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Why do some pregnant women not fully disclose at comprehensive psychosocial assessment with their midwife?

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ABSTRACT

Problem: While comprehensive psychosocial assessment is recommended as part of routine maternity care, unless women engage and disclose, psychosocial risk will not be identified or referred in a timely manner. We need to better understand and where possible overcome the barriers to disclosure if we are to reduce mental health morbidity and complex psychosocial adversity.
Aims: To assess pregnant women's attitude to, and reasons for non-disclosure at, comprehensive psychosocial assessment with their midwife.
Methods: Data from 1796 pregnant women were analysed using a mixed method approach. After ascertaining women's comfort with, attitude to, and non-disclosure at psychosocial screening, thematic analysis was used to understand the reasons underpinning non-disclosure.
Findings: 99% of participants were comfortable with the assessment, however 11.1% (N = 193) reported some level of nondisclosure. Key themes for non-disclosure included (1) Normalising and negative self-perception, (2) Fear of negative perceptions from others, (3) Lack of trust of midwife, (4) Differing expectation of appointment and (5) Mode of assessment and time issues.
Discussion: Factors associated with high comfort and disclosure levels in this sample include an experienced and skilled midwifery workforce at the study site and a relatively advantaged and mental health literate sample. Proper implementation of psychosocial assessment policy; setting clear expectations for women and, for more vulnerable women, extending assessment time, modifying mode of assessment, and offering continuity of midwifery care will help build rapport, improve disclosure, and increase the chance of early identification and intervention.
Conclusions: This study informs approaches to improving comprehensive psychosocial assessment in the maternity setting.

Statement of significance

Problem

About 20% of perinatal women do not fully disclose information at depression screening but there is no literature on women's disclosure around more comprehensive psychosocial assessment where highly sensitive risk factors are addressed. Without full disclosure the extent of psychosocial risk cannot be identified nor addressed in a timely manner.

What is already known

Factors affecting disclosure at depression screening include self-stigma, fear of being perceived as a bad mother and lack of trust in their health care provider.

What this paper adds

This study provides an evidence base to inform improved disclosure at psychosocial assessment in the Australian maternity setting.

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1. Introduction

Approximately 20% of new and expectant mothers will experience depression or anxiety across the perinatal period spanning pregnancy to one year following the birth of their baby [1,2]. In Australia *comprehensive psychosocial assessment* inclusive of mental health screening, and enquiry relating to adverse childhood experiences, interpersonal violence and substance misuse is recommended as part of a holistic and woman-centred approach to care in both the 2018 Clinical Practice Guidelines for pregnancy care [3] and the 2017 mental healthcare in the perinatal period guidelines [4]. Such assessment includes a depression screener (e.g. the Edinburgh Postnatal Depression Scale (EPDS) [5], and psychosocial risk assessment questionnaires such as the Antenatal Risk Questionnaire (ANRQ) [6] or other broad measure of psychosocial risk such as the ALPHA [7].

Survey based research on the acceptability of depression screening has found that many, but by no means all, perinatal women are comfortable with these questions. Forder et al. [1] reported that 38.9% of 1597 Australian women were not comfortable with enquiry about depression or anxiety symptoms and Kingston et al. [2] found that 37% of 460 Canadian women did not find it a positive experience. Information about staff training and policy underpinning depression in these settings was not available. In contrast, over 90% of 860 perinatal Australian women completing the EPDS with their healthcare provider after several years of routine screening had been in place, reported it to be acceptable and appropriate [8].

Clearly there is significant variation in terms of reports on women's acceptability of depression screening. Some of this variation no doubt relates to the method of screening (questionnaire versus open ended enquiry) and the setting in which it is done. The presence of longstanding policy, and the associated clinician training that accompanies this [8], likely improves clinician skill and confidence with depression screening.

