the same family and were able to remember the struggles of the new mothers' own mothers.

'quite often what we're seeing as adults is those children that were living in abuse and neglect, obviously ten, fifteen years ago, and the rates of poverty haven't improved --- in terms of, you know, some of the most deprived areas' (IP2)

Unstable family life

Mothers and professionals described early experiences of instability, due to a range of reasons, including poverty, childhood bereavements, parental ill health, and parental domestic abuse with frequent cycles of relocation to women's refuges and return to the abusive partner.

'dad worked a lot.. like I mean a lot, lot --- high demand.. I remember one year he had to travel, couldn't take us, I was so sad when my dad went, cause I really didn't .. get on with my mum, especially being little, cause she didn't want to do anything, cause she's so.. sad.. you know' (GM2c)

'then looking back at her own childhood, can see that she wasn't, she wasn't protected, um… by her own mum, and, um, maybe mum's been in and out of different relationships' (IP5)

Previous pregnancy loss

Loss of earlier pregnancies by miscarriage or medical termination was related by mothers and professionals to anxiety about a further loss during the current pregnancy. Mothers also described feelings of abandonment by services during and following previous pregnancy losses and a subsequent lack of confidence in the health care system to help them during the current pregnancy.

'before I had [daughter], I lost two, at twenty two weeks, both had to be delivered, and both were buried, and.. the fear of going through it again' (IM5)

'women who have had.. multiple miscarriages, and then become pregnant … and that produces this, massive experience of anxiety' (IP1)

'the medical terminations, it's, they feel guilty --- because they've had to have the medical termination, on the one hand they understand the rationale behind it, but they still feel guilty, they feel it's something that they've done wrong' (IP5)

Life Events and Stress

A wide range of stressful and life circumstances were related by both mothers and professionals to the development and maintenance of mental health problems.

'they're coming into pregnancy with low mood, low self esteem, depression, it's not particularly antenatal depression, it is --- depression, they have really hard lives --- it's not, you know, it's not suddenly come on cause they're pregnant' (IP8)

For women with older children at the time of the current pregnancy, many complex issues were described that impact on the current pregnancy. These related to the demands of caring for an older, or disabled child, comparisons between the current pregnancy and the previous one, the presence of older step children from the father's previous relationship, and behavioural problems with teenagers who expressed resentment about the mother's new relationship and pregnancy.

'when I just had [eldest], I was the mum I always wanted to be.. but then when I was pregnant, cause I couldn't do all the things with her [crying, big intake of breath].. I then just felt really bad that I couldn't play, and she wasn't getting.. the best from me' (CM1)

'he was about, just coming up to two when I gave up work, and became his full time carer, and then obviously as, sort of, more of his mental health issues come up, it's just got to a point where it's just easier for me to look after him, than to hunt down people that look after special needs children' (IM3)

In many cases women expressed feelings of guilt in relation to their poor mental health, identifying themselves as primarily responsible for the problems they faced and fears about their abilities to care for their current and future children.

'anxious and overwhelmed by their difficult, you know, by their feelings and because of circumstances in terms of poor housing, or difficulties in relationships' (IP2)

Pregnancy-related

Parenting fears

Both mothers and professionals described the negative impact of beliefs that parents who had experienced abuse in their own childhoods would become perpetrators of abuse against their children. Mothers expressed many anxieties about their own abilities to parent their children due to their mental health problems and social circumstances.

> *'Am I gonna be like my dad? …Granddad used to beat Dad, Dad used to beat me and my sister… am I gonna be beating my son… am I gonna be that type of parent that gets my kid taken off of me… or that kills him one day?' (IM2)*

> *'Simple misconceptions around abuse and, one of the simple ones, was if you've been abused, so therefore you've got a high chance of abusing, and that being given out to a mother when she was pregnant and giving birth, and then .. leading to… fearing that experience, that she would then recreate an abuse experience with her child'(GP2c)*

Although mothers expressed concern about becoming abusers, in some cases, they also described failing to protect themselves and their children from abusive partners, thus repeating a pattern of failed protection that they had experienced as children.

> *'I done exactly the same thing, like, with the kids' dad, he's, he's been extremely violent to me, and threatened to kill me, and was even violent towards the kids, and um… I stayed, I was with him for five years' (IM1)*

The pattern of abuse was not often expressed as being one of direct perpetuation of abuse, but a continuation of the experience of being abused into adulthood.

