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Journal philosophy

The journal is the official publication of Australian and New Zealand professional nursing groups caring for babies, children and their families. The four organisations represent a diversity in nursing, ranging from intensive care nursing to the community-based nursing services, found in cities and remote areas throughout Australia and New Zealand.

The journal will endeavour to reflect this diversity by its content. Neonatal, paediatric and child health nursing have many different aspects that may be relevant to more than one sector of the membership. In addition to clinically oriented material, including research, the journal also provides a forum for articles on professional aspects of nursing that apply to all nurses and in particular to nurses working with babies, children and families.

This journal has a Band 2 JET Ranking from the Australian Council of Deans.

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Depressive disorders account for close to 41.9% of the disability from neuropsychiatric disorders among women compared to 29.3% among men. Gender differences occur particularly in the rates of common mental disorders – depression, anxiety and somatic complaints. These disorders, in which women predominate, affect approximately one in three people in the community and constitute a serious public health problem. Unipolar depression, predicted to be the second leading cause of global disability burden by 2020, is twice as common in women. Depression is not only the most common women’s mental health problem but may be more persistent in women than men. Awareness, education and training in mental health for all health professionals can encourage specialist clinicians to work collaboratively rather than in isolation, providing comprehensive care to women and their families, with a clearer understanding of the role and function of mental health services and clinicians within them.

Within this context, it is my great pleasure to pen the editorial for this special edition on mental health! Previously, it was believed that pregnancy itself was a protective factor against poor mental health, but this has now been discredited and clinical guidelines for perinatal care have been developed in a number of countries. In Australia, for example, in 2011 the Department of Health and Ageing published *Clinical Practice Guidelines for Depression and Related Disorders in the Perinatal Period* for clinicians providing care to pregnant women. However, the provision of comprehensive psychosocial assessment has raised debate due to the need for increased resources in the education and training of clinicians. Nevertheless, mental health care in the perinatal period is receiving the attention such care deserves and has resulted in the establishment of nurse practitioner (maternal mental health) roles within maternal care settings.

The articles in this special edition provide a bird’s eye view of a range of research pertinent to maternal mental health care. The paper by O’Kane et al. is concerned with the need for networking and collaboration between primary care and specialist mental health clinicians. Consultation liaison is discussed as a model to effectively care for children and young people with mental health problems. Zwimpfer and Elder present a psychoanalytic approach to the management of psychic pain in infants in paediatric intensive care units. Vocal soothing is suggested as a potentially effective, non-invasive technique. The use of this form of therapeutic communication via infant-directed speech can be utilised by both clinical staff and parents as a pain reduction technique. Bennett and Cooke provide a unique perspective on the experiences of male partners of women with postnatal depression. This grounded theory study provides practical strategies for men to increase social contact and seek help from friends as well as communicate openly with partners. The paper by Lewis et al. presents significant findings about the Longitudinal Study of Australian Children (LSAC) within the context of the 12% of mothers experiencing maternal depression. This study adds to the burgeoning evidence that antenatal depression is associated with a complex set of associated risks for the unborn child. Fascinating and insightful stuff!

I trust these papers are pertinent to your ongoing professional development and raise awareness about mental health issues for women and their families

**References**


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Understanding child mental health consultation from the perspective of primary health care professionals

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Abstract

Aim To explore the understanding of mental health consultation and its utilisation from the perspective of primary care workers working with children and young people who experience mental health issues.

Background Recognition of mental health consultation is respected and advocated as a way forward to support those professionals who may not necessarily have the training or understanding of child mental health issues, yet come across them frequently as part of their daily practice. Little is known, however, about how primary care professionals understand or utilise mental health consultation.

Design A qualitative research design informed by phenomenology.

Methods: School nurses (n=6) were purposively sampled. Semi-structured interviews were undertaken, facilitated by the use of open-ended questions. All interviews were audio-recorded and transcribed, followed by vigorous thematic analysis.

Results Five overarching themes were identified from the data. These included: communication; crisis identification; hindrances; resources; and expectations. Each main theme consisted of several sub-themes relating to issues of professional identity; blurring of professional boundaries; constraints such as time management and workload; and the participant’s own needs, including self-confidence and educational needs.

Conclusions and implications for clinical practice When utilised, mental health consultation proved effective in supporting the participants to address the mental health needs of children and young people; however, there are several factors such as lack of resources, differing perceptions of mental health consultation and personal challenges that prevent full engagement. This research contributes to existing knowledge by advocating that all individuals participating in mental health consultation should be encouraged to embrace the practice and understand what it actually means within the context of their own discipline.

Keywords Child, consultation, mental health, phenomenology, primary care, support.

What is known about this topic

- The importance of mental health consultation has become widely accepted in Australia, particularly within adult emergency departments. One could argue, however, that this is not the case in children’s services, with mental health consultation still used on an ad hoc basis by primary care professionals. Factors that influence this may be that primary care workers do not understand what mental health consultation is or how it can be utilised in their work. Furthermore, the literature to date on mental health consultation appears to devote attention to the process and theory of consultation rather than describing the dynamics and perceptions from those using it. Thus, it is believed that a lack of literature on mental health consultation for primary care workers working with children and young people indicated the current understanding in the area is incomplete.

What this paper adds

- The findings have highlighted that, despite the general agreement between professionals working with children experiencing mental health issues that mental health consultation is needed, it appears difficult to put into practice in a consistent manner due to the different perceptions people have of it and how it can be used in the first instance. Though it is not within the scope of this research to stipulate a model of consultation, it has highlighted that individual, organisational and external system-level factors all contribute to the success of mental health consultation.
The last decade has seen an increasing focus on child mental health worldwide with Australia clearly calling for those working with children and young people to take more notice of a child or young person's mental health needs. In Australia, as internationally, figures reveal 14–20% of children and young people experience mental health problems that in turn creates more demand for professionals to act in response to these needs. Strategies such as prevention, promotion and early identification provide a perfect vehicle to address the issue and inevitably lead to better health outcomes later on in life. This, however, demands far greater coordination and cooperation within an interagency framework than seen previously and is often dependent on the level of training, support and consultation a professional receives if it is to be effective.

The paucity of resources, fragmentation of services and lack of available professionals specifically trained in the area of child and adolescent mental health cannot meet the high demand of services required, thus waiting lists are often the norm of community services. One way to address these issues and support the needs of children and young people is the commitment to multi-agency working relationships, both from the specialist Child and Adolescent Mental Health Services (CAMHS) professionals and other agencies, particularly in primary health care. One example of this is to promote the use of mental health consultation. Mental health consultation involves those who have specialist knowledge and skills in child mental health to offer regular consultation to those primary health workers who are struggling with the demands of the child and family and often feel ill equipped to manage the issues.

The concept of mental health consultation is not new. Since Gerard Caplan’s seminal work from the 1960s it has gained considerable popularity, as has the nature and definition of its adaptation to suit certain contexts and the different professional groups using it. Despite various guises, recognition of the influence of mental health consultation and importance in service delivery is respected and advocated as a way forward to support the increasing mental health issues being experienced in today’s society. Offering a logical approach mental health consultation helps to support those professionals who may not necessarily have the training or understanding of mental health issues yet come across them frequently as part of their daily practice. Such professionals including paediatric nurses, child and family health workers, social workers, and teachers who are in key positions to recognise problems at their onset and implement strategies to alleviate them at an early stage with support from specialist child and adolescent professionals via the process of mental health consultation.

Caplan’s original model of mental health consultation was used broadly as a working model for the purpose of this research, despite some literature stating a “fresh look” is required. However, a literature search provided very little in terms of evidence or description of evolving models in the area of CAMHS, whereas Caplan’s model was clearly visible in the literature over decades as providing a strong influence shaping consultation practice.

Caplan’s model is based on four different types of consultation, namely: Client Centered Case; Consultee Centered Case Consultation; Program Centered and Administrative Consultation. With policy driving professionals to incorporate health prevention, education and early intervention as strategies to meet the unmet needs of young people and their families experiencing mental health problems, client-centred case consultation was utilised to define mental health consultation for the purpose of the research.

According to Caplan, client-centred mental health consultation involves two or more participants with one of the participants (consultant) offering a sound knowledge base to empower and support the other participant(s) (consultee) to work with a client they have responsibility for, in this case a child, young person or family. Shared problem solving, an equal partnership and the opportunity to remediate and/or prevent a mental health problem become the core components to the process, though in the last few years there has been dispute over whether Caplan’s model is in fact advocating for the consultant (expert) to work with the case through the consultee (non-expert) rather than supporting and enabling the consultee to work within their own context of practice.

The consultee profits from the relationship in such a way that future problems may be responded to more effectively and handled with more confidence and skill. The consultant or the service they represent profits from the relationship via the opportunity to implement early interventions, thereby reducing referrals in the long term. This inadvertently also releases CAMHS staff to work with those clients deemed to have mental health problems more serious in nature and can in fact speed up access to specialist services if necessary.

Mental health consultation liaison services in emergency departments has evolved with consultation-liaison nursing roles, specifically developed to support other non-mental health professionals in managing mental health problems in their department. Yet, mental health consultation in CAMHS is not taken up as much as one would hope or presume. One possible reason for this could be that though the importance of consultation may be widely accepted, the
lack of a clear definition, or a framework for implementation, and poor understanding of factors that may impact on its development are still little understood in the child adolescent context. Furthermore, the majority of publications relating to mental health consultation appear to concentrate on the process and theory aspect of it rather than describing the practical elements such as the dynamics and perceptions of it from a professional's perspective.

Methodology

Design

The research methodology was informed by interpretive phenomenology. Exploring the lived experience of a lived or social phenomenon and revealing the meaning behind it suited the aims of the research to explore the understanding of the phenomenon – mental health consultation and its utilisation from the perspective of primary care workers. Participants reflected on the mental health consultation they received in their professional practice in order to explore how it was interpreted, defined and described.

Semi-structured interviews, which included open-ended questions were conducted with six professionals who managed a significant number of children or young people with mental health issues in their daily practice, yet had little or no training in mental health. The participants were purposively sampled from nurses working within a school environment, based on international literature recommending schools as being ideally placed to recognise and support mental health issues.

Data collection and analysis

Interviews varied from 45 to 60 minutes. They were audio-recorded, transcribed and analysed to discover the meaning of mental health consultation for those nurses working within a school environment.

Data collated provided a rich and detailed account of how the participants understood mental health consultation in the context of their own practice. Despite the complexity of the data, following vigorous thematic analysis using Burnard's stage-by-stage process, various connections or clusters emerged. These clusters were condensed and refined into five major themes with underlying sub-themes. In the process of consolidating the findings and beginning the process of analysis, links and tenuous connections further emerged, intertwining some of the sub-themes; therefore, the themes cannot be fully grasped in isolation but must be viewed and understood within the context of the whole phenomena.

Ethical approval was obtained from the University's Social and Behavioural Ethics Committee and safety of the data and other ethical issues such as anonymity/confidentiality, informed consent, maintenance of dignity and benefit to risk ratio, were addressed accordingly within the study.

Results

Five overarching themes and several sub-themes were identified from the data. These included: communication; crisis identification; hindrances; resources; and expectations (Table 1).