Brealey et al. [9] in a meta-synthesis of narrative studies from around the world focussing predominantly on the EPDS for depression screening, reported that the EPDS was 'generally found to be acceptable to women' but that prior adequate explanation of its purpose by a trusted healthcare provider was an important aspect of administering the questionnaire.

In addition to varying levels of comfort and acceptability, there may be reluctance to disclose information and Kingston et al. [10] and Forder et al. [1] both reported that around 20% of women were not being completely honest at depression screening.

Qualitative studies examining the reasons for non-disclosure in depression screening in the perinatal period have identified several key domains related to a woman's uncertainty about (a) the consequences of disclosure [11], (b) the support that would be offered if they disclose [11–13], (c) the role of the health care provider administering the assessment, (d) the purpose of assessment [11,13], and (e) the response by their health care providers, such as invalidation or minimisation of their experience [13,14]. Bayrampour et al. [13] and Forder et al. [1] also found that if it were "too hard to explain", women would prefer not to talk about their concerns.

While most studies have focussed on depression screening, some are beginning to examine pregnant women's experience of comprehensive psychosocial assessment. Kingston et al. [15] in a survey of 636 women completing the EPDS [5] and ALPHA [7] administered by a research assistant, found that while over 75% of women perceived assessment as beneficial, 43.1% reported they had felt 'very, moderately, or somewhat vulnerable' at assessment. In contrast, an earlier survey by our group in a Sydney public hospital maternity clinic [6] found that 91.6% of 1196 pregnant women were 'not at all distressed' when undertaking comprehensive psychosocial assessment (using the ANRQ) with their midwife. It had been hospital policy to do this routine assessment for the preceding four years. Using in depth interviews of women completing comprehensive psychosocial assessment with their midwife using the ANRQ or a similar tool in the Australian public hospital maternity setting, Rollans et al. [16] in an in depth qualitative study found that some women perceived certain questions as intrusive, unexpected and uncomfortable [16].

To our knowledge there are no studies examining the reasons for non-disclosure at psychosocial assessment. A prospective study that evaluates the extent of, and reasons for, non-disclosure in relation to both depression screening and comprehensive psychosocial assessment inclusive of sensitive questions around childhood trauma, interpersonal violence, contact with child protection services and substance misuse [4] is needed to inform optimal implementation of routine psychosocial assessment and care.

2. Methods

2.1. Study design and setting

This study is a planned component of a larger research project the Perinatal Integrated Psychosocial Assessment (PIPA) study. A summary of the key features of the PIPA study are described in the study protocol [17]. Both the quantitative and qualitative data were sourced at Time 2, two weeks after women had their first routine antenatal appointment inclusive of a detailed psychosocial assessment done at Time 1. The study was conducted at the Royal Hospital for Women (RHW), a large teaching hospital in metropolitan Sydney, with approximately 3800 births per year [18].

2.2. Ethics

The project was approved by South Eastern Sydney Local Health District Human Research Ethics Committee (SESLHD HREC; Ref. 14/117).

2.3. Measures

Participant demographic and clinical data, including age, gestation and parity collected at Time 1 was extracted from eMaternity, the administrative health database used at the participating site.

Women completed the EPDS and the Antenatal Risk Questionnaire Revised (augmented version of the ANRQ in submission) containing items about mental health history, childhood abuse (any) and lack of emotional support, current stressors and supports, relationship with partner, homelessness, interpersonal violence, substance misuse, contact with child protection services, and tendency to anxiety or perfectionism.

They also completed a set of acceptability and honesty feedback questions (five-point likert responses) relating to their level of comfort completing the psychosocial assessment, any distress experienced, the perceived value of the assessment, and honesty of disclosure. Women who reported not always being honest were asked an additional open-ended question to better understand their reasons for non-disclosure. These feedback questions can be found in Supplementary material 1.