Hormones

In common with the role of genetics, very few mothers and professionals suggested the effects of hormones on women's mental health during the pregnancy. There were only two instances of this data within all of the individual and group interviews.

'they're [hormones] definitely having an impact on the relationship as well --- well, you get really moody with 'em, whereas.. before you wouldn't' (GP2a)

'for a lot of women I see, it's chemical changes… um, which, you know, you can't really do anything about' (IP3)

The role of genes and hormones were perhaps framed in terms of the impact on a mother who feels she lacks agency or control over her emotional experience.

Relationship Factors

Although many mothers and professionals described relationships as supportive and protective, negative experiences of relationships were also widely cited as causing distress to pregnant women. Conflict and abuse in adulthood ranged across relationships with intimate partners, family members, neighbours and others in the community.

Feeling judged, criticised and unloved

Both professionals and mothers gave detailed accounts of criticism and judgement from family members, with associated difficulties in seeking and receiving support within these relationships.

'I've had a lot of grief off of my mum and my sister about taking tablets for depression' (IM7)

'she'd just come down and lecture me about why I was in hospital, and what I was doing wrong and what I should be doing' (GM1b)

'family members often are the worst --- that's what I've found anyway, family members are often the worst, yeah, especially grandma, or somebody like that, you know --- if everything's always been plain sailing for them' (IP5)

Mothers also described experiences of judgement and harassment by peers, neighbours and strangers within their communities. These experiences ranged from criticism of dietary choices by other pregnant women to public instances of obesity-related abuse by strangers.

I'm leaning on a lamppost and some kids went past and spat at me out of the window of their car, and one of them was laughing and shouting names and all kinds of stuff. (IM2)

Intimate partner relationships

Both mothers and professionals talked about the impact of intimate partner abuse, and the long-standing patterns of relating that could reflect a vicious cycle between abuse and poor mental health.

'I do tend to go into a lot of unstable relationships, every single one of my relationships has been unstable, and violent, and that's because you tend to think that's all that you're worth in the end' (IM1)

'with my domestic violence background, I strongly believe that a lot of, a lot of the issues… do stem from that, that self esteem, that from a very young age, that, that, you know, settling for second best is ok, cause second best is better than nothing, and 'that's ok for him to do that' (IP4)

These relationship problems included many forms of abuse, from physical violence, belittling, emotional abuse and financial exploitation.

'I wasn't allowed any money, I was given six pounds a week.. [laughs], um, I used to bring in sort of two hundred pounds' (IM7)

Social conditions

Stigma

Mothers and professionals described negative effects of stigma on women's mental health and access to services. Several women attending a community support group for young mothers declined to take part in the research due to anxieties about stigma and the perceived threat of safeguarding concerns arising if they admitted to experiencing mental health problems. Mothers described feeling unable to seek support from their friends and families due to stigma about mental health.

'I felt like I couldn't talk to the doctor, I feel, and I know it sounds really silly and I've been told, that, I felt it was a sign of weakness to try and… tell somebody I was depressed' (CM2)

'I think there was a huge, within this community, a huge stigma, um about depression, um, it's not a nice thing to admit to, you know, it kind of tinges the whole family --- so it's very much dealt with in-house' (IP7)

In addition to stigma about mental health problems, some mothers also faced stigma due to their age or membership of migrant or traveller communities.

'society frowning upon them, because they're young mums' (IP4)

Isolation

Mothers and professionals described the distressing impacts of isolation stemming from many sources. Estrangement from family and friends through conflict or migration were cited as common causes for isolation and some participants described a vicious cycle between poor mental health and

lack of social engagement. For many women, although isolation was a painful feature of life, pregnancy felt like a time when they especially needed emotional support and practical help. The majority of mothers and professionals described a lack of community resources for antenatal women to connect with peers and professionals for informal support.

'not having anyone to talk to.. will just torment you even more.. because then you're having to question and answer everything yourself --- which doesn't help' (IM5)

'there is no place where you can go to be emotional really' (GM2c)

'losing links with extended family, being quite isolated, and in those kind of situations, it's quite difficult, because often, there isn't a kind of community resource which you can refer them to' (IP7)

Material Conditions

Participants described significant issues of social and material adversity, including poverty, poor housing and lack of social, educational and employment opportunities.