Theme: Communication (Box 1)

Findings indicated there was a major gap in communication between the service requiring consultation and the service offering consultation. The participants wished to ensure communication was clear and open between the consultee (themselves) and the consultant. However, they felt that at times some information was not filtering through to them and, therefore, inhibited collaborative practice. Feelings of frustration due to misunderstanding and miscommunication based on people’s expectations and understanding of the consultation process were common and resulted in negative experiences for the participants. Similarly, ignorance and lack of understanding or respect for each other’s roles, skills and unique competencies complicated the communication process further, leaving some participants unwilling to maintain a working relationship. When a consultative relationship was established, it was a priority for the participants to not only set and plan goals but to clarify each other's role in planning care. This provided something tangible that could be used in practice; however, false expectations of each other and different agendas left some feeling there was an expectation for them to take on more work than they were able to.

Table 1. Results of thematic analysis – themes and subthemes.

<table>
<thead>
<tr>
<th>Communication</th>
<th>Crisis identification</th>
<th>Hindrances</th>
<th>Resources</th>
<th>Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working relationships/</td>
<td>Risk assessment/</td>
<td>Time constraints and</td>
<td>The need for practical solutions</td>
<td>Advice, support and encouragement</td>
</tr>
<tr>
<td>collaborative practice</td>
<td>crisis identification</td>
<td>workload of school nurses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working towards the</td>
<td>Risk taking/clinical</td>
<td>CAMHS waiting lists</td>
<td>Training/education</td>
<td>Expertise/knowledge</td>
</tr>
<tr>
<td>same goals (goal setting)</td>
<td>judgement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role clarity</td>
<td>Containment/</td>
<td>Professional identity and role</td>
<td>Offloading baggage/supervision</td>
<td></td>
</tr>
<tr>
<td></td>
<td>managing a case</td>
<td>conflict (fear of role expansion)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility of the problem</td>
<td></td>
<td>Increase in confidence</td>
</tr>
</tbody>
</table>
Box 1

“We should be working together, sorting things out as a team, with both sides having an equal voice but the reality is that we’re not that good at it.”

“We are all on different sides of the fence. CAMHS, me, the teachers, the social services. We all have our own agenda even though we say we want what’s best for the child. We do, but only if it means we don’t have to do any extra work. So we nod at each other and look like we have an agreed plan of action but then go and do what fits in best with our role. It’s lip service.”

“We all hopefully are working towards the same goals. It’s just difficult if I don’t understand what the other goal is or what people are talking about. People forget school nurses don’t have any mental health training and yet because we’re in the midst of it on a day-to-day basis it’s presumed we know all about it.”

Theme: Crisis identification (Box 2)

Participants described feeling completely out of their depth, both in knowledge and experience when faced with mental health issues. A fear of a wrong word or a wrong action triggering an unwanted behaviour was often cited. Other feelings of not being able to contain the situation, it getting “out of control”, and feeling “helpless” were common phrases used, causing distress in both the workplace and home life for some participants.

Mental health consultation was seen as an avenue to remove this stress or contain the case (usually identified as young people exhibiting suicidal or self-harming behaviour) to a level they felt comfortable with via direct action from the CAMHS team, yet one participant was genuinely surprised that CAMHS did not appear as concerned about a specific case as she was. On the other hand, one participant actively used mental health consultation, but described the resulting stress of implementing a technique she was uneasy with, and the fear of reprisal if it had not been successful, was too great for her to contemplate doing it again.

Education and, in particular, risk assessment tools were identified as useful in terms of knowing when to refer further but most made it evident that the pressure they endured on a daily basis was well beyond their role and didn’t want this complicated further by having to do risk management. Risk management, therefore, was perceived as something that CAMHS should undertake.

Box 2

“It’s hard sometimes. You know like when I’m desperately concerned about somebody but I never know if that’s me or whether I should contact somebody. Sometimes what I think is a real, real biggy, you know like, somebody saying they’re going to kill themselves, CAMHS don’t seem that concerned and I wonder why.”

“It’s very scary sometimes to know what to do or what to say. I had a young girl last year. She kept wanting to see me but then would never turn up at the agreed time. She used to turn up without fail just as I’d be leaving and, well, well, I’d end up dropping everything else to see her. You know, I was always concerned she would kill herself. I was discussing it in consultation and got told that I should stick to boundaries. Something about therapeutic boundaries. I did and it worked – she turned up on time the next time but what if she hadn’t? What then? Don’t think I can go through that again. The stress.”

“When a family has a crisis, we’re the ones holding it in the interim cos of the year’s waiting list or whatever and it’s very, very difficult for us to deal with.”

Theme: Hindrances (Box 3)

“Hindrances” refer to identified obstacles to be overcome in order to access and maintain regular consultation. Evident in the findings were practical resource issues such as time constraints (workload), funding, and location, all of which had a profound influence on the attendance rate of participants.

Participants acknowledged their workload felt too overwhelming to spend time on something that they didn’t fully understand and where they were uncertain about how it would benefit them. There was a clear directive that unless the consultant had a “quick-fix” that would ultimately help them out, for example, helping their client to be seen immediately or not be placed on a waiting list, then mental health consultation was an unnecessary aspect in their valuable time.

Of interest was that what first appeared to be a hindrance to implementing consultation can also be argued by those who actively engaged in consultation as an advantage. Not dismissing the fact of time constraints and busy workloads for participants, the participants who actively engaged in consultation found the process of consultation enabled them to manage their time more successfully. One participant reported that, prior to consultation, incidents where she had initially spent many hours reflecting on the best course of action, once given the opportunity to discuss it, she felt more able to deal with future problems efficiently and effectively.
in a timely manner, freeing her up to participate in other activities. In a similar vein, two of the participants believed consultation was an invaluable support mechanism whilst their client was on the waiting list.

Box 3

“Time is always a problem. We all have really heavy workloads, are overstretched and they want us to attend a meeting that may or may not be useful to us. I don’t think so.”

“What’s the point in going? I went once and came away with more work to do when all I wanted was to maybe move the kid further up the waiting list. The only advice I got was suggestions on how to work more with him; that’s more of my time.”

“I’ve been doing this job for eight years and it’s not what I signed up for. I’m a school nurse not a bloody psychologist.”

Theme: Resources (Box 4)

Most participants expressed a desire to develop a repertoire of resources they could use in practice. Education to extend their knowledge, either through formal or informal training, was perceived a priority. Within this, some spoke of requiring practical tools they can use in daily practice rather than in-depth knowledge about specific mental illness. One significant finding suggested group mental health consultation as far more advantageous than individual consultation as it provided the opportunity to listen and learn from other’s case discussions.

Box 4

“A few more lectures and training sessions would be great, but sometimes I just go to the meetings cos just chatting about different things and listening to others helps”

“I’m just thinking of one most recent one we had last month. There was a practical teaching about assessment. If it’s an eating disorder or anything else, you know, to make sure we’re asking the right questions, to know what to look for cos obviously we’re not mental health trained and could miss out things. We did a checklist of key questions to ask really. Which was really useful.”

“We have practical problems, we need practical solutions. Something we can do. When have these kids and families crying out for help. We need something we can do with them, not just someone to talk to but someone who can show us what to do.”

Theme: Expectations (Box 5)

Expectations of what the participants perceived mental health consultation to offer were articulated through their description of hopes and/or beliefs. Some expected to be given advice including recommendations, suggestions, guidance and instructions to foster skill development and self-confidence, whereas others spoke of needing verbal reassurance that they were “doing OK”. Once reassurance was given emotions such as relief, increased confidence and a sense of achievement were common features in the findings. On the other hand, some expected the opportunity to “offload”, meaning that the consultant would be available to listen to all of the participant’s issues, problems and dilemmas in the workplace. Descriptions of needing time for themselves, or having someone to turn to when they were feeling isolated or overwhelmed, appeared a common feature. A feeling of immense relief and “lightening the load” gives the impression of a great weight or burden (often described as stress) being lifted. Being able to talk in this manner facilitated the participants to not only cope better in their practice area but in their personal lives too. Examples of this include improved sleep patterns and reduced anxiety.

Box 5

“I try my best, but sometimes I haven’t a clue. Having somebody specialised in mental health is handy, especially if I’ve come to the end of my limits of what I can do within a school and I’m looking for more expertise, more for the family, for the kid.”

“Often you feel as if you’re floundering out here on your own. Having someone who I could just go blah, blah, blah to would be wonderful.”

“Well it gets it off my chest straight away, it stops me going home thinking about it. Once I’ve offloaded, I can sleep at night.”

“I feel swamped at times, and having some “me” time really helps. I’m not sure if that’s what it’s supposed to be for, but it helps me clear my head.”

Discussion

This qualitative study aimed to investigate how professionals working directly with children and young people understand and use mental health consultation offered by CAMHS. Using general nurses who work within school settings as a representative population, the results contribute towards a greater knowledge base of how primary care workers understand mental health consultation. Of most significance is that of social and professional identity relating to how individuals identify themselves within a profession. The findings identified how the nurse’s sense of professional
identity shapes who they are in the world of child mental health practice and, in turn, how they felt the need to protect their established professional identity. In accepting the norms, values and rules that characterise their role as a general nurse working within a school environment, any changes to this role can cause discomfort and uncertainty. Having to consider and explore issues of mental health practice can become a threat to this core professional identity and result in feelings of powerlessness, anger, confusion and feeling deskilled. As Harmer points out, expansion of roles and lack of clear boundaries between professionals can only lead to a further sense of losing their professional identity whereas others perceived the role expansion as a gain believing the value and benefit of attending mental health consultation far outweighed the negative aspects.

Blurring of professional boundaries is a key factor regarding whether the participants understood mental health consultation as favourable or unfavourable. Clear parameters are needed to establish what each person will contribute to the care of the identified case under discussion in consultation, thus creating transparent boundaries for successful joint working as advocated by the Australian Infant, Child, Adolescent and Family Mental Health Association (AICAFMHA). However, this does not assist those participants who feel overworked and resentful when asked to become involved with mental health issues. For instance, the feelings of being overwhelmed by a predominance of mental health issues can result in a desire to defend “one’s turf”, with a fear that a blurring of the roles may result in a loss of professional identity as already discussed.

The findings both identified constraints that were real and perceived. For instance, it is a real issue that despite having clear directives of using mental health consultation, few resources are allocated to assist with the time and workload this creates. The participants, as with most workers in the primary care field, are under increasing pressure to take more onto their workload, so finding time to attend consultation often loses priority. Only when national and local services support primary care professionals with appropriate resources will mental health consultation in primary health care truly be effective. In acknowledging this constraint, it also can be argued that even though participants discussed the issue of workload pressure, those who actively engaged in mental health consultation were able to articulate how attending consultation actively reduced their workload in the longer term by alleviating the stress of having to manage complex mental health issues in an isolated manner. It is interesting to note the participants’ understanding of what constituted mental health consultation. Rather than focus on the mental health needs of the child or young person, there was a definite focus on each participant’s own needs. Colloquial terms such as “offloading” used by participants within the interviews could be argued to have many similarities with clinical supervision rather than mental health consultation. “Offloading” conveys a personal motive, such as accessing support for personal emotional wellbeing, though it is difficult to ascertain whether this also incorporates the practice of self-reflection as a quality tool to improve practice. Though clinical supervision recognises that often personal issues can affect work practice and sometimes cannot be ignored, when the focus becomes more about the supervisee rather than a practice issue, a strong recommendation to seek personal counselling is usually recommended. The fact the consultant would highly likely be trained in mental health and skilled in counselling may misguide the consultee to assume consultation was for this purpose. Salmon and Rapport found similar findings in their research on multi-agency working relationships, reporting that when some professionals felt unsupported and were receiving inadequate supervision within their own agencies, meetings set up for case consultation appeared to turn into personal supervision. This begs the question of what kind of support the participants were expecting and how this then affected their understanding of mental health consultation, despite consultation, clinical supervision and “offloading” being three very different concepts. As support comes in a variety of forms, part of the process of understanding mental health consultation is determining what type of support is required and if consultation is the correct forum to receive it. Regardless of this, anecdotally it could be argued that those primary care professionals who attend mental health consultation are, in fact, providing a better service to the client by actively engaging in the process (whatever their understanding) as they themselves feel supported.