2.4. Participants and recruitment

A total of 7183 pregnant women (Time 1) who attended the study site for their first antenatal appointment between 28th of March 2017 and 27th May 2019 were administered two questionnaires by a midwife (Time 1) as part of universal

psychosocial assessment. Women responding Yes to an expression of interest for being involved in this research project, were invited to participate in the study and fill in a number of online study questionnaires two weeks after Time 1 (Time 2). Fig. 1 below describes the participant recruitment process and measures administered for the current study. The final data set comprised of 1796 women and Time 2 data was collected between 24 April 2017 and 23rd June 2019.

2.5. Procedures

Eligible women who expressed an interest in the study were contacted two weeks after their routine psychosocial assessment (Time 2) by the research team. Those who consented to participate were sent a link via email to the online questionnaire. Participants self-completed the acceptability and honesty feedback questions online at Time 2 using either 'Key Survey'™ or Qualtrics platforms.

2.6. Data analysis

Data extracted from eMaternity were combined with quantitative data from the feedback questions and analysed using IBM SPSS Statistics Version 25 [19]. Qualitative data from the open-ended feedback question was managed using NVivo [20]. Thematic analysis [21,22] was used to analyse and interpret the qualitative data from the participant's open-ended responses to the honesty feedback question, along with a constructionist and inductive approach to data analysis. The steps acquired to undertake thematic analysis include coding, creating themes, reviewing themes, naming themes and writing the analysis. Individually VM identified patterns in the data and proposed data codes and then MPA and VM met on several occasions to review, discuss and agree upon the key themes within the participant's contributions. Relationships between socio demographics and psychosocial risk factors, mode of administration and lack of honesty is examined in a companion paper.

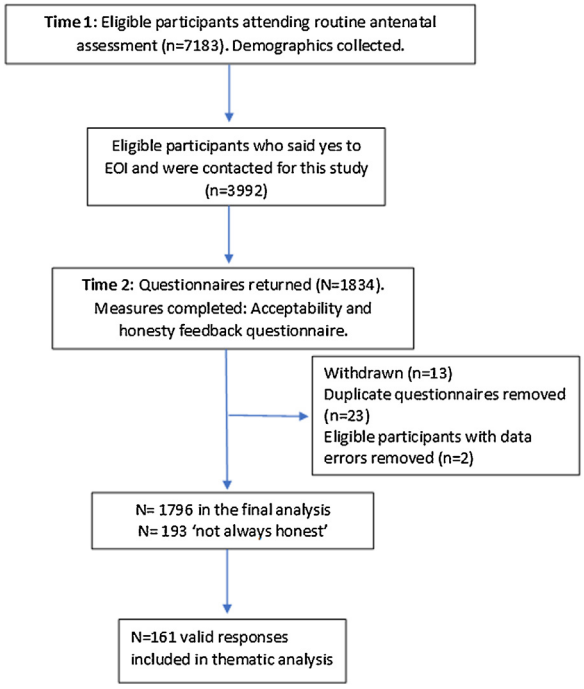

Fig. 1. Participant flow chart and data collection.

3. Results

The final study sample comprised 1976 women, who completed the acceptability and honesty feedback questions on average 14.5 days (SD 9.43) after their routine psychosocial assessment. The mean age of participants was 33.4 (SD 4.1) years and on average they were 17.4 (SD 3.40) weeks pregnant. Over 60% (62.9%) were nulliparous with 75.7% planned spontaneous pregnancies, 8.9% using ART and the remainder unplanned. 45.1% were Australian born and 78.8% had a university degree, 15.4% had a vocational degree or diploma and the remainder completed their secondary schooling and 99.9% were partnered. The average total score on the EPDS was 4.6 (SD 4.0). There were no clinically significant differences between women who did and did not participate in the study in terms of these characteristics, or in terms of scores on the EPDS (all phi effect sizes = 0.1 or less).

Overall, 193 (11.1%) women reported not always being honest during their first antenatal assessment, and 161 of these women completed the additional open-ended question relating to their reason for non-disclosure. A summary of women's responses to the feedback questions is shown in Table 1.

