


Whānau Āwhina Plunket nurses' views on the use of the PHQ-3 postnatal depression screening tool: a survey

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ABSTRACT

Introduction. In New Zealand, nurses visiting families postnatally use the Patient Health Questionnaire-3 (PHQ-3) to screen and detect postnatal depression. Exploring nurses' perception of the tool when using it with women across cultures is central to ensuring the PHQ-3 tool supports equitable screening and detection of postnatal depression, yet little is known about nurses' confidence with, and use of, the tool with people of differing cultures. **Aim.** The aim of this study was to understand nurses' confidence in using the PHQ-3 to screen for postnatal depression, particularly its use cross-culturally. **Methods.** Quantitative online survey research was carried out in 2019. Fifty-two percent of eligible registered nurses participated ($n = 187$), completing Likert scale responses and open questions about the use of the screening tool with specific groups, and barriers and facilitators to screening. **Results.** Ninety-five percent of participants were confident in their use of the PHQ-3, 70% of nurses agreed the PHQ-3 supports the identification of postnatal depression, and most respondents (54.5%) disagreed that the PHQ-3 was a good screening tool cross-culturally. **Discussion.** Nurses were confident in their use of the PHQ-3, and it was relatively highly regarded in its ability to detect postnatal depression. However, less confidence in its use across cultures implies the PHQ-3 does not translate to evidence-based, cross-cultural care. To serve culturally diverse populations, consultation is needed on both languages used and cultural practices so that tools are appropriate, otherwise they cannot be validated for use cross-culturally.

Keywords: child health, cross-cultural care, depression, maternal health, nursing, postnatal, postpartum, screening.

Introduction

Postnatal depression (PND) occurs across cultures, with an estimated prevalence of between 4 and 64%.¹ In New Zealand (NZ), results of the 2015 New Mothers' Mental Health Survey estimated PND affects 13–19% of NZ women.² Research with Pasifika mothers indicated the top rate may be as high as 31%.¹ Maternal depression can be detected through screening.³ Primary healthcare providers for maternal and child health in NZ include Whānau Āwhina Plunket, which is contracted by the Ministry of Health (MOH) to offer maternal mental health screening to mothers at the 4–6 week (Core 1) and 3–4 month (Core 3) Well Child Tamariki Ora assessment (WCTO), or whenever indicated. Around 85% of all NZ families access this service from Whānau Āwhina Plunket, whose registered nurse (RN) workforce have postgraduate qualifications in maternal and child health.

Severe and persistent PND is a significant problem, which impacts new mothers and their families, affecting relationships with partners and mother–infant attachment.⁴ Studies suggest that mothers experiencing PND have more difficulty bonding and are less sensitive and responsive to their infants, which subsequently affects the cognitive, emotional, motor, and temperament development of the infant with possible long-term consequences.⁵

Although evidence on the validity of any assessment tool for PND with mothers of diverse ethnicities is lacking, it is suggested that to ensure consistency when working

WHAT GAP THIS FILLS

What is already known: Maternal and child health provider, Whānau Āwhina Plunket, has noted inequities by deprivation level, location and ethnicity in its post-natal depression screening.

What this study adds: Registered nurses working for Whānau Āwhina Plunket rated their confidence in using the postnatal depression screening tool highly; however, they did not have the same level of support for the efficacy of the tool cross-culturally. Nurses' lack of confidence in the use of the PHQ-3 with ethnically diverse families may be negatively affecting their screening. Further work is required with Well Child Tamariki primary care services to ensure all whānau receive screening and treatment services, which consider cultural requirements as a priority.

with mothers from minority groups, using a tool is preferable to clinical judgement alone.⁶ The cultural competence and communication for screening requires supported education.⁶ Consequently, the teaching package on PND used by Whānau Āwhina Plunket includes a section on screening with culturally diverse families.

The screening tool for PND used by Whānau Āwhina Plunket is the Patient Health Questionnaire-3 (PHQ-3), which utilises the PHQ-2 questions with an additional support question (Fig. 1). The two questions from the PHQ-2 have been validated for use in primary care, but not specifically validated for detecting PND.⁷ An Auckland study of 2642 primary care patients tested the sensitivity and specificity of the PHQ-2, and found 96% sensitivity, but poorer specificity of 78% in detecting major depression.⁸ The PHQ-3 has been recommended as a screening tool for use

in the NZ primary care context for identifying common mental health disorders defined by the NZ Guidelines Group for the management of depression in primary care, including PND.⁹ These guidelines were produced in 2008 following the 2007 NICE guidelines from the UK regarding screening for PND.¹⁰ The UK guidelines suggested the use of the yes/no PHQ-2 questions, plus the third help question despite noting there was little specific evidence for the PHQ-2 use during the perinatal period.¹⁰ Brevity and ease-of-use are reasons stated for its use over a longer assessment tool such as the Edinburgh Depression Scale (EPDS).¹⁰ However, the use of the EPDS is recommended for subsequent assessment if the PHQ-3 indicated it was required, as is the case in the NZ context.