Feeling overwhelmed by mental health issues and requests from the consultant to be actively involved in interventions could go some way to explain levels of resistance seen in the findings. A lack of confidence, of not knowing what appropriate action to take, often instigated feelings of helplessness and being “out of their depth”, whereas, for those who used consultation, a greater sense of self-confidence emerged, trusting their ability to perform. This demonstrates self-awareness and an emerging sense of professional development through reflective practice. If primary care workers can be educated that mental health consultation can have a positive impact on practice, then perhaps the
negative aspects of it, and the assumption that it is inherently not worth partaking in, can be challenged. Stakeholders must also play their part in allowing primary care professionals to actively engage in mental health consultation by recognising the gap between the desire to expand the professional role and the realities of workload and clinical capacity.

Also related to issues of confidence, emerged the participants’ lack of an appropriate knowledge base from which to work. In this small study there was a belief confidence increased due to an increased ability to identify mental health problems via having undertaken the appropriate training. In 2006, Watson reported that the biggest component of mental health consultation for paediatric wards soon became teaching and education with staff demonstrating a commitment and awareness of their educational needs. Likewise, the participants were clearly able to identify their learning needs with strong enthusiasm for any future training on offer. Sharrock et al. advocate that education topics offered should be negotiated and selected from the requests of the primary care staff and should include both written and critical reflection scenarios to improve the expertise of the staff.

Current reforms in Australia suggest that mental health professionals will take on more consultative and educative roles in addition to their usual clinical care roles. Although targeting education makes practical sense, it also raises concerns that those least motivated for further education may be those whose skills are in most need of improvement. Regardless of this, upskilling and supporting the primary care workforce, such as school nurses, is a logical solution to addressing the increasing prevalence of mental health issues in children and young people.

Limitations

Although qualitative research allows the development of rich description, the use of a small, purposive sample of participants, all employed in one local area, means the study is not without limitations. These include external validity and the generalisability of the study. It is acknowledged the research is unlikely to be wholly representative of a school nurse population or other primary care workers and any inferences made are purely speculative. The focus of this small-scale study was to identify and explore the experiences, opinions and perceptions of school nurses in order to develop rich description, rather than use sampling techniques that support generalisability of the findings.

Conclusion

This research contributes to existing knowledge about mental health consultation by advocating that all individuals participating in mental health consultation should be encouraged to embrace the practice and understand what it actually means within the context of their own discipline. From this, primary care workers are then able to develop, maintain or rework their professional working identity to prepare them for the reality of consultation practice in their everyday working life. Acknowledging and accepting mental health consultation is an important practice for primary care workers in Australia will go some way towards dealing with the rising prevalence rates of mental health problems in children and young people. Therefore, it is imperative that clear processes and structures are established to enhance not only mental health consultation but any multi-agency working relationships. Working across professional agencies will continue to become an increasing part of those individuals who work directly and indirectly with mental health issues. Developing and implementing guidelines will be one way to support this.

In order to address barriers that may hinder the uptake of mental health consultation decision-makers in all service systems should match current rhetoric about implementing it as a preventative strategy by considering appropriate and realistic processes about how it can be incorporated into the existing workforce structure. The provision of sustainable financial resources such as staff training, time, interprofessional education, evaluation strategies and research will go some way towards achieving this. Organisations can ensure a culture that supports effective mental health consultation by encouraging all stakeholders are included in the development and implementation of future policies, particularly in relation to role responsibilities, developing values, structures and processes, ensuring a balanced delivery of care and resources as needed.

This research has demonstrated that mental health consultation is multifaceted, consisting of several elements that can promote or hinder its success in practice. Identification of an effective and comprehensive model could guide flexible, innovative and complete mental health consultation tailored to meet the needs of primary care professionals. Thus there is a need to develop, pilot and evaluate a consistent, systematic model to be able to support primary care workers and, thereby, children and young people with mental health issues.

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Talking to and being with babies: the nurse–infant relationship as a pain management tool

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Abstract

Introduction The field of infant mental health stresses the importance of attuned caregiver–infant interactions for the development of healthy emotional regulatory capacities in infants.

Background “Talking to” and “being with” infants as part of their neonatal care has been identified as an important aspect of pain management. However, the use of the voice and emotional presence alone have not been widely studied.

The thesis of this paper Talk and emotional presence are key elements of the psychoanalytic approach to managing psychic pain. Some of the tools of the analyst–infant relationship may be useful for nurses to use with infants during painful and stressful procedures.

Discussion We propose a model of nurse vocal soothing that may be an effective non-pharmacological pain management technique in the neonatal intensive care unit (NICU). If a nurse is to offer their voice and emotional presence to an infant during a procedure as a pain management tool, they need to be in an attuned state, thinking about the infant and “being with” the infant emotionally.

Conclusion This discussion paper considers the rationale for investigating the effectiveness of attuned, empathic vocal soothing on preterm infant stress.

Implications for clinical practice If attuned, empathic vocal soothing is found to be an effective mitigator of preterm infant stress then this will provide evidence for a relationship-based, non-pharmacological, cost-effective intervention that would enable the infant’s emotional needs to be met more effectively in the NICU.

Keywords Neonatal nursing, relationship-based care, procedural pain management, vocal soothing, empathy, psychoanalysis.

What is known about this topic
- Talking to infants and offering them a human presence during painful procedures has been identified in the medical literature as being important to neonatal care.

What this paper adds
- This paper offers a psychoanalytic viewpoint of the nurse–infant relationship, specifically the aspects of “talking to” and “being with” babies. A model of attuned vocal soothing as a pain management tool during painful procedures is proposed.

Declarations

Competing interests Nil.

Funding Nil.

Ethical approval Not applicable.

Guarantor LZ

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Introduction

Infant exposure to pain and stress is associated with adverse physical and emotional outcomes1,4 and later behavioural and emotional problems2. Preterm infants are not exempt. For infants born at or less than 32 weeks gestation, poorer cognition and motor function at 8 and 18 months is independently associated with the number of exposures to skin-breaking procedures during their time in the neonatal unit6. For these reasons, researchers and clinicians have sought to develop effective pharmacological and non-pharmacological methods to manage pain for preterm infants7.
The field of infant mental health, with its focus on infant research, neuroscience and relationship-based interventions, stresses the importance of attuned caregiver–infant interactions for the development of healthy emotional regulatory capacities in infants.

"Talking to" and "being with" infants as part of their neonatal care has been identified as an important aspect of pain management\textsuperscript{13}. However, although the use of non-pharmacological strategies for managing infant pain is well established, the use of the voice alone has not been as widely studied.

"Talking to" and "being with" infants are key aspects of the parent–infant relationship and also of the analyst–infant relationship in some parent–infant psychotherapies\textsuperscript{10-12}. This paper will discuss the importance of relationships for infant development and suggest that knowledge gained from the exploration of psychoanalytic treatment for infants may be useful for the nurse–infant relationship in the neonatal intensive care unit (NICU). A model of nurse vocal soothing will be presented, which is underpinned by the psychoanalytic concept of containment.

**Background**

**The importance of relationships**

There is good evidence available that relationships with adults are critical to facilitate the growth of healthy infant brains that are able to manage stress\textsuperscript{13}. It is in moments of stress that the infant most needs the support of an adult caregiver to help them regulate their emotional state. When infants are attended to and soothed by an adult caregiver, their ability to do this for themselves is facilitated through development of the neural pathways for emotional regulation. When this does not happen, the infant is at risk of adverse mental health sequelae later in life\textsuperscript{13}. Emotional regulation thus depends on having an emotionally available adult who can tune in and communicate with the infant. Because the NICU is increasingly being seen as a place not just for the physical care of the infant, but also their emotional and developmental care, relationship-based care practices have been developed and are now a routine component of neonatal care in many units\textsuperscript{14}.

**Relationship-based care in the NICU**

Relationship-based care practices in the NICU include the Neonatal Individualized Care and Assessment Programme (NIDCAP) and infant-led singing. The NIDCAP approach focuses on planning individualised care based on observations of the infant's behaviour, thereby recognising the infant as a person with goals and facilitating the development of a caregiver relationship with the infant\textsuperscript{15}. Numerous studies have now been published reporting favourable outcomes for infants using this approach\textsuperscript{16-18}. It is, however, an expensive programme to implement fully\textsuperscript{18}.

Infant-led singing is an approach in which the infant is offered improvised, infant-led singing, within an attuned relationship, to facilitate self and mutual regulation\textsuperscript{19}. The spontaneous nature of the singing means that the therapist is led by the infant's immediate responses and aims to connect with the infant's emotional experience\textsuperscript{19}. This is seen to be particularly important given the hospital experience being largely non-contingent with the infant's psychological needs\textsuperscript{19}.

The unifying philosophy of these approaches is that the infant is regarded as an individual with emotional as well as physical needs. Relationship-based care practices, such as sensorial saturation, have also been shown to be effective in managing pain and stress\textsuperscript{6}. The aim of sensorial saturation is to distract the infant's senses so that pain has less chance of being perceived centrally\textsuperscript{20}. Bellieni and colleagues have studied the effectiveness of sensorial saturation extensively and have refined the technique in the "Triple T intervention" using touch, taste and talk as the distractors\textsuperscript{5}. This technique has been shown to be effective in reducing behavioural and physiological expressions of neonatal pain\textsuperscript{6}.

In reviewing this approach, Bellieni found that the "taste" intervention, oral glucose, was the critical component of their distraction intervention and without this component found touch and talk alone were ineffective\textsuperscript{21}. A caveat to this finding is that the measures they used were purely behavioural. It would have been interesting to examine whether effects on physiological measures such as heart rate variability, respiratory rate and variability or salivary cortisol may have been demonstrated in the absence of a behavioural effect. Also the particular kind of talk offered to the infants during the sensorial saturation intervention is not fully described other than to say that the words used should be gently but firmly spoken\textsuperscript{20}.

Bellieni et al. suggest that an important aspect of sensorial saturation is that the baby should feel accompanied by a human presence during the painful procedure\textsuperscript{21,22}. The importance is stressed of the caregiver being caring and attentive and it is argued that effective treatment of neonatal pain can only be realised when the infant is seen as a person and, as such, treated with both dignity and empathy\textsuperscript{19,22,23}.

These aspects of the nurse–infant relationship, "talk" and "human presence", have, therefore, been identified in the medical literature as being relevant to medical care. But does it matter what sort of "talk" nurses use with their infant patients? Also what kind of human presence might be required for the effective soothing of neonatal pain and stress?

**The thesis of this paper**

Talk and emotional presence are key elements of the psychoanalytic approach to managing psychic pain. Firstly some of the tools of the analyst–infant relationship that may be useful for nurses to use with infants during painful and stressful procedures in NICU will be described. Secondly, a model of nurse vocal soothing that may be an effective non-pharmacological pain management technique in NICU will be proposed.

