

RESEARCH PAPER

The impact of antenatal mental distress on functioning and capabilities: views of health care providers and service users in Cape Town, South Africa

Sumaya Mall¹, Simone Honikman¹, Bronwyn Evans¹, Leslie Swartz², and Crick Lund¹

¹Department of Psychiatry and Mental Health, Alan J Flisher Centre for Public Mental Health, University of Cape Town, Cape Town, South Africa and

²Department of Psychology, Alan J Flisher Centre for Public Mental Health, Stellenbosch University, Cape Town, South Africa

Abstract

Purpose: Antenatal mental distress has disabling consequences. It affects functioning and participation in daily activities and can lead to postnatal depression. This study employs the International Classification of Functioning Disability and Health (ICF), to explore the experiences of pregnant women with mental distress attending the Perinatal Mental Health Project (PMHP). The analysis also adopts Amartya Sen's capabilities approach to provide suggestions for appropriate interventions. **Methods:** We conducted in-depth interviews with seven pregnant women experiencing antenatal mental distress, three postnatal women who had experienced antenatal mental distress and seven health care providers all affiliated with the PMHP. We used an open-ended interview guide employing domains from the ICF as well as from the capabilities approach. **Findings:** Participants attributed their antenatal mental distress to a range of environmental factors. Difficulties in functioning were reported by participants including difficulties at work and caring for children. Participants stated that services provided by the PMHP have a positive impact on functioning and capabilities. **Conclusion:** The study suggests that the ICF is useful for exploring the impact of antenatal mental distress on functioning. It is well complemented by the capabilities approach to inform interventions.

Keywords

Antenatal mental distress, capabilities, ICF, South Africa

History

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► Implications for Rehabilitation

- Antenatal mental distress is a significant public health issue that impacts on women's functioning and participation exacerbated by social factors such as poverty and exposure to violence.
- This study explored restrictions in functioning and participation faced by women with antenatal mental distress including the ability to care for children, find meaningful employment and sustain relationships.
- Counselling services can play a role in restoring functioning and capabilities for women experiencing antenatal mental distress.
- Counselling services have the ability to discuss restrictions in functioning caused by antenatal mental distress with their clients and to offer support for creating capabilities once functioning has improved.

Introduction

Common mental disorders such as unipolar depression and anxiety disorders not only contribute to the global burden of morbidity and mortality [1], they also have disabling consequences, particularly impairments in functioning and participation. An emerging body of research considers the impact of both mental and physical disorders on individuals' everyday lives through examining disruptions to their general functioning (i.e. how they complete their daily tasks). Recent research has

investigated the association between mental and physical disorders on "days out of role", measured by asking respondents if they were completely unable to carry out their daily activities due to their physical or mental health [2]. With regard to depression, respondents' annual mean days out of role varied by countries. In lower-income countries, 35.8 days out of role were found to be associated with depression. In middle- and higher-income countries, 34.8 and 33.7 days out of role were found to be associated with depression, respectively [2].

The disabling impact of mental disorder or distress is important for women who often embody multiple roles in society and have a range of tasks to complete, including generating income or providing for children. The role strain hypothesis [3] suggests that despite the potential of employment to contribute to women's resources, the competing demands of embodying the

Address for correspondence: Sumaya Mall, PhD, Department of Psychiatry and Mental Health, Alan J Flisher Centre for Public Mental Health, University of Cape Town, Cape Town, South Africa. E-mail: sumaya.mall@gmail.com

roles of mother, partner and employee lead to role strain. This could have a negative impact on women's overall well-being, including mental health [4].

Common antenatal mental disorders (i.e. depression or anxiety during pregnancy) are a serious public health issue in low- and middle-income countries where socio-economic circumstances place pregnant women at further risk of mental disorder [5]. In such resource-constrained settings, the intersection of mental disorder and disability is particularly relevant for a range of developmental outcomes [6]. Depression during pregnancy can be linked to poorer foetal and delivery outcomes, maternal risk behaviours and poor access to care [7]. Furthermore, antenatal depression has been found to be a strong predictor of postnatal depression, which is also debilitating. Disabling symptoms of postnatal depression include dysphoria, emotional lability, insomnia, confusion, anxiety, guilt and suicidal ideation [8] as well as inability to bond with the baby, child neglect and higher risk of child mortality [9]. The high prevalence of antenatal mental distress in developing countries suggests that social factors such as poverty and lack of social support (which are known to precipitate common mental disorders) [10,11] may contribute to the overall experience of the distress resulting in far-reaching disabling consequences. In South Africa, studies have found high rates of depression in pregnant and postnatal women. In a low-income area outside of Cape Town, 39% of pregnant women screened positive for depression while 34.7% of postnatal women were diagnosed with depression [12]. In a rural area of the country's KwaZulu-Natal province, 47% of women were diagnosed with depression in the latter stages of their pregnancy [13].