'[the town] must have a, an increased incidence of mental health issues, because of the combination of financial and social problems' (IP6)

Poverty

Many participants recognised the deleterious impacts of poverty, debt and lack of financial control. This related to financial exploitation by others and to having few opportunities to establish financial security through employment.

'I only get, from the [charity] I only get one [supermarket] ten pound voucher and that's for food and that's it, that's all I live off of for a week' (GM2c)

'I could just buy whatever I wanted if I had my own money… where, I don't have my own money' (CM1)

Work

Although a small proportion of mothers were, or had recently been in employment, there were many women and professionals who connected poor mental health with lack of employment or activity and unhappy experiences associated with occupational activity. Mothers who had previously worked described negative experiences in employment, primarily associated with unsupportive or exploitative employers.

'she was saying that I'd have to work during the week, and stuff like that, and it just, that was just really stressful' (CM1)

'it was all fine, until he fired me for asking for payslips' (GM2c)

'the local [town] girls whose families have been here two or three generations who have never worked, and, they have no ambition, no aspiration --- I think they're just low, they just all seem very low' (IP8)

Poor or unstable housing

Young women described family conflict that resulted in being made homeless or moving to live with grandparents. Some neighbourhoods were described as dangerous and mothers reported fear of crime, conflict with neighbours and resulting isolation. Other professionals and mothers reported poor housing with limited local alternatives. Both mothers and professionals described exploitation by private landlords.

'it was really bad, and it, it got ridiculous, especially in the one room, and it was just obvious that the flat had loads of problems, but you just obviously weren't aware of it until, you know,

winter time came round, and it was a nightmare, and I wanted to go and get let out of the, the contract early, and they were saying 'no' ' (CM2)

'I had a lot of upheaval, once, while I was pregnant, um, the council made us homeless, so we ended up moving from one place to another, and I moved four times in total while I was pregnant, and the last time was two days before she was born' (GM1b)

'they're constantly stressed about it --- they're constantly, you know, they get put in temporary accommodation' (IP4)

Summary

The data and analysis from this study shows the wide range of influences that can affect women's mental health during pregnancy. This analysis explored the impacts of disadvantage including individual factors such as biology and personal history, alongside the embodied experience of pregnancy within a relational, social and material contexts. Many themes were addressed by both mothers and the professionals who work with them. Frequently professionals gave an overview of conditions of the populations with whom they have worked and individual mothers gave detailed accounts that illustrated experiences that many shared. This research offers an insight into the complexity of women's mental health and pregnancy experiences and cautions against taking an overly simplistic and decontextualised approach to understanding the issues.

Supporting pregnant women's mental health

Beyond identifying the details of life that had a negative impact on pregnant women's mental health, data from this study provides further information focussing on how mothers and professionals talked about the same factors (such as relationships and social/material conditions) with positive impacts dependent upon the nature of the experiences. For example, the analysis demonstrated that mothers and professionals talked about how relationships, good and bad, current

and historical had a significant bearing on how new mothers coped with their pregnancy experiences. The different levels of social contexts in which pregnant women's lives were situated within the data are summarised in Figure 2.