**Discussion**

The field of psychoanalysis has long been interested in the impact of relationships on mental health and theories have been proposed that describe how relationships with primary caregivers (external environment) meet an infant's experience (internal environment) to co-create the infant's emerging sense of self. Parent–infant psychotherapeutic approaches are generally aimed at recognising and soothing the emotional expressions
of the infant. While some therapists may do this by focusing on helping the parents to “talk to” and “be with” their infant, others “talk to” and “be with” the infant directly. The approach of psychoanalyst Johan Norman was to focus on the help the therapist could offer directly to the infant. Three important features of his technique, as described by Salomonsson, are that:

1. The analyst seeks to establish a therapeutic relationship with the baby.
2. The analyst assumes the infant will use his primary intersubjectivity (an innate capacity to relate to other humans) to obtain containment.
3. The analyst assumes that the baby processes the non-lexical aspect of interactions.

These will be discussed in turn to consider how they may be relevant for use in the NICU.

**The analyst seeks to establish a therapeutic relationship with the baby**

Preterm infants may spend up to three or four months in the NICU, where there are fewer opportunities for intimate interaction with their primary caregiving parents. In the physical and often emotional absence of parents in the NICU, nurses frequently take on the role of primary caregiver for their young patients. The nurse works directly with the infant and takes overall responsibility for their physical care. She or he is important to the baby.

**The analyst assumes the infant will use their primary intersubjectivity to obtain containment**

Preterm infants seek communication and comfort from caregivers: that is anyone who offers them care. Even preterm infants are born with an innate primary intersubjectivity, ready to relate to other human beings and expecting a response to their bids for communication.

Infant researcher Colwyn Trevarthen suggests that it does not necessarily have to be the biological mother that meets the needs of the infant and that infants are born ready to have their needs met by any sympathetic adult willing and able to enter their emotional world.

Within psychoanalysis, the school of object relations is particularly concerned with the relationships, real and imagined, between infants and their primary caregivers. Theorists within this school of thought stress the importance of primary caregivers for helping infants manage “big feelings”, both joyful and painful. This process is often described as “containment”.

Psychoanalyst Wilfred Bion suggested that in infancy we have many raw feelings and experiences, but they cannot be made sense of without a container, without someone else who can “metabolise” them for us and give them back in a digested form. It is a bit like the albatross that chews the fish for their babies then regurgitates it in a way that is digestible to the chicks. Bion said that in this way, through the receiving of thought about thoughts, we develop the capacity to think for ourselves. The infant has the emotional experience, the parent recognises it, accepts it and reassures the infant that it is a valid feeling to have and they are not alone.

When Bellieni *et al.* suggested the importance of human presence alongside the infant during painful procedures an empathetic presence was presumed. In order for a mother to be able to offer containment to her infant, Bion suggested that she needed to be in a state of reverie, a sort of daydream state, where she is emotionally open to receiving the infant’s communications, both good and bad. He postulated that this state of being attuned allows the mother to more accurately understand the infant. It would not be practical for nurses to enter a state of reverie with every infant in their care; however, tuning into the infant during a painful experience would be achievable. Studies have demonstrated that interventions can be more effective when the clinician focuses their attention on the infant. Anand *et al.* stress the importance of clinicians working in the NICU expressing empathy and love for their patients and suggest that this is crucial to “maximise the benefits” of evidence-based medical interventions to reduce stress. Clinicians are urged to be like secure mothers who are sensitive and responsive to the infant’s needs.

**The analyst assumes that the baby processes the non-lexical aspect of interactions**

The assumption here is that, although infants do not understand the actual words spoken to them, they do understand the emotional intention behind the words. If this is the case, then there may be therapeutic value in nurses offering vocal soothing to infants under stress. This vocal soothing would need to be truthful, that is, recognise and name the infant experience, in order to be meaningful to the infant and help them feel understood and reassured and, therefore, contained.

Infants prefer infant-directed speech to adult-directed speech. Infant-directed speech, also known as “motherese” (although it can be offered by anyone) is characterised by longer sounds in the words, higher pitch, more variation in the pitch and repetition. The falling and rising pitch contours depend on whether the infant is being soothed (falling) or whether their attention is being attracted (rising). Because of these cadences in the speech, infants can sense the emotions being conveyed.

If nurses are to offer their voice and emotional presence to an infant during a procedure as a pain management tool, they need to be in an attuned state, thinking about the infant and “being with” the infant emotionally. Nurses who speak to their colleagues while carrying out a painful procedure on an infant are physically present with the infant during the procedure but not emotionally present. When nurses say to infants in their care “it doesn’t hurt” or “nothing is happening”, the infant’s experience is, in fact, being minimised or denied and the nurse is clearly neither emotionally present with the infant nor attuned to what they are experiencing. Containment is only possible if the caregiver is open to receiving and accepting the infant’s communications and, in particular, their level of stress. The psychotherapeutic viewpoint is that the human presence is about “being with” and “thinking about” the infant emotionally not just physically.

In a recent observational study, we found that despite speaking regularly to their colleagues, nurses did not often
offer vocal soothing to infants during a heel prick procedure. Also, despite being recommended as a standard of care in the NICU there was limited use of other non-pharmacological interventions to relieve pain during the procedure. Others have reported that despite much research demonstrating the effectiveness of these techniques, general implementation of pain management programmes appears to be limited internationally.

It is not likely that nursing staff deliberately withhold pain relief from their patients. However, to be available to talk to infants during a painful procedure, a nurse needs to be attuned to the reality of the painful experience. This, in itself, can be an emotionally taxing thing to do. It is possible that psychological protective mechanisms of which the nurse is not likely to be fully conscious, minimise the perceived effect of the painful procedure on the infant and, therefore, in turn, lead to the underuse of pain management techniques in the nursery. More research is required to establish whether this is, in reality, a barrier to the use of these techniques.

A model of nurse vocal soothing

Bringing together these elements of “talking to” and “being with” an infant, a model of nurse vocal soothing is proposed. If a nurse is emotionally available to the infant’s communications and conveys this to the infant through an attuned, empathic voice, similar to “motherese”, it is hypothesised that the infant may achieve containment. In this way, the nurse is responsive to the infant’s communications in the moment, leaving the infant feeling that they are accompanied in their pain and, therefore, soothed.

The words used by the nurse are a critical component of this communication. They must be truthful and used in context to help the infant feel that their experience has been well understood. One way to ensure this is to consider the steps suggested for procedural pain management by Halimaa42:

1. Creating an environment that is favourable to effective pain management.
2. Safe preparation of the infant for the procedure.
3. Pain alleviation during the procedure.
4. Restoring the infant’s sense of security after the procedure.

These steps can be understood in terms of vocal soothing. Firstly, offer a warning about what is about to happen, then talk the infant through the procedure and finally have a time of debriefing afterwards. The aim is to accompany an infant through their experience from the start to the finish: to see it from their point of view, to offer warning or preparation about what is to come, to be aware of how the infant is feeling during the procedure and then to have a review of what has happened before moving on to the next task. Pain management as a process can enhance the emotional health of the infant through making the experience meaningful to them. Someone is thinking about them and how they are feeling and the infant is aware of this.

During this process the nurse must be attuned to the experience of the infant. They need to feel both empathic and confident that the infant will tolerate the procedure well and recover well from any temporary stress that they experience.

The essence of the theory of containment is that when an infant feels that a stronger other person understands how they are feeling and remains calm and supportive, it will be reassuring and soothing for the infant.

Further research is needed to determine whether nurse-provided vocal soothing and emotional availability can be experienced as soothing by infants during painful procedures. Studies such as this will make important contributions to the literature on both empathy and pain management techniques in the NICU.

Conclusion

This discussion paper has considered the rationale for investigating the effectiveness of attuned, empathic vocal soothing on preterm infant stress. It has been proposed that some of the elements of the parent–infant and analyst–infant relationship can be reproduced in a nurse–infant relationship and that this may be of benefit to the emotional development of the preterm infant being cared for in the NICU.

Implications for practice

If attuned, empathic vocal soothing is found to be an effective mitigator of preterm infant stress then this will provide evidence for a relationship-based, non-pharmacological, cost-effective intervention that may mean that the infant’s emotional needs are met more effectively in the NICU.

References

Special Issue November 2013 – CALL FOR PAPERS

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Surviving postnatal depression: the male perspective

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Abstract

Aim The study aim was to hear the male voice describing the experience of postnatal depression (PND) and to develop a conceptual framework, which would explain this experience.

Background Given the relatively large body of research on the nature of PND from the woman’s perspective and the general movement towards family-centred practice, it seemed timely to undertake a study that concentrated on the male experience of having a partner with PND.

Method Seven men whose partners were currently experiencing, or who had recently experienced moderate to severe PND, participated in unstructured interviews. Grounded theory methodology was used to explore the male experience of living with a partner suffering from PND.

Results Data analysis revealed four categories in the process of living through the experience of a partner’s PND: “out of control”, “coming to the realisation”, “making sense of it”, and “the road to recovery”. The core variable, “surviving PND” integrates the categories and encapsulates the process of transition experienced by the men.

Conclusions The consequences of “surviving PND” are explained by the men as both losses and gains. For some men there was a sense of vulnerability and emotional drain because they had poured so much energy and self into the women and their needs for recovery. “Surviving PND” also had significant impact on the relationship, both in a positive and negative way. In addition, all men developed an increased understanding and gained personal insight into themselves, their partner and people in general.

Implications for clinical practice This research increases our understanding of the male experience of PND and may be drawn on to inform the practice of nurses and other health care or early parenting professionals.

Keywords Postnatal depression, perinatal mental health, father.

What is known about this topic
- The impact of perinatal mental health distress has far-reaching effects on the woman, partner, child and family.
- Research and services addressing PND often neglects to consider the role or experience of male partners.
- Men who have a partner with PND have an increased risk of depression.

What this paper adds
- An increased understanding of the male experience of PND.
- Informs the practice of nurses and other health and early parenting professionals.
- An increased knowledge of strategies the men identified as being necessary to survive PND.

Declarations

Contributorship EB undertook study as part of Master of Nursing thesis1. DC contributed to current literature and co-writing of article.

Ethical approval Approval for the research project was given by the University of Tasmania, Ethics Committee. Approval Number H4022.

Competing interests Nil.

Introduction
Childbirth and early parenting services generally focus on the needs of the mother and her child, with minimal attention given to the needs or influences of the child’s father. This practice continues in spite of evidence that has clearly shown the importance of the father’s role in child development2 and the couple’s relationship3. One particular circumstance, in which there is good reason to consider the father’s experience, is when a mother has symptoms of postnatal depression (PND). This situation poses significant challenges to the couple, the family and the child’s development.
Recruitment and engagement of new fathers in parenting research is understandably difficult, given the demands of caring for young children. Nevertheless, there is a need for greater understanding of fathers’ experiences during this critical period for families and children, so services and health professionals can be appropriately skilled and easily accessible. Alienation of fathers can complicate any reluctance they may have to engage with services and opportunities to address any family relationship difficulties may be missed.

Background

The diagnosis of PND is classified as a major depressive episode commencing within four to six weeks of delivery, depending on the criteria used. More commonly, the term is used to describe many distressing and often disabling feelings (usually self-reported with a screening checklist), and is experienced by up to 20% of women up to one year following childbirth. In addition to identifying depressed mood or anhedonia (first criteria of a major depressive episode), PND is generally accepted to also include possible symptoms of anxiety, panic, self-blame and difficulty with coping.