The World Report on Disability released by the World Health Organization and the World Bank in 2011 [1] proposes several conceptual frameworks for defining disability. These include the medical model of disability, the social model of disability, Amartya Sen's capabilities approach and the International Classification of Functioning, Disability and Health (ICF) (2001) [14]. All of these, with the exception of the medical model which considers impairment alone and not the social environment, are interrelated and acknowledge the interaction of biological impairment (e.g. presence of mental disorder) and social or environmental factors (e.g. poverty or unemployment) in creating a disabling experience. The ICF considers disability along a continuum of functioning with three dimensions:

- Impairments are problems in body function or alterations in body structure (e.g. paralysis).
- Activity limitations are difficulties in day-to-day activities (e.g. walking or eating, ability to complete household chores).
- Participation restrictions are problems with involvement in any areas of life (e.g. discrimination in the work place or in transportation, and social exclusion).

The ICF has been applied to studies investigating a wide range of issues including functional capacity of children with cerebral palsy [15], HIV-positive patients on antiretroviral treatment [16] and pregnant women with antenatal mental distress [17]. Despite its potential to assess functioning, the ICF does not always offer direction for interventions. It is therefore well complemented by the capabilities approach developed by Amartya Sen in 1999 [18]. Sen considers capabilities alongside functioning. Functioning and capabilities are impeded by poor health including mental health. From this perspective, functioning is a feature of an individual's current state of existence and can be considered on a spectrum of "elementary states (such as nourishment) to more complex states" (such as participation) [19]. Capability, on the other hand, refers to the ability of an individual to achieve functioning and to utilise opportunities (such as employment, access to water and adequate housing conditions) that lead to a fulfilled existence [19].

Researchers have engaged with the capabilities approach in relation to mental health by creating their own set of capabilities for the contexts that they describe, for example, in relation to restoration of functioning after severe mental disorder. For example, Hopper [20] devised a list of capabilities for mental health service users with psychosis. His list was adapted from Sen and Nussbaum's list of capabilities [21] and included life expectancy, the ability to plan one's life, love and support, social networks and the ability to enjoy recreation. To our knowledge, there has been little application of both the ICF and the capabilities approach to the field of antenatal mental distress.

The aim of this study is to bridge this gap by applying the ICF to the experiences of pregnant women with mental distress and then to offer suggestions for support for them using the capabilities approach. Specifically, we were interested in identifying, through the views of antenatal and postnatal women and service providers, what functionings and capabilities are impaired by antenatal mental distress, and to what extent a counselling service may contribute to restoring functioning and capabilities. Our application of the capabilities approach is similar to that of Hopper [20]. We engage with Nussbaum's approach to creating capabilities (the human development approach) as it has been applied to previous contexts of women's capabilities (e.g. pregnancy [22] or restoring capabilities after a termination of pregnancy) [23].

Methods

Study design

The research project employed a qualitative research methodology that consisted of a series of individual in-depth interviews.

Research sites

Data were collected at two midwife obstetric units (MOU), both sites for the Perinatal Mental Health Project (PMHP) in Cape Town, South Africa. The PMHP was established in 2002 by a multidisciplinary group of health workers in response to the unmet need for a perinatal mental health service for women in Cape Town. The project aims to offer all pregnant women routine screening for common mental disorders (depression and anxiety), and the possibility of on-site counselling, referral to psychiatry services and post-natal assessment for women who take up the offer of mental health intervention [24].

Preparation for research process

In preparation for the study, the first author (SM) observed counselling sessions to understand the common challenges that pregnant women with mental distress experience and how these may impact on their daily activities. Women were informed that these observations would take place to provide background information to the research, and they had the option of refusing to be observed if they so wished. None refused to be observed. The PMHP's clinical coordinator, an experienced clinical psychologist (BE), selected women for recruitment that were assessed to be emotionally fit to decide on their engagement with the researcher. These observations were used to guide the development of the interview schedule for the in-depth interviews in the main study. This process took place before the research began and the women who agreed to be observed were not recruited to the main study. In addition, the interview guides were piloted.