Data from NZ censuses since the 1950s indicates immigration to NZ has led to an ethnically diverse population.¹¹ The publicly funded health system must respond to this diversity. A review in 2018 identified 92% (93 903/101 652) of women enrolled with Whānau Āwhina Plunket were screened for PND using the PHQ-3 at the core one routine screening point (P. Watson, pers. comm., 25 February 2019). The data on women not screened ($n = 7749$) showed that ethnicity, deprivation level, and locality affected screening. Specifically, women of unknown or Māori ethnicity, women living in unknown or high deprivation, and women living in some districts were over-represented in the unscreened group.

Māori are the indigenous people of Aotearoa NZ and have been established as experiencing health inequities,¹² including during the perinatal period.¹³ Screening inequity is of significant concern because Māori, Pasifika, and Asian women are disproportionately affected by PND.^{13,14} Failure to detect PND will contribute to failure to treat it; therefore, a priority of this research was identifying factors that RNs identify as leading to inequity in screening for PND.

This paper presents results from a survey of Whānau Āwhina Plunket RNs who carry out home and clinic visits for these core assessments. The RNs were asked about their use of the PHQ-3 tool. The survey investigated their personal confidence using the PHQ-3, and their opinion on whether the tool supports detection of PND. Their opinions about using the PHQ-3 with mothers of specific groups, such as a variety of ethnic groups, and English Speakers of Other Languages (ESOL) was also surveyed and is the focus of this paper.

Methods

The aim of this study was to explore nurses' personal confidence using the PHQ-3, their opinions on whether the tool supports detection of postnatal depression, and its efficacy cross-culturally. An online survey with Likert scale responses and open questions was used to collect the data. Initial questions were designed from findings in a literature review by the first author, which identified barriers and facilitators

During a PND assessment, the nurse asks the PHQ-3 questions and makes observations of parent/child interaction, maternal responsiveness and sensitivity to the baby's needs, and indicators of attachment between mother and baby.⁹

Where the mother indicates yes to the PHQ-3 question the nurse will further assess the mother's symptoms, resources and risk factors and may use a second screen such as the EPDS or refer the mother to the GP for further assessment.

Questions in the PHQ-3 are:

1. During the past months have you often been bothered by feeling down, depressed or hopeless?
2. During the past month have you often been bothered by little interest or pleasure in doing things?
3. Additional support question – Is this something with which you would like help?

Fig. 1. Information given at Whānau Āwhina Plunket education sessions.

to screening of PND. Questions regarding nurses' opinions on PHQ-3 use with diverse ethnic groups used Statistic NZ-established categorisation of ethnicity (MELAA).¹⁵

The survey was reviewed by six nurse leaders and two research supervisors, and pilot-tested over a 2-week period with four Whānau Āwhina Plunket leaders who were not included in the final survey. A Māori Clinical Leader was involved in the survey instrument test and pilot. The full survey is available as Supplementary Material File S1.

Survey

The survey consisted of 16 questions and comprised the following:

Questions 1–3: Training and professional development in PND and screening.

Questions 4–10: RNs' confidence in their use of the tool, and the ability of the screening tool to detect PND generally, and with specific groups (ESOL, low-health literacy, various ethnicities). These questions are the focus of this paper.

Questions 11–13: Barriers and facilitators to screening.

An open answer box was available at the end of each question for optional responses. Demographic questions included length of experience, ethnicity and qualifications. Data were collected and managed using the REDCap (Research Electronic Data Capture; University of Otago) tool, which is a secure, web-based software platform designed to support data capture for research studies.¹⁶ The researcher and supervisor categorised open responses using thematic analysis.¹⁷

Sample

At the time of the survey, 370 RNs complied with the eligibility criteria, which included RNs employed by Whānau Āwhina Plunket and currently practising in NZ who completed PND screening as part of their normal work, and who had access to the electronic health record through tablets or laptops. Participants must have completed the relevant postgraduate qualification for WCTO nursing, which some recently employed nurses may not have achieved at the point of the survey.

Setting

This study was set within the Whānau Āwhina Plunket organisation in September 2019. Consents were obtained from Whānau Āwhina Plunket management, the University of Otago ethics committee (H19/100) and the office of the University of Otago Kaitohutouhū Rangahau Māori (Māori consultation).

Procedure

The link to the questionnaire was distributed via email to eligible RNs. Consent to participate was implied when the participant continued with completing the survey. Three

weeks were allowed for survey completion. Reminder emails were sent weekly to those who had not responded.