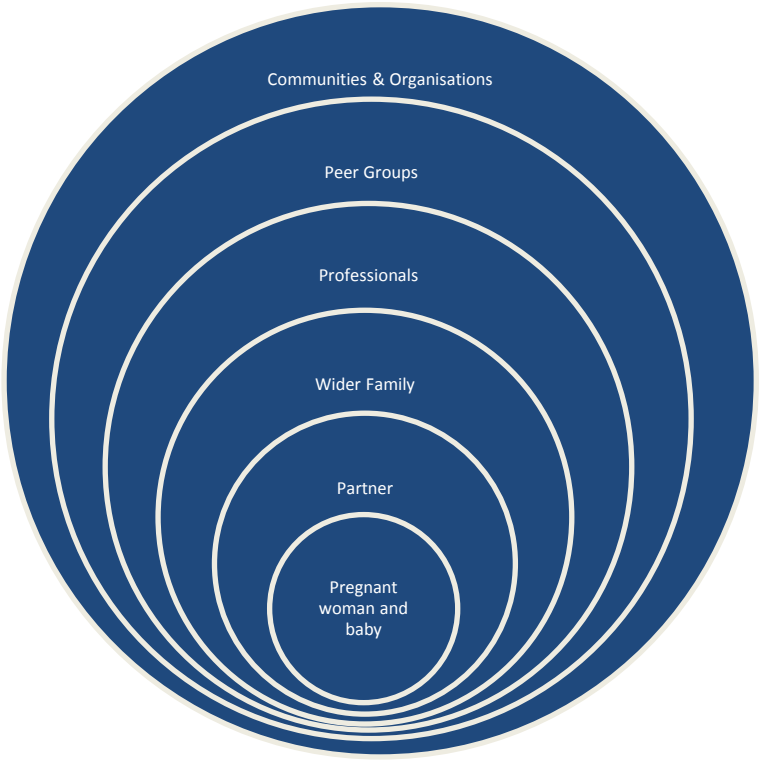

Figure 2: Levels of Social Contexts of Pregnant Women's Lives

Discussion

There was substantial agreement between mothers' and professionals accounts regarding the factors that undermine and promote mental health and the difficulties in accessing supportive services when needed. Although socioeconomic deprivation was a strong theme it was less prominent in women's narratives of their early experience of problematic attachment relationships and traumatic events. Within this study there were relatively few features of women's lives that were described as promoting their mental health, although it is acknowledged that the sample was focused on women with experiences of poor mental health. Features that promoted mental health

449 mainly related to the opposite of conditions that undermined women's mental health, including
450 access to supportive relationships in their communities and in services. Participatory approaches
451 that focus on the involvement of service users in health research prioritise and value the notion of
452 expertise by experience in shaping developments that are meaningful and acceptable to those who
453 use the services. Rather than approach the subject from an objectivist/expert stance [19], the
454 approach used in this research has sought out expertise from women and professionals which has
455 the potential to inform future developments.

456 Whilst not offering a generalisable and inclusive range of perspectives, this is a broad and wide-
457 ranging sample that reflects the depth of difficulties that were experienced directly and indirectly by
458 mothers and professionals in the area. The data gives voice to the significant struggles encountered
459 across a sample sought for maximum variation.

460 Data from mothers reflected much of the existing qualitative and quantitative literature in that
461 there was widespread use of diagnostic terminology. In common with mothers' data, professionals
462 described working with women with a range of mental health problems, from mild problems related
463 to conditions of living, to problems that were more severe and enduring in nature. A broad
464 consensus was found among women and professionals primarily relating to the impact of trauma,
465 relational experiences and social-material conditions of living. These findings reflect earlier research
466 that explored the impact on women's mental health of their life experiences including social
467 disadvantage, lack of social support and distressing life events [20].

468 It is argued that a combination of factors embedded in a context of socio-economic deprivation
469 has a significant negative impact on women's mental health during pregnancy. Poverty, and in
470 particular the degree of relative poverty, is a powerful intergenerational form of adversity [21, 22].
471 The experience of poverty for multiple generations within one family can have ongoing adverse
472 impacts on family functioning and the lack of resources available to parents, particularly young
473 parents, to protect their children from the detrimental effects. Families affected by poverty and

474 other forms of socio-economic deprivation for many generations were described by professional
475 participants within this research.

476 Recent epidemiological research has begun to examine the connections between childhood
477 adversity and a range of mental health problems. Rather than exploring connections between single
478 types of adversity and single diagnostic outcomes, research has shown interactions between a
479 number of mental health problems and different experiences of adversity, particularly relating to
480 family functioning, neglect, abuse, parental criminal behaviour and parental substance misuse [23].
481 A further large scale study examined the impact of childhood maltreatment (physical neglect,
482 emotional neglect, physical abuse, emotional abuse and sexual abuse) on outcomes for latent
483 underlying mental health problems rather than distinct psychiatric diagnoses [24]. This research
484 showed that early experiences of maltreatment had significant effects on mental health, across a
485 range of subsequent problems that were classified as either internalising (mood and anxiety) or
486 externalising (substance misuse and behaviour) problems. These frameworks were used in
487 examining outcomes rather than exploring specific diagnostic categories, and showed that these
488 underlying factors and gendered differences accounted for all variation in the data. This informs the
489 understanding of findings from the current research, which provides in-depth and detailed accounts
490 of women's experiences and professionals' perceptions.