Although the prevalence of diagnosable PND is difficult to determine and controversial, maternal depressive symptoms are widely recognised as a significant health problem, not only for the mother, but also for their partner, the child, other family members and the wider community. An Australian study, conducted over 11 years, identified the effects on children with mothers suffering from moderate to severe depression, as behavioural disturbances, lowered intellectual functioning and poor reading ability. More generally, unipolar major depression is considered the leading contributor to the burden of disease in middle and high-income countries.

Early parent researcher, antenatal education and clinical practice with new parents have only recently begun to address issues associated with fathers’ positive father involvement has been found to positively influence all family members’ health outcomes, and fathers can play a moderating role in either reducing or exacerbating some of the adverse effects of PND. For men themselves, it is also the case that the transition to fatherhood has potential for both personal development or reward, and significant stress.

Given these potential difficulties, risks and opportunities for fathers a partner with PND, greater consideration of the father is warranted when providing care of a mother with PND. This study of men’s experience of having a partner with PND set out to explore both the positive and the challenging aspects of a particularly difficult time for the whole family.

Men’s experience of having a partner with PND

Recent quantitative studies of the influence of maternal PND on the male partner have found a range of associated risks for men, including increased depression, parenting stress, problem fatigue and having less optimal interaction with their infant. In addition, recent meta-analysis has indicated a prevalence of paternal depression in excess of 10% in the three- to six-month postnatal period, with a moderate positive correlation between maternal and paternal depression. These findings are of particular concern because of the association between paternal depression and an increased risk of children’s behavioural and emotional problems.

A limited amount of qualitative research has been published on the experience of men whose partners were diagnosed with PND. An Australian study used focus groups to evaluate an intervention for PND, which included the male partner. These men reported feeling isolated from their family members, feeling helpless and stigmatised, and that they experienced their partners’ PND as overwhelmingly frustrating. They also expressed struggling with the changing role and expectations of fathers in society. In contrast, the men’s experience of the group treatment programme was very favourable and valued.

An American phenomenological study with fathers reported similar themes of difficulty such as stress and loss of control as a result of their partner’s PND. In addition, they reported altered views of their partner and changes to the relationship, as well as anger at their inability to “fix the problem”. A more positive response to PND was found in men’s sense of increased responsibility, although this feeling was also expressed as a pressure to make sacrifices and manage the situation.

A pilot study in Canada identified a number of support needs from fathers with partners who had experienced PND. These fathers also reported many difficulties, which included fear or worry for their partner and uncertainty about their relationship. Their main barrier to support was reported as the difficulty of finding supportive professional or informal PND resources. These fathers acknowledged that their own lack of awareness or knowledge of PND was a barrier to accessing support. Also, the feeling of being excluded by a health professional or the stigma related to PND were said to contribute to their resistance to seek help.

Although these studies identify a range of men’s experiences in the situation of a partner with PND, research is required to better understand the processes behind men’s views on living with PND, explain how this experience changes over time, and develop a conceptual framework to describe this experience.

Method

Grounded theory underpinned this research using a recognised approach by Strauss and Corbin in order to see and explain the world from the eyes of the male participants. Grounded theory research “emphasises how people view their circumstances, how they interact, and how these processes change”. The task for the researcher is to discover and conceptualise complex interactional processes using a rigorous method of analysing data, which results in
a theoretical explanation about a particular phenomenon\textsuperscript{31}. The understanding that occurs from this process permits the development of relevant interventions in the social environment under consideration.

Grounded theory uses a “bottom-up approach” to develop a theory which is relevant to everyday people. This differs from a theory that is developed in isolation, then tested and often imposed on people so that it does not make sense to the world in which people live\textsuperscript{30}.

The purpose of the researcher using a grounded theory method is “to explain a given social situation by identifying the core and subsidiary processes operating in it”\textsuperscript{32}. The core process is the guiding principle, which then links most of the other processes occurring in the network of data. A resulting theory explains the social situation under investigation. In this study, men sharing common circumstances, namely having a partner with PND, experience shared meanings and behaviours, which are explained by the resulting theory.

**Design of the study**

In this study, seven men who had a partner who had experienced moderate to severe PND were interviewed. To supplement data collected from the interviews, theoretical support and depth was drawn from existing literature. This process led to the development of a more complete, substantive grounded theory. Participants were fathers from an homogenous group, ranging in age from 27 to 42 years and with one to four children. They all had what they described as “good” relationships with their partners and their partner was receiving or had received either individual or group support, or both, for PND.

**Ethics**

Approval for the study was obtained via the University Higher Research Ethics Committee. The men made contact with the researcher and were sent an information sheet with details of the study and a consent form. The researcher made contact with the men after receiving consent to be involved in the study.

**Data collection and analysis**

Following the recruitment process, there was an initial round of one-hour interviews with five of the men. These five men were interviewed again in a second round to seek feedback on the developed theory. Following the second round of interviews the researcher determined that categories were filled and that no further participants were necessary. Two different men were interviewed to consolidate the theory and confirm the accuracy of the researcher’s interpretation of the data.

From the beginning of this study, data were carefully coded and were subject to constant comparative analysis to ensure the emerging theory was grounded in the study data. The final check of accuracy came from the participants themselves\textsuperscript{33}.

Grounded theory methodology relies on constant or “continuous comparative analysis” of the data (p. 21)\textsuperscript{34}. Every piece of data was compared with other pieces of data so that similarities and differences in phenomena were distinguished\textsuperscript{28,31,36}. There was not a linear series of steps but rather a matrix of processes going on at once. The researcher examined the data after the first interview, and then began to code and categorise it\textsuperscript{33}.

Maxwell and Maxwell (cited in\textsuperscript{33,34,37}) have described five steps for analysis of data, which guided this study: the collection of empirical data; concept formation; concept development; concept modification and integration; and production of the research report.

**Establishing trustworthiness**

Trustworthiness\textsuperscript{38} establishes rigour and confidence in the research. Three of the techniques by Lincoln and Guba\textsuperscript{38} were adopted for this study as criteria for establishing trustworthiness: credibility, dependability and confirmability. These were achieved through spending time with the participants until no new ideas were forthcoming and further checking with two more male participants who had not been involved in the first two rounds of interviews. Peer debriefing was also used after each interview to ensure adherence to the codes and reflection on the interview process. The researcher kept detailed records of the process of the research involving journals, analytical notes and memos. Following the interviews, literature was used to reinforce what the men were saying in order to contribute to the development of the conceptual framework.

**Results: four categories**

Four major categories evolved from the data: “out of control” “coming to the realisation”, “making sense of it”, and “the road to recovery”.

**Out of control**

The men described an initial process where they felt “utterly helpless”, because they felt they had lost control of their life. This phase was fraught with contradictions because of many external pressures; having “to hold it together” and at the same time feeling “out of control”. In the words of one man:

*It was like being in a situation where you had no control over it … like a storm had hit … with no control over it. You are in a situation that you totally don’t know what to do. You were lacking understanding of it, of what was happening.*

**Coming to the realisation**

The “out of control” category led into a “coming to the realisation” that something was wrong and that help was needed. Over a period of time the men realised that there were more than adjustment issues to contend with following the birth of their baby. The men were questioning their relationship, whether having had a baby was a mistake, or whether something terrible was wrong with their partner. During this phase the men may have been told their wives had PND, and for some men it took a while for this to register, while for others it did not:
I started coming to the realisation that that’s what it was and that seemed to make me feel a lot more comfortable about it. And realising it was a health problem and not a personality problem made me feel better about our marriage.

Making sense of it
"Making sense of it" was a process for the man of working through what the term PND meant and attributing some meaning to the situation they were in. The men now attempted to involve other people in some way, even if it just meant talking to their colleagues about the situation. The label of PND assisted them to put a name to the condition for themselves and also assisted them to explain it to others. This period during the transition gave them strength to keep going, even though the "going was tough", but it also meant that they denied their own needs in order to survive.

I don't need to say that PND is a difficult thing to understand and initially accept. I found that when the illness was explained it was easier for me. But lots of patience was essential – patience is the main ingredient … which is needed to deal with the healing process.

The road to recovery
The "road to recovery" was a period of time when the men began to feel hope that their partners were beginning to overcome PND. They saw a definite improvement in their partner and sensed they had a direction for themselves, particularly with the type of support they were giving to their partner. They also saw the value of support from others, including professionals, and the effect that this had on the women. The effect of the process so far began to take its toll, even though the "going was tough", but it also meant that they denied their own needs in order to survive.

At the times when I am looking after the kids and need to cope I can operate quite efficiently, but at times when that's not necessary I don't know what to do. When the pressure starts to come off I think what am I, how am I supposed to relate to people?

Knowing about PND validated it and I knew that suddenly I had a purpose to what I was doing and I started to learn ways to deal with it for myself and for our family. There was a point to that now because I knew that there would be an end to this illness. We could control it.

"Surviving" was defined by the men in this study as a process of continuing to exist and living beyond the life of the event of PND, in spite of a difficult transition period. One man described it as:

... it just feels like you've weathered this enormous storm and you sort of, it's in the past but the effects of it still buffets you a bit, but you know you've survived.

The distress that results from an unanticipated event varies with each individual. The feelings of surviving experienced by the men were initially ones of helplessness, confusion, shock and anxiety29,40. As the process of surviving continued, the men experienced a "non-emotional survival state"41, which was described as "rock solid" and which assisted them to remain focused on the task of caring. As the woman improved there was an "emotional drain" experienced because of the man's vulnerability at this time. One of the emotions experienced was guilt, which is discussed in the literature as "survivor guilt"42,43. The men felt guilty for experiencing sadness, anger, tiredness, lack of motivation, anxiety and anger, as well as for wanting to take care of their own needs. Raphael42 points out that surviving a personal disaster "is not forgotten but stays with the individual as a reference point in his existence" (p. 351).

The positive aspects described by the men were an increase in understanding and personal insight. All men felt they had a clearer understanding of PND and the impact it has on the family. They also appeared to have developed a depth of personal insight into the experience that they had encountered. The insight extended to their relationship with their partner and child/ren, their general understanding of parenting, and the disruption an adjustment crisis such as PND can cause.

Probably just the fact that after going through it and understanding it and being happy with the third baby now, and knowing the things and I’m probably more understanding because at the time I probably wasn’t.

I think we both probably have become more tolerant of people generally, I don’t quite know why, but we've also become especially more tolerant of people with mental illness, not so much tolerant, more understanding.

Discussion
"Surviving postnatal depression" was a dynamic process for the men, moving from "out of control" through to "the road to recovery". The core variable or central phenomenon of "surviving PND" captures this transitional process. In a grounded theory analysis the core variable can be explained in a story line28. The men's experience of PND occurred over a period of time as demonstrated by the four categories that emerged from the data: "out of control", "coming to the realisation", "making sense of it"; and "the road to recovery". The core variable, "surviving PND", incorporates the four categories and provides the linkage between them.
The conceptual framework can be described by the analogy of looking into a periscope. The periscope differs from using a telescope or binoculars where the viewer is out in the open and exposed. The significance of the concealed or protected position of the person using the periscope is twofold. Firstly, PND is often kept a family secret for some time before it is revealed and, secondly, some men find emotional experiences difficult to discuss openly.

Just as the periscope is able to bring distant objects into focus, the men in this study viewed their experience of PND from a distance and, by telling their story, were able to bring into focus their perceptions of their experience. The onset of PND is insidious, with the men feeling helpless, confused and "out of control" as they watch someone they love change in front of their eyes. The men are led into "coming to the realisation" that something is wrong and that help is needed. They gradually commence "making sense of it" through support from others and remaining "solid" through the difficult times. As the head of the periscope scans the horizon, the view changes and another aspect of the transition process is revealed. "The road to recovery" usually occurs where there is a sense of beginning to "see the light at the end of the tunnel" or a direction for themselves together with their partner.