Population and sample

Seven health care providers (one midwife, one psychiatrist assisting the project staff, one medical officer working in obstetrics, three lay counsellors and one professional counsellor)

were purposively recruited for in-depth qualitative interviews from the two research sites. The professional and lay counsellors recruited for the study are all employees of the PMHP. The psychiatrist assists the PMHP every two weeks while the midwife and doctor are employed by the public health service and work at one of the research sites.

In addition, between February and June 2012, pregnant women over the age of 18 attending counselling sessions at the two PMHP sites were asked by their counsellor if they were willing to be interviewed for the study. This request was made after they had at least one session with the counsellor. This allowed the counsellor, at the first session, to establish rapport, make an initial mental health assessment and establish suitability for inclusion in the study. If the counsellors regarded a particular client as too distressed, experiencing trauma, considering suicide or if their functioning was very compromised they were not invited to participate in the study. This recruitment process was overseen by BE. Of a potential sample of 12, 5 refused to be interviewed. We eventually recruited seven antenatal clients known to the counsellors to be suffering from mental distress and currently attending the service offered by the PMHP. We later repeated the procedure to recruit postnatal clients who, based on the counsellors' reports, had experienced mental distress during pregnancy. The counsellors also advised the most appropriate postnatal candidates for recruitment, that is, women who had suffered mental distress during their pregnancy and would be willing to participate. They were telephoned and asked to visit the health facility they had attended during their pregnancy. Of a potential sample size of eight, five refused. We managed to recruit three postnatal clients to gain further insights into their perceptions and experiences of disability and functioning during pregnancy. We recruited mainly black, South African women. In South Africa, racial terminology is commonly used in scientific literature, and pertains to ethnic groupings with a degree of homogeneity in terms of historic and current disadvantages. It is also a marker of persisting social and economic disadvantage in South Africa, and therefore a means to redressing such disadvantage.

Interview guides

The interviews were facilitated by two open-ended interview guides designed by all of the co-authors for service users (Appendix 1) and health care providers (Appendix 2). The interview guides employed questions which were adapted from the ICF's domains of functioning (e.g. questions about impairment in general functioning and characteristics of the social environment, e.g. poverty or social support). The guides explored health care providers' and service users' understanding of antenatal mental distress, effects of this distress on women's disability symptoms (e.g. inability to work, complete household tasks, relate to others, interact with other children) and perceptions of environmental factors influencing depression and subsequent impairments in functioning or deprivation in capabilities.

The users' interviews were facilitated by a similar interview guide to that used for the health care providers. The first author conducted all of the interviews. The majority of interviews were conducted in English. One interview with a postnatal client was conducted in French, at the request of the client.

Ethical considerations

We were granted ethical approval by the Human Research Ethics Committee, Faculty of Health Sciences, University of Cape Town (HREC REF: 110/2012). We adhered to a strict confidentiality protocol for both health care providers and users recruited for interviews. All participants were assured of confidentiality through the informed, written consent procedure. They were

assured that the research posed neither overt risks nor benefits, that there were no right or wrong answers and that their responses would not be shared with anyone including their counsellor. They were also assured that the purpose of the research was to develop insight into the disabling symptoms of antenatal distress and that they were not to be pressurised to evaluate the PMHP or forfeit health care.

The interviews were all conducted prior to scheduled counselling sessions with PMHP staff. Participants were therefore given the option of discussing any problems or possible distress experienced as a result of the research interview with their counsellor.

Data analysis

The qualitative data analysis for this study was conducted using the framework approach which consists of different stages: familiarising oneself with the data through reading and re-reading the transcriptions, developing a coding framework and assigning data to the codes developed, summarising the coded data and then interpreting the meaning within the themes [25]. As we analysed the data through the lenses of two theoretical frameworks, that is, the ICF and the capabilities approach, we took care to generate our own list of capabilities (like Hopper suggests) [20] from what emerged from the transcriptions. For example, opportunities are a substantial component of capabilities theory. Therefore, opportunities (e.g. employment or ability to bond with the baby) constituted a lens through which the codes were created. In the transcriptions, we looked for opportunities identified that arose from the counselling. Initially, responses were read and re-read for emergent themes relating to domains of functioning as denoted by the ICF. In addition, capabilities suggested by participants were coded. Care was taken to ensure the codes accurately captured the respondents' meaning. ATLAS TI Version 4.2, a qualitative software program, was used for data management and to facilitate analysis.