Data analysis

Questionnaire data were automatically de-identified within REDCap. The data set was imported to IBM SPSS version 25 (SPSS Inc.). Likert scale responses were treated as ordinal data. Results are presented as a percentage of responses to each item in the Likert scale.

Results

The survey was sent to 360 RNs and 188 responded (52%). The response rate was around 99%, whereas responses to open questions ranged from 69 (37%) to 179 (95%).

The demographic characteristics of the respondents are shown in Table 1.

Most respondents identified as NZ European (NZE; 80.9%), with Māori as the second most common ethnic group (7.4%).

Table 1. Demographic and professional details of survey respondents.

Characteristics	N = 188	% Respondents
Ethnicity		
NZ European	152	80.9
Māori	14	7.4
Asian	6	3.7
Middle East Latin America & Africa (MELAA)	3	1.6
Pacific	2	1.1
Other ethnicity	2	1.1
More than one ethnicity	11	5.9
Years worked in Whānau Āwhina Plunket		
≤2	36	19.1
3–5	34	18.1
6–10	59	31.4
11+	59	31.4
Highest qualification		
Masters	3	1.6
Postgraduate Diploma	19	10.1
Postgraduate Certificate in Primary Health Care Nursing (WCTO)	139	73.9
Plunket Certificate	17	9.0
Other: Postgraduate qualifications	8	4.3
Other: Undergraduate qualifications	34	18.1
Missing data	2	1.1

Table 2. RNs' confidence in using the PQH-3 tool ($n = 186$).

Very confident	Confident	Not very confident	Not at all confident
n (%)	n (%)	n (%)	n (%)
90 (48.4)	88 (47.3)	7 (3.8)	1 (0.5)

Table 3. Agreement with statements on suitability of the PHQ-3 to identify PND and in mothers who are ESOL.

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
n (%)	n (%)	n (%)	n (%)	n (%)
PHQ-3 screening tool supports the identification of PND ($n = 186$)				
22 (11.7)	112 (59.6)	40 (21.3)	11 (5.9)	1 (0.5)
The suitability of the PHQ-3 screen for ESOL mothers ($n = 187$)				
4 (2.1)	31 (16.6)	50 (26.7)	84 (44.9)	18 (9.6)
The PHQ-3 screen is a good screening tool for mothers for whom English is a second language				Missing 39 (21.2)
				Total 149 (78.8)
PHQ-3 questions need further explanation				51 (34.3)
Prefer an open discussion about symptom indicators				47 (31.6)
Prefer to use own wording				31 (20.1)
Not confident that mothers' responses were based on an accurate understanding				16 (10.7)
PHQ-3 effective with interpreter services				14 (9.4)
PHQ-3 is easy to understand				12 (8.1)

Table 2 indicates that the majority (95%) of the nurses were confident in using the PHQ-3 tool. Fewer than 5% of the RNs felt they were not confident using the tool.

Over 70% of RNs agreed the PHQ-3 supports the identification of PND, whereas 6.4% disagreed (Table 3). Most respondents (54.5%) disagreed that the PHQ-3 was a good screening tool for ESOL mothers, whereas 19% agreed the tool was suitable in this circumstance. Open answer responses to the statement that the PHQ-3 is a good screening tool for mothers for whom English is a second language indicated only 8% felt the PHQ-3 was easy to understand. Other responses indicated a level of adjustment made when using the tool, such as rewording or interpreter use.

Table 4 indicates nurses felt that the tool was most suitable for use with NZE and other European mothers, and were less sure of its suitability for all other ethnicities. Although 94% of nurses felt the PQH-3 tool was useful with NZE mothers, 64% agreed it was suitable for Māori mothers. Cross-tabulation with nurses' ethnicity indicated that more RNs of European ethnicity (62%) agreed the PHQ-3 was suitable to use with Māori mothers than did nurses of Māori ethnicity (50%; $n = 7$).

Discussion

The aim of this study was to explore nurses' confidence in using the PQH-3 to screen for PND, including whether they thought the tool supported the detection of PND, and its efficacy across cultures. Resulting information may inform education, practice guidelines, and practice development within the Whānau Āwhina Plunket service, and more widely, in primary care services.

