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Closing the Gap in Maternal and Child Health: A Qualitative Study Examining Health Needs of Migrant Mothers in Dandenong, Victoria, Australia

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Abstract We conducted a qualitative study that explored the views and perceptions of migrant women in, Dandenong, Victoria, Australia about sociocultural barriers and health needs during pregnancy and in the postnatal period. The study was informed by the Social Identity Theory and the Acculturation Theory. It involved five focus group discussions with 35 migrant mothers from Afghanistan, Africa, China, Palestine, Lebanon, Syria, Iran and Jordan. Five themes emerged from the analysis: (1) the need for family support and complex social environments; (2) dealing with two cultural identities; (3) the health of mother and offspring; (4) access to the health system; and (5) life-skills for better health. Pregnancy and motherhood are challenges that are made more difficult by migration. The findings point towards the need for policies and interventions: (1) to reduce the negative impact of social isolation and lack of support during pregnancy and postnatally; (2) to support greater fathers' involvement in childcare; and (3) to reconcile different practices and expectations between traditional cultures and Australian norms. They also suggest a need to test culturally competent interventions that address health and lifestyle needs in migrant women and education programs for mothers that effectively address their concerns about maternal and child health.

Keywords Maternal and child health · Ante-natal care · Postnatal care · Migrant mothers · Australia · Qualitative study · Views and perceptions · Migrant women · Pregnancy and postnatal care

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Introduction

Migration is an increasingly frequent phenomenon due to political persecution, war, and famine [1]. The 2011 Australian Census data found that over a quarter (26 %) of Australia's population was born overseas and a further one-fifth (20 %) had at least one overseas-born parent [2]. Other recent data suggest that in Greater Dandenong, Victoria, Australia 60 % of residents were born abroad and come from over 150 different, mainly non-English speaking countries [3]. In 2011/12, 2,737 recently-arrived migrants settled in Greater Dandenong, making it one of the most culturally diverse municipalities in Melbourne [3]. This was the highest number of settlers in any Victorian municipality. A third of these recently arrived migrants were humanitarian immigrants from countries such as Afghanistan, Sri Lanka, Iran and Pakistan [3].

Pregnancy and the postnatal period are common experiences of a migrant woman's settlement. Despite childbirth and migration being major life events that present many opportunities and challenges, studies exploring these events among newly arrived migrants in Australia are lacking. Understanding the challenges associated with pregnancy and the postnatal period within

the context of migration is very important because not only are these events very stressful, they also occur simultaneously and can result in ill-health for the mother. Most studies investigating pregnancy and the postnatal experiences of newly-arrived refugees have focused on three dimensions: pregnancy outcomes [4], mental health [5, 6] and access and utilization of Maternal and Child Health Services (MCHS) [4, 7–9]. In terms of pregnancy outcomes the literature suggests a greater risk of maternal complications such as gestational diabetes, perineal trauma, post-partum hemorrhage, and birth complications (e.g. higher rates of caesarean sections) among migrants [4, 8, 10]. The mental health literature suggests that refugee women are at risk of postnatal depression [5, 6]. Other studies suggest that barriers to accessing and utilizing MCHS programs among migrants include poor command of English, lack of understanding of appointment booking systems, inadequate use of interpreters and translated resources, transport difficulties, poor health literacy and poor follow-up mechanisms by MCHS nurses or General Practitioners [9, 11].

However, an ecological model for understanding the pregnancy and postnatal experiences of newly arrived migrants should accommodate sociocultural factors related to pregnancy in addition to childbirth practices [12]. This is particularly important because pregnancy and childbirth occur in a cultural context and culture shapes the kind of support the immediate and extended family can provide to expecting mothers [6]. These cultural expectations can be in conflict with the more system-, bureaucratic-, and literacy-oriented MCHS programs in Australia and other developed countries [9]. Structural inequalities for migrant women in such areas as prescribed gender roles, discrimination, health literacy and participation in the workforce further widen the gap between pregnancy and postnatal requirements, and health service delivery. However, the sociocultural environment and its impact on the health needs of migrant mothers around the time of pregnancy are poorly understood. Few Australian studies have investigated factors that would enhance ante-natal and post-natal experience among migrant mothers. Therefore, this study aimed to explore the views and perceptions of migrant women in Dandenong, Victoria, Australia about sociocultural barriers and health needs during pregnancy and in the postnatal period, and to identify potential solutions to address such barriers.

Theoretical Framework

The study was informed by the Social Identity Theory [13], and the Acculturation Theory [14]. Hogg [13] defines the Social Identity Theory as a "social psychological analysis of the role of self-conception in group membership, group processes, and intergroup relationships" (p. 111). The theory asserts that isolated individual processes or interpersonal interactions alone cannot explain collective phenomena. The theory has been found to be robust in explaining issues pertinent to migration including prejudice, discrimination, ethnocentrism, societal conformity, intergroup conflicts, normative behaviours, group polarisation and group cohesiveness [13]. Abrams and Hogg [15] argue that individuals are within social categories, which are part of structured society. The social categories to which the individuals belong define their identity or sense of self. Thus, migration and motherhood are dynamic processes in which identity is constructed and negotiated through membership (for example, Breastfeeding Mothers' Support Group, Pregnancy Support Group, or Healthy Mothers & Healthy Babies group). However, when negotiating identity in the host society, migrant mothers use their culture of origin as a frame of reference. Therefore, to better understand the health needs of migrant mothers around the time of birth, it is essential to examine how migrant women conceptualise themselves as mothers. This identity is in turn influenced by the sociocultural environment that shapes their health needs and access to health-generating resources. The Social Identity Theory allows researchers to formulate research questions for participants to reflect on the lived experience of motherhood and how such experiences are constructed and enacted within the cultural context [16].