Findings

The majority of the antenatal and postnatal clients were black, South African women, two were black, Zimbabwean women and one was a black Congolese woman currently residing in South Africa. All of the service providers were women. Two of the professional service providers were white women and two of them black. Of the lay health care workers, two are South African (one black and fluent in isiXhosa and one 'coloured' (a racial category in South Africa referring to individuals of racially mixed parentage or ancestry) and one is a black, Congolese woman.

The Xhosa-speaking woman works with clients who prefer their counselling sessions to be conducted in isiXhosa. The Congolese woman is fluent in French and is well suited to work with refugee women from French-speaking African countries who attend the service.

Some demographic information of the study participants is presented in Table 1. A summary of the themes derived from the data is presented in Table 2.

Several themes emerged from the analysis of both provider and service user's interviews. These relate to participants' experience of the domains of functioning derived from the ICF as well as suggestions of capabilities that could improve their functioning. These themes are: (1) Participants' reports of how mental distress affects the health and functioning of pregnant women; (2) Participants' reports of how the environment affects health and functioning of pregnant women; (3) Participants' perceptions of the role of counselling in restoring functioning and capabilities; and (4) Participants' perceptions of other factors which might influence capabilities for pregnant women with mental distress.

Table 1. Demographic characteristics of the sample.

Category of respondent	Mean age at the time of interview	Employment status	Number of other children ^a	Mean gestational stage (weeks)	Mean number of months postpartum (postnatal clients)
Antenatal clients (<i>n</i> = 7)	28.9 years	Unemployed (<i>n</i> = 5) Employed (<i>n</i> = 2)	2 (<i>n</i> = 4) 0 (<i>n</i> = 3)	29.1 weeks	5.5 months
Postnatal clients (<i>n</i> = 3)	24.7 years	Unemployed (<i>n</i> = 3) Employed (<i>n</i> = 0)	2 (<i>n</i> = 1) 0 (<i>n</i> = 2)		
Lay health care workers (<i>n</i> = 3)	41.7 years				
Professional health care workers (<i>n</i> = 4)	43.5 years				

^aNumber of children excluding the current pregnancy or baby.

Table 2. Summary of the findings.

Key theme	Summary of perceptions
Mental distress affects the health and functioning of pregnant women.	Women with mental distress during pregnancy find functioning difficult but there is pressure to proceed with all their tasks as if nothing is wrong. Areas of functioning that are affected include struggling to bond with the new baby or care for other children; becoming socially withdrawn; and struggling to problem solve or plan for the future.
Environment affects health and functioning of pregnant women.	Lack of social support, discrimination at work, poverty, poor health (including HIV/AIDS) and past exposure to trauma are all seen as exacerbating conditions of mental distress and resulting in poor functioning.
Counselling plays an important role in restoring functioning and capabilities.	Counselling was thought to assist with general functioning including bonding with the new baby. The counselling sessions focus on restoring ability to problem solve.
A number of factors might influence capabilities for pregnant women with mental distress.	Factors include ability to bond with a baby, income generation, a supportive partner, social support, access to personal health care, health care for their children, food security and a sense of agency.

Participants' reports of how mental distress affects the health and functioning of pregnant women

Providers, pregnant clients and postnatal clients reported that mental distress affected the health and functioning of pregnant women. Areas of health and functioning that are significantly impeded are completion of education (in the case of teenage mothers), completion of household tasks, ability to complete tasks at work, sustaining relationships with partners as well as caring for other children. Antenatal clients in particular, could describe their distress and the effects on their functioning:

I'm not walking, I'm only sleeping, not eating every time and my head is aching, eating every time, feel so weak... very weak, I don't have energy, I feel so want to fall down may be... (antenatal client 1)

It (mental distress) affects them a lot, like one thing that, that strikes me a lot with the women that I see, despite how difficult they're finding their pregnancy. It's kind of like they still expect themselves, or they expected to continue normally, like – wake up, clean up, wash dishes, do this, do that., If a person is married, to still be intimate with the partner – and, and most of them can't handle (this)... (lay counsellor 1)

The counsellor also mentioned that pregnant women who are distressed may struggle to bond with their babies during their antenatal period. These views were corroborated in the experiences of antenatal clients who struggled to care for their children while being distressed during subsequent pregnancies:

I've seen a lot of women who are saying to me – I'm pregnant again and I have a 2 year old or a 1 year old. I'm finding it difficult to take care of this child, it's too much for me, I can't,

I'm now having a bad attitude towards the child. Or they're saying – I can't bond with the one in my tummy because I'm so busy taking care of the other one... (lay counsellor 1).