The experience of "surviving PND" meant that there were consequences or effects of having lived through a partner experiencing PND. These consequences were dependent on three factors: the severity of their partners' PND, the experience of the recovery period, and their current situation in relation to the recovery. For most men there were many losses and only a few gains in the experience, and the further they moved away from the experience, the easier it was to view it. When looking through a periscope, sometimes there can be weather conditions that affect the viewing. Consequences are like these weather conditions – they sometimes affect the way the experience is perceived.

Table 1. Concluding propositions.

<table>
<thead>
<tr>
<th>Strategies identified by men for men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accept support from others and share experiences, which validate and normalise PND.</td>
</tr>
<tr>
<td>Time-out for self allows the man to gain perspective of the situation and to revitalise.</td>
</tr>
<tr>
<td>Seeking professional assistance allows the man to clarify and offload about the situation.</td>
</tr>
<tr>
<td>Open communication assists the couple to take control of the situation.</td>
</tr>
<tr>
<td>Emotional support and involvement in parenting and household tasks by the man increases the feeling of support for the woman.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategies identified for health care providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased community awareness of PND will assist to reduce the stigma associated with this mental health issue.</td>
</tr>
</tbody>
</table>

| The practice of nurses and other health professionals requires a family perspective and inclusion of the male partner in the management of PND. |

Relevance to practice

This research increases our understanding of the male experience of PND for this group of men and may be drawn on to inform the practice of nurses and other health care or early parenting professionals. The study has implications for practice, particularly in relation to the strategies the men identified as being necessary to survive PND.

The conclusions drawn from this study can be presented as a series of propositions (Table 1), which largely relate to the process of "surviving PND". These are supported by strategies for themselves and health care providers that the men in the study identified as being helpful.

Limitations

One limitation to the study relates to the small number of participants. Although qualitative research provides the reader with a depth of understanding of the subject area, its small sample size means that the study is not generalisable to a larger group. The second limitation could be the gender of the primary researcher. Being a female, the researcher interpreted the meaning of the participant experience from a female rather than from a male perspective. This limitation was minimised by returning to the participants to validate the findings of the research.

Conclusion

This study provided a conceptual framework for understanding the experience of men who have partners with PND. The analysis showed that the experience of "surviving PND" involved significant distress for the man as he strived to move through the transition process and regain control of his life and his family situation.

The analogy of looking into a periscope was used for the conceptual framework. As the man looked through the eyeglass there is a picture of the process experienced from a distance. Reflecting mirrors or prisms bring the experience into focus. As the head of the periscope rotates across the horizon, it views the experience from being "out of control" to "the road to recovery". Sometimes "weather conditions" influence the view, as the consequences of surviving PND influence the man's perception of his experience.

In the initial stages, the men in this study felt "out of control" because their partner appeared to be gradually becoming a different person. They began to "realise" that something was wrong and that help was needed. Trying to "make sense" of the situation occurred where they tried to engender support from others and to find out what PND meant. "The road to recovery" began when they saw their partner beginning to improve and this gave them a sense of direction. Consequences of "surviving PND" were felt by the men and described in terms of losses and gains.

This research increases our understanding of the male experience of PND for this group of men and may be drawn on to inform the practice of nurses and other health care or
early parenting professionals. The study has implications for practice, particularly in relation to the strategies the men identified as being necessary to survive PND.

References
Perinatal mental health, antidepressants and neonatal outcomes: findings from the Longitudinal Study of Australian Children

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Abstract
Background This study presents findings on the characteristics of women who used antidepressants in pregnancy and how such mothers compare to depressed and non-depressed mothers in terms of their demographics and health across pregnancy. We also present findings on the birth outcomes for these three groups of women.

Methods Data were drawn from the first wave of the Longitudinal Study of Australian Children (LSAC). This study examined n=5,107 infants, who were assessed in their first year. Mothers reported antidepressants as a prescribed medicine over their pregnancy.

Results In this nationally representative study, the 2.1% of Australian women who indicated that they took antidepressants during their pregnancy also took more general medications, were more likely to smoke and drink alcohol during pregnancy, and also reported higher depression scores at wave one and more infant sleep problems than the non-depressed control group. Infants exposed to antidepressants showed reduced length at birth.

Conclusions Antidepressant use during pregnancy in Australian women is reasonably prevalent. Caution in prescription is needed given that adverse child developmental outcomes have not been ruled out by existing studies. The current findings point to the complexity of multiple in utero exposures from smoking, alcohol, depression and antidepressants impacting on child developmental outcomes. Clinical guidelines are needed to provide optimal clinical care for infants who were exposed in utero to antidepressants.

Keywords Depression, antidepressants, alcohol, smoking, pregnancy, neonatal outcomes.

What is known about this topic
- With increasing awareness and detection of perinatal depression there has also been a sharp increase in rates of pharmacological treatment of pregnant women over the last decade in the USA and Canada. However, rates of prescription in Australia have not been established.
- Prenatal exposure to antidepressants has been associated with neonatal discontinuation symptoms and an increase in some birth complications, lower gestational age and lower birth weight.
- However, untreated antenatal depression is associated with poor child developmental outcomes and poor maternal outcomes.

What this paper adds
- 2.1% of Australian women used antidepressants during their pregnancy and also used more general medications and were more likely to smoke and drink alcohol during pregnancy than depressed women or healthy women.
- Antenatally depressed women show a complexity of multiple in utero exposures each of which may impact on neonatal outcomes.
- Caution in prescription is needed given that long-term adverse child developmental outcomes have not been ruled out and clear clinical guidelines are needed to provide optimal clinical care for neonates who were exposed in utero to antidepressants.
Introduction
Approximately 12% of new mothers experience a major depressive episode. Maternal depression is the most common complication of childbirth in Western societies. Depression impacts on a mother’s state of mind, her enjoyment of pregnancy and motherhood and on the functioning of the family as a whole. Maternal depression in the perinatal period has been repeatedly shown to be associated with poorer pregnancy outcomes for mothers and for the child and impact on a child’s social, emotional and cognitive development.

It is essential that midwives, obstetricians and GPs assess for antenatal and postnatal depression in women. However, as a result of increasing awareness of the importance of treating antenatal depression, there has been a sharp increase in rates of pharmacological treatment. In a large, population-based study of health data, Oberlander found that rates of prescription in British Columbia had increased over the period from 1998 to 2001 from 2.3% to 5.0%. More recent studies in the United States have found that the rate of prescription in pregnancy has more than doubled, with rates between 7.6% and 13.4%. Relatively little is known about the characteristics of mothers who take antidepressants during pregnancy, and there is only a small but growing body of literature on the outcomes for neonates, infants and children who were exposed in utero to antidepressants.

More specifically, the growing literature on neonatal outcomes raises a number of questions about the safety of antidepressants in pregnancy. Oberlander found that selective serotonin reuptake inhibitor (SSRI)-exposed infants had significantly lower birth weight and gestational age than non-exposed infants and that there was a higher incidence of neonatal respiratory distress, jaundice, and feeding problems in the exposed group. Our own study found prenatal exposure to antidepressants was associated with neonatal discontinuation symptoms following in utero exposure and an increase in birth complications, lower gestational age and lower birth weight.

The evidence concerning the impact on neonatal, infant and child outcomes following antidepressant exposure is based on two complementary research methods. Smaller clinical studies are able to follow mothers prospectively across multiple time points, commencing in early pregnancy, gathering information on specific types of antidepressants, severity of depression, medication dose and timing of foetal exposure. Such studies often measure neonatal and child outcomes using high-quality standardised measures and examine outcomes at multiple time points across the child’s development. However, precisely because of their high quality, it is difficult to run such studies with large sample sizes. This may introduce bias within the sampling, lack of control for covariates and insufficient power to detect subtle but still clinically significant effects. In particular, these smaller studies of neonatal birth outcomes have suffered from a lack of control for exposure to alcohol and smoking. Therefore, a second methodology is frequently used which gathers complementary information from large population studies such as the current use of the Longitudinal Study of Australian Children (LSAC). Antidepressant exposure is measured along with a large range of other possible exposures and in the context of many other developmental factors in a large and nationally representative sample. This allows the effects of antidepressant exposure to be distinguished not only from a non-exposure group of mothers, but also from mothers who are antenatally depressed but elected not to take antidepressants. It also enables the confounding effects of other exposures to be controlled in the data analysis.

Using three groupings of pregnant mothers: taking antidepressants, depressed and non-depressed controls, the current paper reports prevalence of antidepressant exposure and characteristics of these three groups. Using propensity score matching of groups to control for covariates, we then examined whether in utero exposure to antidepressants would be associated with poorer neonatal birth outcomes in terms of gestation, weight, length and head circumference.

Method
Study design and sample
Data were drawn from the first wave of the LSAC, an ongoing, nationally representative study of the growth and development of Australia’s children. The sampling design and method have been described in a previous technical paper. LSAC used a two-stage cluster sampling design with Australian postcodes (stratified by state of residence and urban versus rural status) as primary sampling units. Secondary sampling units were infants born between March 2003 and February 2004, who were enrolled in the Australian Medicare database, excluding some very remote postcodes.

Random selection of infants within each postcode produced a cohort aged between three and 19 months, with all birth months represented. Of those selected infants who were able to be contacted, 5,107 took part in the first wave of LSAC in 2004 (64.2% response rate). This sample was generally representative of all Australian infants, although those with two-parent households, English-speaking and highly educated parents were slightly over-represented.

Data were collected from the child’s primary caregiver via face-to-face interview with a trained researcher. The child’s mother was the primary caregiver in 98.6% of cases. After
each interview, both primary and secondary caregivers completed a self-report questionnaire. The study was approved by the Australian Institute of Family Studies Ethics Committee, and a parent provided written informed consent for every participant.

**Design**

The sample for this analysis was limited to infants for whom the primary caregiver was the child’s biological mother. There were three available depression variables in the first wave of LSAC: Depressed for two weeks or more in the last year, Depressed for two years or more, and the K6 Depression Scale. The Edinburgh Post Natal Depression Scale (EPDS) was not used in the first wave since the study design required a repeated measure applicable to both parents and repeated across the child’s development. The variable “Depressed for two years or more” was chosen as indicating an overall tendency to depression, and was therefore the measure most likely to report depression in pregnancy.

Mothers were categorised into three groups for the purposes of this analysis: (1) those who took antidepressants during pregnancy; (2) those who did not take antidepressants during pregnancy and reported depression for two or more years; and (3) those who did not take antidepressants during pregnancy and did not report depression for two or more years (control group).

**Measures**

**Demographic data.** Mothers reported the child’s gender and age, their own age, marital status, employment status, and education status. Social disadvantage was measured using the census-based Socio-Economic Indexes for Areas (SEIFA).

**Predictor and outcome variables.** Antidepressant use during pregnancy: Mothers were asked, “What prescribed medicines or tablets were taken? Antidepressants (yes/no)”. Depression during pregnancy: Mothers were asked, “Have you ever had two or more years in your life when you felt depressed or sad most days, even if you felt OK sometimes? (yes/no)”.

**Child growth.** Mothers were asked the weight of the baby at birth, weeks of gestation, and to consult maternal and child health records for the child’s length and head circumference at birth.