3.1. Analysis of qualitative honesty data

Thematic analysis of the 161 responses relating to reasons for non-disclosure revealed five major themes: (1) Normalising and negative self-perception, (2) Fear of negative perceptions from others, (3) Lack of trust of their midwife, (4) Women's expectations of appointment and (5) Mode of assessment and time issues. Table 2 includes the definitions of themes and exemplar quotes from the 161 participants providing text that could be included in the relevant themes & subthemes.

3.2. Normalising and negative self-perception

The first theme describes women's experience of normalising mental illness symptoms and attributing changes in their mental state and mood to pregnancy and hormones. Women also felt ashamed to admit that they were not coping and described downplaying and denying their emotions because they "should" have more control over how they feel. Embarrassment and fear of becoming distressed during the appointment if they discussed emotional issues also acted as barriers. Some women simply did not want to share and valued their privacy.

3.3. Fear of negative perceptions from others

Women described experiencing fear and worry about being judged by others or being perceived as a bad parent if they were to disclose having mental health issues. Some women also described fear of causing their midwife worry or rupturing the alliance with their midwife if they were to admit how they were feeling. Another reason for women's lack of honesty centred on concerns that what they said would be taken out of context or inappropriately amplified. One woman also described fear of being labelled with a diagnosis of "postnatal depression". Five women could not fully disclose because of the presence of their partner at the time of assessment.

3.4. Lack of trust in their midwife

Lack of 'trust' in the midwife was the most common reason for lack of disclosure and was reported by 14 women. This included not wanting further mental health assessment from their midwife, or documentation about referral to other health services; already having a trusted health care provider providing mental health

Table 1
Acceptability, attitude to and disclosure reported in regards to comprehensive psychosocial assessment undertaken with their midwife (n = 1796).

Feedback question	Response N (%)				
	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
I felt comfortable	618 (34.4)	1161 (64.6)	12 (.7)	5 (.3)	0 (0)
I felt distressed	14 (.8)	23 (1.3)	109 (6.1)	629 (35.0)	1020 (56.8)
More emotional health awareness after assessment	1045 (58.2)	640 (35.7)	82 (4.6)	20 (1.1)	7 (.4)
Value enquiry into emotional health	651 (36.3)	813 (45.4)	284 (15.8)	39 (2.2)	5 (.3)
	Every time	Most of the time	Some of the time	Never	
I was completely honest[a]	1544 (86.0)	181 (10.4)	12 (.7)	0 (0)	

[a] Excludes 59 missing cases.

support; or not believing the midwife or a maternity hospital had the capacity to provide support for mental health issues. Many women described the midwife as a "stranger" with whom they had not established rapport and with whom they did not feel comfortable sharing private information.

3.5. Women's understanding and expectations of the first antenatal appointment

A number of women believed that the appointment should be about their baby and their pregnancy and not about their mental health while others described being unintentionally dishonest because they had either forgotten about, or were unprepared for questions about their emotional health. Some women reported failing to report previous mental health history either because they believed that their mental health concerns were resolved or no longer relevant.

3.6. Mode of assessment and time issues

Limited time was another common reason for women not fully disclosing. These women had felt rushed and wanted to have an open discussion about their mental health but were limited by both time and the closed ended format of the questions. A number of women reported that the EPDS time frame (in the last 7 days) was too limiting and instead had decided to answer in a way that reflected how they had been feeling more generally rather than the last week.

4. Discussion

In keeping with our earlier survey [6] almost all (99%) of the women participating in this study reported that they felt comfortable (64.6% agreed and 34.4% strongly agreed) with psychosocial assessment with a midwife, while additionally 93.8% reported that enquiry about their emotional health resulted in increased awareness of the importance of having good mental health in the transition to motherhood, and 91.5% reported that they thought that enquiry about emotional health is an important part of antenatal care. Despite this, about one in ten women reported that they did not always respond to all questions honestly.