I couldn't be a helpful mother to her, because, she can't talk to me, she will see me crying... So [the] school call me in and that really – they help me a lot and it's where I learn that she told them that I hide from her when I'm crying but she can see me crying, So it's where I told myself that no, let [me] be there for her, if I have a problem, let me not show her that to make her [think] that she's not important to me, let me show her that she's very important to me... (antenatal client 2)

One participant, a professional counsellor, described the erosion of capabilities experienced by clients with mental distress:

relationships with friends and family, problem solving or being able to look forward or, or create, to feel like they have power to create a better situation in their life, those, you know, those kinds of things. Women can become very withdrawn and very passive and very hopeless and, very despairing and sort of just barely survive, from day to day. So, it's hard for them to be forward thinking and to have hope and to be able to create a future in any way... (professional counsellor)

Participants' reports of how the environment affects health and functioning of pregnant women

All participants believed that environmental factors interact with mental distress to precipitate disabling symptoms of mental disorder. Participants explained the role of environmental factors such as the lack of a supportive partner, socio-economic issues and general health status (e.g. HIV/AIDS) in precipitating mental distress.

he don't give me like support, the support that I need you understand, I don't mean like money wise, because I know he don't work but, just to be there when I needed him, he's not (there) . . . (antenatal client 2)

women have been abandoned by their partners, they are deprived of things during the pregnancy that they would love, they are struggling financially and resulting into other social problems, hunger, inability to provide for themselves because of jobs and all those things. (midwife)

inadequate support, economic, health problems especially HIV, most women are diagnosed for the first time when they come or maybe they were diagnosed before – it has never been an issue and now that they're pregnant, it becomes an issue that, that actually would sometimes drive them to depression. (lay counsellor 1)

One counsellor explained that women with refugee status who have been exposed to trauma or violence are also at risk of mental distress during the antenatal period:

those coming from other countries, some have the post-traumatic stress disorder. Those who have witnessed the killing of their families or those who have been raped on the way coming from their country to South Africa or those who are sleeping outside without a shelter . . . (lay counsellor 2)

One participant, an antenatal client, reported that she had tried to terminate her pregnancy and had not succeeded. The stress and health consequences of the failed termination of pregnancy added to the guilt she felt was further contributing to impairments in functioning.

A doctor, currently working as a medical officer in obstetrics, said work pressures were sometimes a predictor of stress for pregnant women. She supported this with evidence of a patient she had treated who was physically well:

an employer who was pushing her, telling her she has to pick up heavy things despite the fact that she's pregnant. She felt she needed more sympathy . . . she was afraid to lose her job. The employer was threatening her . . . So she didn't know that actually she's got rights as a pregnant woman . . . (doctor)

Three participants (two antenatal clients and one postnatal client) disclosed to the interviewer that they were HIV positive. The two antenatal clients expressed their anxiety that their unborn babies would become infected with HIV. One of them was concerned that the antiretroviral (ARV) treatment regimen that she was currently taking was potentially harmful to the foetus. The other two had already discussed their treatment regimen with their health care providers:

I think, what about the baby. It's going to be (HIV positive) . . . (antenatal client 3)

when I notice I'm pregnant, I just come straight to the hospital because I know I have to take the Effavirenz because I know when you're pregnant you have to take your Effavirenz . . . (antenatal client 4)

Participants' perceptions of the role of counselling in restoring functioning and capabilities

Participants all reported that the counselling was helpful in its contribution to regaining capabilities and restoring functioning.