**Other exposures during pregnancy.** A number of other exposures were recorded including smoking, alcohol consumption and other medications taken during pregnancy. Information collected on drinking patterns was combined into a total score indicating average daily alcohol consumption during pregnancy, and then converted into a categorical variable: Did not drink during pregnancy, or drank one or more standard drinks per day. Mothers were asked about any cigarette smoking. The number of cigarettes smoked on average per day was converted into a categorical variable: Smoked more or less than five cigarettes per day during pregnancy. Mothers were questioned about whether they had taken antibiotics, asthma medication, nausea medication, blood pressure tablets, iron tablets, heartburn medicines, thyroid medicines, other prescriptions medicines, over the counter medicines and painkillers during pregnancy. These yes/no questions were converted into a continuous variable measuring general medication intake.

**Statistical analysis**

All analyses were performed using SPSS version 18 (SPSS Inc, Chicago, Ill). Sample weights were used in all analyses. There was less than one per cent missing data for parity, marital status, school completion, work status, mothers’ age, SEIFA disadvantage, combined medications and antidepressants taken during pregnancy. There was 22% of missing data for both alcohol and cigarette usage, and 17% for depressed two years or more. Demographic variables were investigated using the frequency function, and one-way ANOVAs were performed.

In order to account for potentially confounding variables,

### Table 1. State of residence by antidepressant medication during pregnancy.

<table>
<thead>
<tr>
<th></th>
<th>Anti-D</th>
<th>No anti-D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>(%)</td>
<td>#</td>
</tr>
<tr>
<td>New South Wales</td>
<td>27</td>
<td>(1.6)</td>
<td>1690</td>
</tr>
<tr>
<td>Victoria</td>
<td>31</td>
<td>(2.4)</td>
<td>1263</td>
</tr>
<tr>
<td>Queensland</td>
<td>13</td>
<td>(1.3)</td>
<td>960</td>
</tr>
<tr>
<td>South Australia</td>
<td>14</td>
<td>(3.9)</td>
<td>342</td>
</tr>
<tr>
<td>Western Australia</td>
<td>18</td>
<td>(3.7)</td>
<td>474</td>
</tr>
<tr>
<td>Tasmania</td>
<td>2</td>
<td>(1.6)</td>
<td>120</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>0</td>
<td>(0)</td>
<td>53</td>
</tr>
<tr>
<td>Aust. Capital Territory</td>
<td>3</td>
<td>(3.4)</td>
<td>86</td>
</tr>
<tr>
<td>Total</td>
<td>108</td>
<td>(2.1)</td>
<td>4988</td>
</tr>
</tbody>
</table>

Note: Anti-D=Indicated antidepressant was used in pregnancy.
propensity scores were created using the logistic regression (binary logistic) function\textsuperscript{15}. Any cases with missing data on the variables used were removed before the propensity score matching was conducted. The dataset was split in order to compare group one with group two, and group one with group three. The closest propensity scores were chosen for each of the available scores from group one, for groups two and three and the datasets were then merged. One-way ANOVAs were rerun on groupings based on the propensity score matched dataset, which effectively controlled for confounding variables.

**Results**

**Prevalence rates**

Prevalence rates for the two variables: depressed for two years or more and whether antidepressant medication was taken during pregnancy were calculated. Overall, 15.6% of the sample indicated that they had been depressed for two years or more, and there was no significant statistical differences between depression rates by states ($x^2=8.93$ (7), $p=.26$). Prevalence rates for antidepressant medication during pregnancy by state are displayed in Table 1. Overall, 2.1% of the sample indicated that they were taking antidepressants at some time during pregnancy. Table 1 suggests that some states appear to be prescribing antidepressants in pregnancy at higher rates than other states ($x^2=19.05$ (7), $p=.008$). Western Australia has one of the lowest depression rates at 12.7%, compared to other state; however, it has one of the highest rates of antidepressant medication prescription at 3.7%. South Australia (3.9%) and the ACT (3.4%) also have relatively high rates of prescription, whilst NSW has relatively low rates at 1.3%. Sample sizes for some states were very low, and percentage rates need to be treated with caution.

Analyses of metropolitan versus non-metropolitan rates of depression and antidepressant medication indicated that there were no significant statistical differences for either rate ($x^2=1.83$ (1), $p=.176$). The rate of depression in the metropolitan sample was 16.2%, and in the non-metropolitan sample, 14.5%.

**Study group characteristics**

The study groups were calculated from the above depression and antidepressant medication variables. Group one was all mothers who had taken antidepressants (108 (2.1%)), group two was mothers who indicated that they had been depressed for two or more years but not taken antidepressants during pregnancy (602 (11.8%)), and group three, the control group, was mothers who indicated they have not been depressed for two years or more, and had not taken antidepressant medication during pregnancy (3534 (69.2%)). Missing data on the depression variable accounted for 861 cases (16.9%). The mothers in the antidepressant group were different from the other two groups across a number of domains.

**Demographic differences:** the antidepressant group were most likely to be employed full-time at wave one while the depressed group were least likely to be married at wave one, least likely to be either full- or part-time employed and had the lowest SEIFA scores, indicating higher disadvantage. Comprehensive demographic description of this sample has been presented in a previous publication\textsuperscript{16}.

**Mental health differences:** The three groups had significantly different scores at wave one on the post-partum measure of depression (K6) ($F=231.13$ (2, 4165), $p<.001$). Ratings of depression in the first year post-partum were highest for the antidepressant group ($M=6.55$, $SD=4.65$), slightly lower for the depressed group ($M=5.98$, $SD=4.60$) and lowest for the control group ($M=3.06$, $SD=3.03$).

**Other exposures:** As compared to the control group, mothers who were depressed tended to smoke more (five cigarettes or more per day) during pregnancy (OR=2.54, 95% CI 2.03, 3.17). However, women who took antidepressants were considerably more likely to smoke during their pregnancy than controls (OR=3.41, 95% CI 2.21, 5.27). A different pattern emerged in terms of drinking one or more glasses of alcohol per week during pregnancy. No significant difference was found in the odds comparing drinking between control and depressed women (OR=0.95, 95% CI 0.72, 1.26) nor between control and women taking antidepressants (OR=1.21, 95% CI 0.68, 2.15).

We calculated a measure of the combined number of other prescription and over the counter medications taken across pregnancy. Here we found that the three groups were significantly different $F=17.66$ (2, 4226), $p<.001$. The antidepressant group had the highest index of other medication usage ($M=2.19$, $SD=1.18$) while the mean of the depressed ($M=1.61$, $SD=1.12$) and control group ($M=1.61$, $SD=0.95$) was roughly equal.

**Sleep patterns of infants:** When asked during the first year post-partum whether their child had any sleep problems, again, there were notable differences between the groups. The lowest rate of sleep problems was in the control group (51.3%). Children whose mothers had taken antidepressants were most likely to have sleep problems (OR=1.68, 95% CI 1.13, 2.51) as compared to the control group. However, the depressed group was also more likely to report child sleep problems than controls (OR=1.35, 95% CI 1.13, 1.61), although the depressed and antidepressant group did not significantly differ from one another in terms of their odds of reporting sleep problems.
Table 2. One-way ANOVAs for weight at birth in grams, length and head circumference at birth in centimetres, and gestation in weeks by study group, full sample.

<table>
<thead>
<tr>
<th>Study Group</th>
<th>N*</th>
<th>Mean</th>
<th>SD</th>
<th>95% CI for M</th>
<th>f (df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight at birth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-D</td>
<td>106</td>
<td>3324.0</td>
<td>532.61</td>
<td>3221.7 – 3426.4</td>
<td>2.64 (2, 4218)</td>
<td>0.07</td>
</tr>
<tr>
<td>Depressed</td>
<td>595</td>
<td>3370.0</td>
<td>591.02</td>
<td>3322.5 – 3417.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>3520</td>
<td>3414.5</td>
<td>571.44</td>
<td>3395.6 – 3433.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4222</td>
<td>3405.9</td>
<td>573.53</td>
<td>3388.6 – 3423.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length at birth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.21 (2, 4041)</td>
<td>0.002**</td>
</tr>
<tr>
<td>Anti-D</td>
<td>101</td>
<td>49.39</td>
<td>2.98</td>
<td>48.80 – 49.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed</td>
<td>559</td>
<td>50.26</td>
<td>3.09</td>
<td>50.00 – 50.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>3383</td>
<td>50.41</td>
<td>2.93</td>
<td>50.31 – 50.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4044</td>
<td>50.36</td>
<td>2.96</td>
<td>50.27 – 50.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Head circumference at birth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.71 (2, 3928)</td>
<td>0.18</td>
</tr>
<tr>
<td>Anti-D</td>
<td>98</td>
<td>34.31</td>
<td>1.61</td>
<td>33.99 – 34.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed</td>
<td>542</td>
<td>34.64</td>
<td>1.80</td>
<td>34.49 – 34.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>3290</td>
<td>34.64</td>
<td>1.72</td>
<td>34.58 – 34.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3930</td>
<td>34.63</td>
<td>1.73</td>
<td>34.57 – 34.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gestation in weeks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.04 (2, 4203)</td>
<td>0.13</td>
</tr>
<tr>
<td>Anti-D</td>
<td>106</td>
<td>38.70</td>
<td>2.04</td>
<td>38.30 – 39.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed</td>
<td>597</td>
<td>39.07</td>
<td>2.10</td>
<td>38.90 – 39.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>3504</td>
<td>39.11</td>
<td>2.09</td>
<td>39.04 – 39.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4207</td>
<td>39.09</td>
<td>2.09</td>
<td>39.03 – 39.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* variability in the N is due to sample weighting, and a small amount of missing data in the antidepressant group.

** partial eta squared (effect size) =0.003, very small.

Neonatal outcomes

In order to investigate whether children in the different depression group categories had different birth outcomes on weight, height, head circumference and gestation length, one-way ANOVAs were performed and are presented in Table 2. There was a tendency for infants of mothers who took antidepressants in pregnancy to be slightly lighter than infants in the other two groups; however, this did not reach statistical significance. Infants from this group are, on average, 91 grams lighter than infants in the control group and 46 grams lighter than infants in the depressed group. Infants in the antidepressant group are, on average, 1.02 cm shorter than the control group and 0.87 cm shorter than the depressed group; however, there was almost no difference between groups on head circumference. Infants in the antidepressant group had slightly shorter gestation, being born at around 2.7 days earlier than the control group, and 2.6 days earlier than the depressed group. Only length reached significant statistical difference between groups: F=6.21 (2, 4041), p=.002, partial eta squared =.003 (small effect size).

In order to control for a range of possible confounders, propensity score matching was conducted. Using a matching value on the propensity score a group of approximately 200 cases which best matched to the antidepressant group were selected in order to form a depressed group_PSM (n=206) and the control group_PSM (n=208). Previously examined variables were then examined to determine the match between the original antidepressant group and the two new groups using chi-square and one-way ANOVA tests (Married p=0.80; Full-time work: p=0.91; Not completed school: p=0.42; Cigarette smoking: p=.28; Alcohol: p=.74; SEIFA disadvantage: p=.82; Combined medications: p=.14). The matching procedure appeared to be successful since none of the examined variables showed statistically significant between group differences.

One-way ANOVAs were then rerun for birth weight, length, head circumference and gestation comparing the original antidepressant group to the new PSM groups and these results are presented in Table 3. The antidepressant group was still on average slightly lower in weight than the depressed group_PSM and the control group_PSM. Length was again the only test that reached statistical significance, F=3.57 (2, 512), p=.03, partial eta squared=0.014, a small effect size.