This sample's almost unanimous comfort with psychosocial assessment addressing more complex and sensitive risk factors likely reflects a highly educated relatively advantaged sample who are likely to also have high levels of mental health literacy. Also notable are the longstanding policy of undertaking psychosocial assessment at the study site, ready availability of referral pathways where concerns are identified, and the high level of midwives' training and experience in this activity (average years of experience with psychosocial assessment is 9.4 years (SD 7.5) [23].

A woman's comfort with psychosocial assessment is in great part related to provider-oriented characteristics [2], and facilitators to disclosure include perceived skill of the healthcare provider, continuity of care and the empathetic, trustworthy, validating, and de-stigmatizing approach of the clinician [12,14]. Trust is especially important in relation to disclosure of matters that may be seen as stigmatising or have possible child protection ramifications. Our findings also likely reflects the study midwives' woman-centred approach to care. Kirkham [24] identified that a woman's relationship with her midwife may be more personal, supportive, informal and intimate compared to relationships with other health care professionals, with greater continuity of care and more open communication.

In spite of the significant experience and skill of our study midwives, the most commonly reported barrier to honesty was a lack of trust in the midwife's skill and ability to offer support as well uncertainty about what the consequences of disclosure would be, which is a commonly identified barrier to disclosure [1,12,14]. Given this was a woman's first appointment a lack of trust in the midwife would not be surprising and some have argued for psychosocial assessment to be undertaken at a subsequent appointment to allow building of rapport. However, it is uncommon in the public hospital setting for a woman to see the same clinician at subsequent appointments. It is also possible that some women who were "not always" honest were responding to a perceived lack of comfort and confidence experienced by the midwife when undertaking psychosocial assessment [25,26].

Woman specific barriers to disclosure include negative self-perception, self-stigma, and fear of negative perception by their midwife. Of note Forder et al. [1] found that those women less able to fully disclose were the ones experiencing greater psychosocial risk such as past or current mental health issues, interpersonal violence, adverse childhood experience, or major adversity [1]. A woman's expectations of the appointment can also impact disclosure. Thus our study found, as noted by Rollans et al. [16], that lack of reporting of past mental health history occurred because women considered a past episode as resolved or because their expectation was that they would discuss their pregnancy and fetal progress, and not their mental health.

Women reporting that a closed ended questionnaire limited honesty of response, would have preferred an open discussion with their midwife, and an "opportunity to elaborate and explain". This echoes past research by Kingston et al. [15], where over 70% of participants reported that it would be easier to have the opportunity to discuss emotional health issues with their health-care provider rather answer closed questions. There is also a perception by some women of "limited assessment time", and Forder et al. [1] noted that awareness of the time it might take to discuss their emotions resulted in reduced disclosure. The preference by some women for open discussion contrasts with some midwives' preference for a more structured tool that ensures systematic comprehensive enquiry into psychosocial risk rather than an open ended approach [23].

Table 2
Major themes and subthemes relating to nondisclosure at psychosocial assessment and exemplar quotes.