In particular, health care providers reported that pregnant women experience an improvement in mood after attending counselling sessions:

subjectively, in terms of their mood, you definitely see an improvement. Also in terms of their relationship with the child or their feelings about the baby – that they're actually wanting the pregnancy or [are] happier with the pregnancy – the bonding with the child. Being able to manage their situation better, or feeling more in control as opposed to feeling quite overwhelmed and out of control and not wanting the child and struggling. So you might not change the external circumstances too much but they might just feel more empowered in themselves . . . (psychiatrist)

Two counsellors, one of them a professional counsellor and the other a lay counsellor, explained that sometimes having the baby reduces the mental distress experienced during the antenatal period, and in conjunction with the counselling sessions, the women can have opportunity for reflection, direction and problem solving:

having a mom now that's got a baby in her arms and then suddenly the problems disappear, you know, then everything's really fine afterwards . . . even though the problem's bigger, they're more capable of dealing with it in that space. So sometimes it's just going through what are their plans now and how they intend getting there, that kind of thing or it's now past the time, now the baby's out and now they find work. (lay counsellor 3)

The professional counsellor described one of her clients, a woman who had severe distress during pregnancy. The client experienced social isolation which resulted in impeded functioning. The counselling resulted in better bonding with her baby:

I'm thinking of another woman who had a first baby and this baby started crying every day for long periods of time around 4 weeks of age. [The mother] was vulnerable in terms of her own mental health history and in terms of her lack of supportive relationships in her life. [She] felt that she couldn't cope with the baby. She became more and more depressed. But her distress, I think, was just making the baby, also more distressed. Luckily, she did come back for counselling. They had first tried a paediatrician and thought there was something wrong with the baby. When we were able to talk about the factors around her difficulty in parenting and her difficulty coping with the baby and her isolation, she was able to make some changes in terms of getting people closer to her and her mood improving. And the baby stopped crying and it was quite a drastic improvement in a short period of time . . . (professional counsellor)

Two antenatal clients and a post-natal client explained how counselling provides the opportunity for distressed women to talk about their problems. The substance of the counselling sessions and how the advice they receive from the counsellor has helped them:

the counselling is helpful . . . (my counsellor says) you must be strong for your baby, so now I'm feeling better . . . (antenatal client 5)

(my counsellor) remind me that, why can't I be that person I was before, when I broke up with him, because when he was

not in my life, there was nothing wrong with me, I didn't have stress, I love myself and my kids. If he's not in my life, let him go, you understand, let me not put him first in my life and put me and my kids behind. So that's what I think, when [the counsellor] told me that and I sit down and I really realize when I broke up with him I was a better person, so why can't I be that better person again... (antenatal client 2)

when you're calm and talk to someone, you find yourself at peace because maybe there, there is another new way you see, another new thing that you'll maybe not even think about, of solving that small problem, not only about the money.. It helps me emotionally just to talk to someone and sometimes that person helps you with something else and that something, no matter how small it is or bigger, or bigger, but if it does make a change in you. It's very important, it's very, very important (postnatal client 2)

Participants' perceptions of other factors which might influence capabilities for pregnant women with mental distress

Other factors that participants identified included: the ability to bond with a baby, income generation and a supportive partner. One participant, an antenatal client suggested capabilities generated from a stable job that would contribute to restoring her functioning:

now I need help. I'm not working. I want some job. I want job to take care of my baby and I don't have money to pay rent... (antenatal client 2)

Two health care providers identified the several capabilities for assisting pregnant women with mental distress. These included social support, access to personal health care, health care for their children, food security and a sense of agency:

more support with their partner if they had a partner, otherwise more family support or just general emotional support in their own environment, not necessarily in the hospital environment... I think more access to resources, to health care, to health care for the child, to medication for themselves, access to the counselling. There're so many things you know, even financially, the small things it's access to, it's being able to afford to come to the appointments, or if you're phoning them and they haven't attended their appointment but they've run out of airtime, so you can't reschedule the appointment... (psychiatrist)

in our country we have this mentality that if things are not right, if you do not have food, then I must give you food. But women need, we need to empower our women on how to produce food or find means to improve their situation, not necessarily food but improve their situation. It's not about soup kitchen, parcel for the day and things like that. More projects that can empower women, beadwork, sewing, gardens and producing because each person wants to, to have that thing of – ‘I've worked for it, I've done something towards my improvement.’ Not – ‘I received, I received, I received...’ (midwife)

Discussion

The findings of this study highlight the links between antenatal mental distress and disability. The findings are also suggestive of ways of enhancing capabilities for pregnant women experiencing

antenatal mental distress particularly where their experience is exacerbated by living conditions of poverty. Our findings were similar to those of Bindt et al. [17] who also found impairment in the functioning of pregnant women experiencing mental distress. In our study, we found that relationship difficulties, poor socio-economic status and HIV-positive status were all reasons for distress during the perinatal period. The potential for HIV-positive status to cause anxiety or distress has been confirmed in several other studies [26,27].