Discussion

Our study found that 2.1% of Australian women reported antidepressant use during pregnancy, which is a prevalence
rate lower than current estimates in the United States and Canada. Rates of prescription were highest in South Australia and Western Australia despite low to moderate overall levels of depression. This state-wide variance may suggest differences in service provision, access to specialist prescribing or different perceptions amongst prescribing doctors as to the indications for prescription of antidepressants to pregnant women. Another consideration here is that there may be less access to psychological interventions in South Australia and Western Australia.

The current findings add to the growing evidence that antenatal depression is associated with a complex set of foetal exposures. As compared to both the depressed and the non-depressed group, women who took antidepressants also took more medications in general and were more likely to smoke during pregnancy. A study using the Swedish Birth Registry found women on antidepressants in pregnancy had a threefold increase in rates of smoking consistent with the current finding. While several previous studies have found smoking is significantly associated with depression in pregnancy, our study was able to show that higher rates of smoking are specifically associated with the use of antidepressants, as distinct from the report of depression per se. The most likely explanation is that women taking antidepressants are presenting with more severe levels of depression. Further studies of antidepressant exposure in pregnancy need to examine the confounding effect of in utero exposure to smoking, which would appear to be correlated with antenatal depression. It is possible that prior findings of an impact of antidepressant exposure on neonatal growth and development are moderated by smoking in depressed women.

Despite the use of antidepressant medication, this group reported higher depression scores measured by the K6 in the post-partum period. A recent study by Yonkers et al. found there was no difference in risk of a major depressive episode in those who took antidepressant medication compared to those who discontinued. However, an earlier study by Cohen et al. found antidepressant medication in pregnancy significantly decreased the risk of relapse. This may reflect the differences in the samples recruited. The Cohen et al. study population had more severe depression and were recruited through psychiatric services compared to a general obstetric population for Yonkers et al.’s study. Fournier et al. in a recent meta-analysis of adult patients with depression found that antidepressant treatment was more effective in those with more severe illnesses. A limitation of this current study is a lack of measure of severity of depression.

Table 3. One-way ANOVAs for weight at birth in grams, length and head circumference at birth in centimetres, and gestation in weeks by study group; propensity scored matched sample.

<table>
<thead>
<tr>
<th></th>
<th>N*</th>
<th>Mean</th>
<th>SD</th>
<th>95% CI for M</th>
<th>f (df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight at birth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-D</td>
<td>106</td>
<td>3324.1</td>
<td>532.61</td>
<td>3221.7 – 3452.0</td>
<td>1.35 (2, 517)</td>
<td>0.26</td>
</tr>
<tr>
<td>Depressed PSM</td>
<td>208</td>
<td>3432.4</td>
<td>614.34</td>
<td>3348.5 – 3516.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control PSM</td>
<td>206</td>
<td>3415.1</td>
<td>535.49</td>
<td>3341.6 – 3488.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>521</td>
<td>3403.4</td>
<td>568.20</td>
<td>3354.5 – 3452.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Length at birth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.57 (2, 512)</td>
<td>0.03**</td>
</tr>
<tr>
<td>Anti-D</td>
<td>101</td>
<td>49.39</td>
<td>2.98</td>
<td>48.80 – 49.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed PSM</td>
<td>208</td>
<td>50.31</td>
<td>3.22</td>
<td>49.87 – 50.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control PSM</td>
<td>206</td>
<td>50.23</td>
<td>2.72</td>
<td>49.85 – 50.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>515</td>
<td>50.09</td>
<td>3.00</td>
<td>49.83 – 50.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Head circumference at birth</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.80 (2, 508)</td>
<td>0.17</td>
</tr>
<tr>
<td>Anti-D</td>
<td>98</td>
<td>34.30</td>
<td>1.61</td>
<td>33.99 – 34.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed PSM</td>
<td>208</td>
<td>34.70</td>
<td>1.86</td>
<td>34.44 – 34.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control PSM</td>
<td>206</td>
<td>34.63</td>
<td>1.59</td>
<td>34.41 – 34.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>512</td>
<td>34.60</td>
<td>1.71</td>
<td>34.45 – 34.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gestation in weeks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.17 (2, 517)</td>
<td>0.12</td>
</tr>
<tr>
<td>Anti-D</td>
<td>106</td>
<td>38.70</td>
<td>2.04</td>
<td>38.30 – 39.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed PSM</td>
<td>208</td>
<td>39.10</td>
<td>2.02</td>
<td>38.83 – 39.38</td>
<td></td>
<td></td>
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<tr>
<td>Control PSM</td>
<td>206</td>
<td>39.16</td>
<td>1.78</td>
<td>38.91 – 39.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>520</td>
<td>39.04</td>
<td>1.94</td>
<td>38.88 – 39.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* variability in the N is due to sample weighting, and a small amount of missing data in the Antidepressant group. PSM = propensity score matched grouping.

** partial eta squared (effect size) =0.013, small.
in pregnancy, although these findings clearly point to the urgent need to thoroughly investigate the treatment efficacy of antidepressants for both antenatal and postnatal maternal depression.

Another interesting finding was that mothers taking antidepressants and those depressed but not taking antidepressants reported more infant sleep problems than the non-depressed control group. Therefore, that either antidepressant exposure or antenatal depression may have an impact on neonatal sleep regulation cannot be discounted and deserves further investigation.

While the current study overcomes some of the limitations of prior case-control studies by making use of a larger population dataset, it also suffers from a number of limitations which are common in population studies. Antidepressant exposure is defined by a single self-reported item, and outcomes are reported via maternal report. It is also notable that a clinical interview was not used to supplement the K6 or self-reported depression as a screening measure due to the inherent restrictions of a large study. However, the advantage of large sample size and broad coverage of developmental domains in the current study allowed for a full range of covariates to be controlled for in the analysis.

Conclusion

Caution needs to be exercised in prescription of antidepressants to pregnant women given that there is a growing body of evidence of adverse child developmental outcomes using a variety of different methods. The current findings suggest that clinicians need to be aware that women presenting with antenatal depression are also more likely to use a range of other medications and smoke. This may imply the need for additional professional advice, intervention and public health campaigns to reduce the prevalence of such a wide range of foetal exposures. Our findings regarding neonatal outcomes add to a growing body of literature which suggests that specific clinical recommendations are required for the effective medical management of antidepressant-exposed neonates.

Acknowledgements

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References

Cochrane Nursing Care Column

Editors Carmel Collins RN, RM, NICC, BSoCSc, GDipPH, PhD and Trudi Mannix RN, RM, NICC, BN(Ed), MN(Child Health), EdD

Each issue of the journal features a summary of a Cochrane Review relevant to neonatal, paediatric or child health nursing. This is an initiative of the Cochrane Nursing Care Network (CNCN). If you would like to be involved in writing a summary, please contact the section editors Carmel Collins (carmel.collins@health.sa.gov.au) or Trudi Mannix (trudi.mannix@flinders.edu.au)

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Intravenous in-line filters for preventing morbidity and mortality in neonates

Clinical context
Nosocomial infection is a major problem in neonatal care settings and is responsible for significant morbidity and mortality. Infants requiring intravenous (IV) therapy are at risk for catheter-associated septicaemia.

In-line IV filters are used to retain particles which may contaminate IV fluids, such as bacteria, endotoxins, antibiotics, glass and rubber. They have been used extensively in the adult population since the 1960s, and now their use is increasing in the care of neonates being treated with IV therapy. While the use of in-line IV filters has been shown to shorten hospital stay, reduce the incidence of phlebitis and reduce health care costs in adults, they are not without their problems. There have been reports of filters blocking, which means that the IV line may need to be disconnected and hence increase the potential for infection. Any contamination introduced below the level of the filter cannot be contained by the filter. In addition, some solutions cause the flow rate to slow. Since there have been mixed findings about the protection offered by IV in-line filters, a systematic review of the literature was necessary to guide clinical practice for hospitalised neonates.

There are two main IV filter sizes. The 0.22 micron filter is used for aqueous solutions, and the 1.2 micron filter is recommended for larger molecule solutions such as lipids.

The aim of this Cochrane Review was to determine the effect on neonatal morbidity and mortality of in-line IV filters.

Inclusion criteria
Studies
Randomised, or quasi-randomised controlled trials.

Participants
Neonates receiving IV infusions during the neonatal period.

Intervention
In-line IV filter versus placebo or no filter.

Outcomes
The primary outcomes included mortality, proven septicaemic infection, and positive bacterial or fungal blood culture.

The secondary outcomes included localised phlebitis, the number of days of cannula patency, number of catheters inserted, suspected septicaemic infection, local or systemic thrombus, proven or suspected necrotising enterocolitis; periventricular leukomalacia or cystic changes in the periventricular areas, neurodevelopment up to two years corrected age, financial costs, and length of stay in hospital.

Pre-specified sub-group analysis included the type of filter (0.22, 0.12 micron) and IV line (central or peripheral), the gestation of the infant, and the type of IV fluid.

Results
Four randomised controlled trials with 704 neonates (range 63 to 442) were included in the review. All four trials aimed to compare the use of a 0.22 micron in-line filter (intervention) with no filter. Three of the trials changed the IV administration set every 96 hours in the intervention group compared to daily in the control, and one trial changed both intervention and control sets daily.

Risk of bias
The methodological quality of the trials was limited. Only one trial was randomised, with the remaining three quasi-randomised using alternate allocation. A placebo was not used in any of the trials and, therefore, the intervention was not blinded nor was the outcome assessment. All infants
were included in the primary outcome analysis except for one trial where 13% of participants were excluded after randomisation due to incomplete data.

**Effects of intervention**

Of the two studies in which mortality data were recorded, there was no statistically significant difference in mortality between infants in the control or intervention groups [Summary RR 0.87 (95% CI 0.52 to 1.47), RD -0.01 (95% CI -0.06 to 0.04)].

There was no statistically significant difference found in proven sepsis in the two trials in which this was reported [Summary RR 0.86 (95% CI 0.59 to 1.27), RD -0.02 (95% CI -0.09 to 0.04)].

Three trials reported localised phlebitis and no statistically significant difference was found between treatment and control [Summary RR 1.22 (95% CI 0.40 to 3.77), RD 0.01 (95% CI -0.05 to 0.08)]. Only one small trial (n=63) of the three trials that reported duration of cannula patency showed an increase in the median patency duration in the treatment group compared to the control (49 hours versus 59 hours, P<0.05). There was no significant difference found in the two trials that reported the number of catheters inserted during the neonate’s hospitalisation. In the one trial that reported suspected septicaemic infection, local thrombosis and proven necrotising enterocolitis, no differences between the intervention and control was found.

None of the trials reported on systemic thrombus, suspected necrotising enterocolitis, periventricular leukomalacia or neurodevelopmental outcomes.

Because the IV sets were changed less frequently for infants in the intervention groups with filters in their IV sets in three of the included trials, financial savings were recorded in those trials.

**Authors’ conclusions**

**Implications for practice**

The authors concluded that although cost savings can be made with the use of in-line IV filters due to less frequent changing of IV sets, there is not enough evidence to recommend their use for reducing morbidity or mortality in neonates.

**Implications for research**

There is a need for more research to determine if the use of the 0.22 micron filter and the 1.2 micron filter has any impact on the rates of necrotising enterocolitis, periventricular leukomalacia, local or systemic thrombus and local phlebitis in term and preterm infants.

**Summarised from:**


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