Theme	Description	Exemplary quote
Normalising and negative self- perception		
Normalising	Believing that mental health issues are a normal response to pregnancy	*When you are pregnant you respond to stressful situations differently, compared to when you are not.*
		I just put it down to a normal part of getting used to such big life changes and hormones.
I am "coping" façade	Denial and downplaying how they feel	*Possibly want to display that I am coping and that all is ok.*
		Perhaps I am in self-denial and ashamed to admit that I am still not 100%. I didn't want to admit it to myself.
Privacy	Value of privacy or did not want to share	*Some things need to remain private.*
		Some aspects of my life and my past I'd like to keep private.
Self-judgement	Self-criticism, embarrassment and shame preventing disclosure	*Hard to admit all is not perfect, did not want to admit weaknesses.*
		I felt I needed to act strong.
		Feelings of shame.
Fear of negative perception from others		*I was embarrassed to answer the question.*
Fear of exaggerating the problem	Fear of being labelled or that the problem would be made into "a big deal".	*I didn't want the answers to be taken out of context.*
		Did not want to make any drama for not a big deal.
		Didn't want to make a big deal of small things in the past.
		Fear of diagnosis of post-natal depression.
Fear of Partner finding out	Partner present in the room	*My partner was present and I didn't want to hurt or distress him.*
		My husband was at my initial appointment and I felt that there may have been some judgment about my answers in regards to support.
Judgement from midwife	Fear of being perceived in a negative way by their midwife.	*I was embarrassed about the answers and was concerned it would project me in a poor way.*
		Embarrassment and fear of being judged.
		Going into some of the questions could be unnecessarily distressing and affect my relationship with my midwife.
		In case midwife thought I wasn't coping.
Lack of trust of midwife		
Did not want health services involved	Did not want documentation of, or a referral to, mental health services	*I didn't want my past depression to be on my health record and be referred for further assessment.*
Lack of trust in midwife	Lack of relationship with midwife or lack of continuity of care.	*I only met the midwife once so far and she already mentioned that I would probably meet another midwife next time. I think women would be more honest if they could build a trusting relationship with their midwife and see the same midwife throughout their pregnancy.*
		I am not always comfortable discussing my emotional feelings and wellbeing with a person that I don't have an established relationship.
		Difficult for me to open up to someone I just met for the first time.
Already working with others	Have already sought support elsewhere	*I also believe that my GP knows my situation very well and as I see him regularly, I can be honest with him should issues arise.*
		I have decided to see a counsellor that I have a relationship with to discuss my issues with.
Lack of confidence in midwife	Belief that the hospital or health care provider could not help them if they had disclosed.	*I did not feel I could be helped by the hospital with those particular concerns.*
		I didn't feel my needs would be met by her handing me a or flyer referring me somewhere.
		It was clear to me that she had very limited knowledge of anxiety or the medicine I take for my condition.
Women's understanding and expectations of appointment		
Mental health history not relevant or resolved	Past mental health experience now resolved or irrelevant so chose not to disclose.	*Something that happened to me when I was 15 felt irrelevant and I dealt with it at the time, disclosing it was not necessary in my opinion.*
		I downplayed a time in my life when I felt depressed (about 17 years ago) because it feels irrelevant to me now.
		Didn't want to delve into previous possible depression too much as it is now resolved, and I sought the correct help at the time.
Differing expectation of appointment purpose	The belief that the purpose of the appointment should be about the pregnancy and baby rather than the mother's mental health.	*Not wishing to bring up too much negativity during the pregnancy, rather than mental health appointment and not wishing to confuse purpose of the appointment i.e. this was not a professional counselling session.*
		I didn't see any point in bringing every detail up, as there is no danger or concern to it affecting my health, baby's etc.
Unintentional non-disclosure	Forgetting to mention at the time of the appointment or emotional literacy issues.	*Sometimes couldn't remember. I made generalisations about my own history and memory.*
		I often forget when my emotional wellbeing has been worse, especially if at the time things were going well. It probably was just lack of processing time or awareness that I'd be asked these questions.
		It was the first time that I had to answer questions about my mental health.
		Even being at that appointment was overwhelming in itself for me as it was my first one and didn't know what to expect.
Mode of assessment and time issues		
EPDS time frame	The time frame i.e. the last 7 days was too restrictive and did not capture their experience, so information was withheld	*I always find it hard when a questionnaire asks you about the 'last 7 days' – I tend to answer in a broader sense.*

Table 2 (*Continued*)