The study also indicates the complementary role of the ICF and capabilities frameworks in this field. Previous applications of the capabilities approach have included the contributions of Ingrid Robeyns [22] to addressing gender inequality, Dixon and Nussbaum [23] to restoring dignity for women who have had a termination of pregnancy (TOP) and Hopper [20] in relation to recovery after severe mental disorder. Hopper [20] identifies capabilities that could catalyse recovery after schizophrenia, and resonate with the findings of our study regarding antenatal distress. These include: renewing a sense of possibility, regaining competencies, reconnecting and finding a place in society and reconciliation work.

In engaging with the data collected for this study, we have also devised a list of capabilities based on the contributions of the above mentioned sources but specifically tailored to the context of our participants and more broadly to women who experience antenatal distress, environmental constraints (e.g. dire socio-economic circumstances) as well as impaired functioning. Our adapted list of capabilities is presented in Table 3. They are adapted from Nussbaum and Sen [21] and derived from our data: (the tenth capability is: ‘Other Species – Able to have concern for and live with other animals, plants and the environment at large which does not apply to our data and therefore has not been included in our recommendations’). We have expanded each of Nussbaum's capabilities in the second and third columns of the table. The second column describes capabilities for women who are experiencing antenatal mental distress, for example, a source of income or access to antenatal health care. The third column identifies ways in which health care providers can assist in sustaining these capabilities. For example, health care providers could advise their clients about eligibility for disability or child support grants or access to HIV/AIDS prevention and care services.

There are several limitations to our study. Firstly, we had difficulty recruiting both antenatal and postnatal participants. Several women refused to be interviewed. Reasons for their refusal included: language barriers, distress, fatigue and pressure to return to work after visiting their health care facility. One potential participant visited her health facility with her partner. She did not want to disclose to him that she was receiving counselling from the PMHP staff and therefore refused to be interviewed. Secondly, we decided to conduct the interviews at the health facilities where the PMHP staff conduct counselling, and not at the homes of clients. We were cognisant that the health facility setting could introduce potential bias. The participants may have given responses about the counselling that they thought the researcher would like to hear. However, the setting for the research was chosen to ensure confidentiality from family members or partners and to protect clients who may be vulnerable to further distress. Thirdly, postnatal clients who were interviewed for the study may have experienced recall bias in retrospection of their distress during pregnancy. Fourthly, several participants who were interviewed had difficulties in expressing themselves clearly both as a result of their mental disorder and language barriers (English was the second language of all the participants). Fifthly, our counsellors assisted in recruitment of clients and this could have potentially introduced bias. We are not aware whether they

Table 3. Applying Nussbaum's central human capabilities to antenatal mental distress.

Nussbaum's central human capabilities	Capabilities in relation to antenatal mental distress	Potential of service providers to contribute to sustainable capabilities
Life/control over one's environment	Sustainable economic empowerment. Knowledge of basic human rights, e.g. in a workplace environment.	Advice about employment and rights within a workplace. Advice about eligibility for disability or child support grants as well as how to access these grants.
Bodily health	Healthy sleep patterns and appetite. Access to health care including mental health care (psychiatric medication if necessary). Access to health care for children including prevention of mother to child transmission (PMTCT) HIV treatment during pregnancy. Food security	Appropriate high quality health care should be provided in relation to mental distress during and after pregnancy. HIV/AIDS prevention and care including testing and access to ARV treatment for those testing positive should be integrated into antenatal care.
Bodily integrity	Protection from intimate partner and gender-based violence. Protection from other forms of violence	Adequate counselling and referral to mental and physical health services if clients have experienced domestic violence. Legal advice to deal adequately with protection from further assault. Advice about appropriate shelters or homes for women who require protection from domestic violence. Access to social workers.
Emotions	Minimise risk of antenatal and postnatal depression, ability to bond with the baby during the antenatal and postnatal period. Self-empowerment despite environmental factors.	Early and sustained contact between the mother and the health system during the post-partum period will help create an environment supportive of a good mother–infant relationship.
Affiliation	Feeling part of a community, mobilising social support and networks; having concerns or needs in common with women in similar situations. Attending support groups and antenatal classes.	Advice from health care providers about support groups available in the area.
Practical reason	Ability to make decisions regarding reproductive health including planning future pregnancies. Access to contraception after delivery. Access to safe termination of pregnancy if desired.	Non-judgemental advice from health care providers about termination of pregnancy if needed or requested, appropriate contraceptive advice or planning for later pregnancies.
Play	Ability to bond with their infant and enjoy relationships with other children.	Health systems can create supportive social spaces for mothers of infants and young children to meet and interact.