Demographic data indicated respondents were an experienced workforce; however, they lacked ethnic diversity, being 80% NZE. The percentage of NZE RNs in the NZ nursing workforce was recently reported to be 59% NZE.¹⁸ The Whānau Āwhina Plunket workforce at the time of this study was 66% NZE. Data on nurses' ethnicity has been collected by Whānau Āwhina Plunket since 2016. Over the last 3 years, the NZE RN workforce has remained static at around 75%. A proactive approach to employing an ethnically diverse workforce is evident in the Whānau Āwhina Plunket strategy 2021–26.¹⁹

Increasingly, it has been recognised that the impact of racism and colonisation has caused loss of cultural, spiritual and economic control for Māori, impacting social determinants and contributing to disparities in health that are currently evident.²⁰ In this research, RNs responded that the PHQ-3 tool was less suitable for Māori mothers than NZE or other European mothers. Proportionally fewer Māori RNs thought the PQH-3 was suitable for detecting PND than their NZE colleagues. Overall, these results are further indication that the NZ health system is not serving Māori optimally. As most Māori mothers in NZ speak English, it may be about the cultural appropriateness of the tool. A kaupapa Māori study of 28 participants highlighted Māori women may not focus on their symptoms, but rather on spirit (Wairau) and life force (Mauri).²¹ Previous research has noted mental health assessment tools lack appropriate cultural context for Māori.²²

The review of screening practices by Whānau Āwhina Plunket in 2018 indicated there was inequity in screening rates. Maternal ethnicity was one of the issues indicated in the lower screening rates. The results of this survey allow elucidation of this inequity from the RNs' perspective. The PHQ-3 was thought by RNs to be suitable for the dominant cultural group (NZE), and less useful for all other ethnicities, particularly when they did not have good understanding of English. Around half the RNs felt that Pasifika and Asian mothers are not well served by this screening tool, which is of concern as they are known to have higher rates of PND.¹⁴ The RNs felt the language used in the PHQ-3 was not well understood in some cases, and therefore changed the wording. Similarly, the concept of PND was noted to require explanation to mothers from cultures where mental health issues are not widely discussed.

Practices in the postnatal period vary across ethnicities and the presentation, description, and management of PND

Table 4. RNs' rating of the suitability of the PHQ-3 tool with a variety of ethnicities (N = 187).

The PHQ-3 screen is a good tool for:	NZE n (%)	European other n (%)	Māori n (%)	Pacific n (%)	Asian n (%)	MELAA ^A n (%)	Other n (%)
	177 (94.1)	148 (78.7)	121 (64.4)	106 (56.3)	102 (54.2)	82 (43.6)	57 (30.3)

^AMELAA, Middle Eastern/Latin American/African.

may also vary across cultures. A literature review of 143 studies in 40 countries identified that women across a range of countries expressed somatic or physical symptoms, and concerns, different from westernised presentations.²³ Evidence on the effect of ethnic and language difference between the nurse and the mother indicates that nurses rely on mothers' body language, which can be misinterpreted.²⁴ The use of interpreters was noted by nurses in this study to facilitate the PHQ-3 use. Interpreters can be requested by Whānau Āwhina Plunket nurses; however, anecdotal evidence indicates they are used inconsistently. Consequently, it may be that mothers who do not speak English as their first language are not having PND detected and treated appropriately. A Malay¹ version of the EPDS has been validated; therefore, action has been taken towards equitable screening for speakers of languages other than English. This work needs to be expanded.

Effective screening requires training in using the screening tool in a relational manner with women from diverse cultures.⁶ It seems that education on use of the PHQ-3 by Whānau Āwhina Plunket is effective, as 95% of nurses were confident in using it. The screening rate of 92% reported by Whānau Āwhina Plunket supports this figure. This contrasts with the lack of routine screening found across papers in a recent review.¹ It was also clear that most nurses felt that the PHQ-3 supported detection of PND, although less confidence in the tool was evident when working with cultures other than NZE and European. The NZ guidelines suggesting use of this tool are adapted from the NICE guidelines in the UK, which were updated in 2014 and regularly reviewed.²⁵ The guidelines in NZ have not been updated since their inception in 2010. Given the evidence here and in other published literature regarding PND screening, particularly with minority populations,¹ consideration is required as to whether the PHQ-3 is catering for NZ's ethnically diverse population.

Limitations of this study include the 50% response rate. The views of those not responding might have produced other results. The lack of ethnic diversity in the RN respondents was also a feature, and could have led to nurses indicating more confidence using the PHQ-3 with their own cultural group. Greater ethnic diversity of respondents would give a more balanced view; however, it would require targeting respondents and potentially making them identifiable.

In conclusion, RNs felt that although they were confident in their use of the PHQ-3 screening tool and its ability to support detection of PND, its use with mothers of cultures other than of European origin and with English as their first

language was questioned. Consultation with nurses and families/whānau representative of the community is vital to ensure cultural appropriateness in the use of screening tools. This is especially important in pregnancy and childbirth; a time that has many cultural implications.

Supplementary material

Supplementary material is available [online](#).

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Data availability. Data are available from the second author (CM). The survey is included as Supplementary Material File S1.

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