Theme	Description	Exemplary quote
Desire for open discussion	Limited by the short answer format of the questionnaire and desire for open discussion.	*If the time period had been longer (i.e. not in the last week), I think my responses would have been different.* *Some of the questions are difficult to answer, especially in multiple choice format.* *I don't think a simple questionnaire is helpful. I think a more in-depth discussion would be better.* *The questions are too black and white. You cannot gauge someone's emotional well-being through multiple choice questions.* *The opportunity to elaborate and explain would be more helpful in the context of establishing wellbeing and emotional support needs.*
Limited time	Lack of time and feeling rushed	*It felt somewhat rushed.* *It was too short a period to explain my whole history to the midwife.* *I feel like if I had more time to think and consider them [questions], I might have been able to understand how I was feeling and be able to convert that.*

4.1. Practice implications and future directions

Proper implementation of policy around psychosocial assessment – including allowing adequate assessment time, and offering those who need it greater continuity of midwifery care – is likely to be associated with greater disclosure [27] and improved psychosocial outcomes [28]. Staff training as part of implementation needs to emphasise the importance of managing women's expectations around the purpose of the assessment and explaining the nature of an assessment that covers highly sensitive issues [4,16,27]. Providing ongoing clinical supervision and augmenting clinician skills in terms of building trust, confidence and creating a sense of comfort is critical for reducing stigma women and improving disclosure so that practitioners can more comprehensively identify women's needs and offer timely support.

Public maternity services should consider undertaking a woman's psychosocial assessment at the first antenatal appointment along with all her other assessments as suggested in the Australian pregnancy care [3] and perinatal mental healthcare guidelines [4].

Reducing women specific barriers poses many challenges, but continuing to improve mental health literacy and awareness in perinatal women, their families and the wider community [28], and increasing women's sense of agency [29] are likely to optimise sharing of sensitive information.

4.2. Strengths and limitations

Compared to earlier research where information about the level of clinician training and experience in psychosocial assessment was not available [1,10], knowledge about the experience of midwives in administering the assessment, augmented our understanding of the likely reasons for this sample's overall high levels of comfort and disclosure. Another strength of this study is that feedback was provided within two weeks, reducing the likelihood of recall bias. Finally, this is the first study to examine disclosure at psychosocial assessment covering many complex issues.

There were a number of study limitations. We had a small proportion of women reporting nondisclosure, however based on the comparison data available participants were representative of our entire antenatal sample. The possibility of self-selection bias, where study participants giving feedback were those who had a positive experience of assessment or were less symptomatic and thus more likely to be willing to be honest, cannot be excluded. High educational status and associated mental health literacy may have led to higher than expected levels of disclosure, while the overall high sociodemographic status of the sample, may make our findings less generalisable to the wider population of pregnant women.

5. Conclusion

This study has extended the evidence base examining women's comfort and disclosure levels at their first antenatal appointment with their midwife. Whilst only a small proportion of women were not fully honest with their midwife (11.1%), the most common barrier to disclosure was a lack of trust in the midwife. Many other women reported that they felt unprepared for questions about their emotional health or withheld information about themselves, as they believed the purpose of the first antenatal appointment was about their baby. This study highlights the importance of midwives "setting the scene" to manage women's expectations of the first antenatal appointment, and build trust and rapport, as this is likely to improve disclosure at psychosocial assessment.

Ethical statement

The research on which this manuscript is based involved human research. Ethical approvals for this scientific research study were granted from the South Eastern Sydney Local Health District Human Research Ethics Committee (SESLHD HREC; Ref. 14/117) on the 23 October 2014. The scientific value, methodological value and safety of the research has been reviewed and approved by the SESLHD HREC, Scientific Review Sub-Committee.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

CRediT authorship contribution statement

Victoria Mule: Conceptualization, Project administration, Methodology, Formal analysis, Writing - original draft, Writing - review & editing. **Nicole M. Reilly:** Conceptualization, Funding acquisition, Writing - review & editing. **Virginia Schmied:** Writing - review & editing. **Dawn Kingston:** Writing - review & editing. **Marie-Paule V. Austin:** Conceptualization, Funding acquisition, Supervision, Writing - review & editing.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.wombi.2021.03.001.

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