chose a biased sample of clients who would reflect positively on the work on the PMHP. Finally, we are also aware of potential power differentials between health care providers and clients particularly where the race or ethnicity of the client and counsellor is different. The race of the interviewer was also different to that of the clients and counsellors interviewed and this is a further source of potential bias.

We are aware that our study was designed as an exploratory qualitative study to extract experiences of women with antenatal mental distress and their potential for capabilities after receiving counselling. It was not designed as a randomised controlled trial to quantify the benefits of the counselling or to account for confounders. However, we do believe that we have extracted valuable findings and there is direction for further research in the area of antenatal mental distress.

It is clear that antenatal mental distress can impair functioning in several domains. The ICF is a useful tool to study antenatal mental distress through a disability lens. It is well complemented by Sen's capabilities approach (modified and further developed by Nussbaum), a tool to inform interventions. Further research could be conducted employing these models to design interventions to assist pregnant women in distress particularly those who live in conditions of poverty, with little social support.

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Declaration of interest

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Appendix 1. Interview guide for health care providers

Thank you for agreeing to be interviewed. We are interested in discussing your experiences of counselling women who suffer from mental distress during pregnancy. Your opinions are very valuable to us.

Can we start by discussing your experience of counselling women who experience mental distress during pregnancy? (Interviewer should probe for specific mental disorders seen in pregnant women)

Could you describe the environment/context of some of these women? (PROBE for SES, employment issues, general health status etc.)

Do you follow clients who have experienced antenatal mental distress during pregnancy to their postnatal period? (If YES, How do you follow them up? What are some of the changes that you see happen from antenatal to post natal periods? If NO why not?)

Can we discuss the pregnant women you counsel who are experiencing mental distress? How does the mental distress affect their health and functioning or daily activities? What sort of duties do they have in addition to mothering? How does mental distress affect their ability to perform these roles?

If disability issues are not explicitly raised interviewer should ask: what are the needs of these women- what sorts of activity limitations and restrictions do they experience as a result of their mental distress?

How does their social environment impact on the activity limitations described above? Do you think that the mental distress is responsible for these limitations or their environment? Or perhaps a combination of both?

How do you think the social environment can be made more accessible to accommodate the needs of these women?

After attending counselling sessions do you see an improvement in their functioning? If yes, in what ways? If No, how could the counselling sessions be modified to result in an improvement in their functioning?

Any further comments?

Appendix 2. Interview guide for mental health service users

Thank you for agreeing to be interviewed. We are interested in discussing your experiences of mental distress during your pregnancy. Your opinions are very valuable to us.

Can we start by discussing your experience of mental distress during pregnancy (Interviewer should probe for specific mental disorders experienced)

Could you describe where you live and what your life is like? your environment/context? (PROBE for SES, employment issues, general health status etc.)

Can we discuss how your mental distress (or the symptoms you have just described) has affected your health and daily activities? Can we talk about mothering? What sort of duties do you have in addition to mothering? How does mental distress affect your ability to perform these duties? Are you able to complete the tasks you completed before?

How do people around you (PROBE FOR PARTNER, MOTHER, OTHERS) respond to the fact that you are distressed/upset? Do they notice? If they do, what do they say/do? (important to distinguish between the impact of pregnancy itself, and the impact of having a newborn, on the one hand, from the impact of distress on the other). Do people comment on the kind of mother you are? Do you think that your mental distress is responsible for these limitations or their environment? Or perhaps a combination of both?

Could things be made easier for you at home/clinic etc. and if so in what ways?

After attending counselling sessions are things easier for you? functioning? If yes, in what ways? If No, What would you want from the sessions to help you with your day-to-day tasks? What other help would be useful? Can you describe this help? What help would you require in addition to the counselling you receive?

Any further comments?