491 Recent psychological developments have presented a challenge to psychiatric diagnosis in the
492 form of an integrative psychological formulation of emotional distress [25]. This approach draws on
493 attachment theory and links with recent research into neuroscience and is presented by mental
494 health service users and professionals in collaboration. Rather than employing a theoretical
495 understanding of biology as the driver of mental health problems, such research has begun to
496 examine the neurobiological effects of childhood experience and adverse, traumatic events such as
497 sexual abuse, neglect and witnessing domestic violence [26, 27]. Dillon and her colleagues [25]
498 argue that most mental health problems originate in adverse life events such as trauma or negative

early relationships, thereby forming the vulnerability to adulthood stresses. This is therefore not a simplistic stress-vulnerability model that relies on an unexplained bio-medical root of a problem that is triggered by stressful life events, but offers an explanatory basis for these vulnerabilities in childhood experience.

The findings of the current study illustrate a complex and interconnected web of deprivation and its impacts on the mental health of pregnant women.

This research is unique in that it brings together different strands of knowledge and examines them through different lenses, which ultimately shed light on the complex subject of women's mental health during pregnancy. The different components of this research have included:

- Service user involvement at all stages of the research process shaped the study and findings. This approach facilitated the development of new knowledge through the advantage of proximity and trust within the researched community.
- Multiple perspectives during the analysis, including the research and supervisory teams and peer debriefing throughout
- Multiple data sources, including data from mothers and professionals, in addition to different means of generating data in groups and with individuals, provided the opportunity to juxtapose accounts by service users and professionals talking about the same issues and embedded in the same context.

This juxtaposition illustrates points of agreement between women and professionals who work with them, producing new knowledge that can inform local developments, and which may be transferrable to other comparable settings.

Limitations

This study was intended to form a bridge between academic/professional knowledge and experiential community knowledge. Qualitative methods prioritise participant accounts and language, and using a participatory approach limited the academic and professional dominance over the process of analysis and interpretation of data. Although there was full involvement of the research team in all decisions and processes, the research was not wholly participatory, as research participants only provided data and some contacts for snowball sampling and were not as involved as the team of co-researchers.

Transcripts were not returned to research participants. This decision included the rationale not to overburden the participants. It was important to give clear consideration about the purpose of any member checking. Researchers may do this without giving their participants clear instructions about what they want them to do with the transcripts and as a result, it may not always be a useful activity. Providing transcripts of group discussions might also have caused a breach of confidentiality. The decision relating to this matter was taken by the research team.

Because the research was conducted within a context of public health and education, there were necessary compromises for approval from an NHS Research Ethics Committee. These included the imposition of a hierarchical structure within the research team and professionalising of co-researchers through training [15]. Additional restrictions arose from the lead researcher's academic PhD process, including academic timescales and prioritisation of other requirements. There were also compromises arising from the use of a participatory approach. These included a limitation in the potential choices of approach to method and analysis. Due to the realist epistemological perspective of co-researchers and requirement for an approach that did not require extensive theoretical knowledge of methodology, a realist thematic analysis was considered to be the most appropriate. This decision was discussed with co-researchers, but driven by the academic members of the team.

The use of a participatory approach provided rich opportunities for reflexive collaboration within the team, generation of data with a comprehensive community sample and a thorough process of data analysis using constant comparison and in-depth discussion of findings. Transparency in the reporting and triangulation of data and analysis further supports the credibility of these findings.

Conclusions

Pregnant women and the professionals who work with them give complex, detailed accounts of the conditions that influence maternal mental health. Women's mental health during pregnancy is not predominantly influenced by individual and bio-medical factors, but is influenced by broadly contextual factors, covering the following domains:

- Relational
- Social/Cultural
- Material

Developing a pathologising and individualised account of women's mental health does not fit with data generated with and by people who have firsthand experience of mental health problems during pregnancy. This research shows that developments are needed within services and the wider communities to support women's mental health during pregnancy including remediation of social and material deprivation, provision of opportunities for development of services and social support for pregnant women, and in the longer term, protection from neglect and harm for the children who will grow up to become future generations of parents.

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