The Social Identity Theory asserts that individuals' behaviours and identity are influenced by processes within larger social units, and internal structures such as groups, organizations, and cultures [17]. However, it has also been recognised that individuals' behaviours and identity, undergo acculturation in culturally pluralist communities [18]. Acculturation refers to both cultural and psychological changes that occur when two cultures come into contact [14]. While various models of acculturation have been provided in the literature (See Flannery et al. [19] and Padilla and Perez [17]), our study considered the bi-dimensional acculturation model as the most appropriate framework to inform this study. This model identifies four coping mechanisms associated with acculturation: integration (accepting both host culture and culture of origin as a way of life), assimilation (rejecting culture of origin and fully accepting the host culture as a way of life), marginalization (rejecting both host culture and culture of origin as a way of life) and traditional (maintenance of culture of origin and rejection of host culture as a way of life) [20]. These coping strategies influence how individuals interact with their environment and access and utilise available health services [18].

Methods

Study Setting and Recruitment

The study was conducted between 2010 and 2012. Participants were migrant lactating mothers, with at least one child aged <3 years, who had good outcomes from childbirth, and were attending the Dandenong MCHS. Dandenong is the most disadvantaged area out of the 31 municipalities across metropolitan Melbourne. It is also the most culturally diverse municipality in Victoria, with migrant communities making up 60 % of the city's population (compared with 33 % in Greater Melbourne). Social data from Dandenong indicate that the number of immigrants in Greater Dandenong was 3843 between 2009 and 2011 and a further 2,737 between 2011 and 2012 [3]. The greatest level of cultural diversity is found among residents of child-bearing age [21]. Of all births in 2006–2007, over 81 % were to overseas-born parents [21]. These families receive care from the MCHS, a primary health service staffed by highly qualified nurses offering free child health and developmental checks to infants from birth until school age.

Participants in this study were sampled through MCHS playgroups that are run regularly for mothers in the immediate postnatal period. The study focussed on four of the largest and/or most rapidly growing communities: Afghani, African, Chinese and Middle Eastern (Palestinian, Lebanese, Syrian, Iranian, and Jordanian). The study was approved by the Department of Early Learning Human Research Ethics Committee and the Human Research Ethics Committee at Deakin University.

Method of Data Collection

Data were collected using focus group discussions (FGD). Given that the Social Identity Theory asserts that social behaviours tend to vary along a continuum from interpersonal behaviour (i.e. behaviour determined by the individual characteristics and interpersonal relationships between two or more people) to intergroup behaviour (e.g. behaviour determined by the social category memberships applicable to two or more people) [22, 23], FGD was the data collection method of choice. However, given that mothers had a varying degree of exposure to the Australian environment, in order to account for the differing level of acculturation, focus groups were drawn from existing MCHS networks, mainly the MCHS playgroups. Playgroups consisted of mothers from a defined geographic area in Greater Dandenong who spoke the same language and mothers were allocated to FGDs based on the language they spoke. For example, the Middle Eastern FGD consisted of mothers from Palestine, Lebanon, Syria, Iran and Jordan. Participants in the FGDs were conveniently recruited using the MCHS bilingual worker.

Obtaining Consent and the Interview Process

During the MCHS playgroup meeting, the bilingual worker explained the study to the mothers in their language using a plain language statement. Written and verbal consent (recorded) was sought from participants. After consenting, a FGD was conducted during a scheduled playgroup session. Forty-five mothers consented to participate, but 10 dropped out, leaving us with a total of 35 mothers (Table 1).

Each FGD was led by an experienced facilitator, a notetaker and a bilingual worker using a standard interview schedule ("Appendix"). The facilitator asked questions from the interview schedule (which were translated by the bilingual worker) and managed the conduct of the discussion ensuring quieter mothers had the opportunity to speak. The notetaker made written notes about key concepts and identified points for later discussion and clarification. These notes assisted with subsequent data coding. The bilingual worker asked the questions in the appropriate language and translated participant responses into English. Bilingual workers had the opportunity to ask probing questions in order to clarify responses and facilitate the flow of the discussion. The interview schedule included open-ended questions, formulated using a review of the literature, Social Identity Theory and Acculturation Theory with input from staff at the MCHS. We have successfully used this approach in our previous studies [24, 25]. Data collection and preliminary analyses were conducted iteratively with one FGD informing subsequent FGDs until it was agreed by researchers (JO and AR) that no new themes were emerging. The focus groups took place in the MCHS playgroup meeting room. Each focus group lasted 60 min and was audio-taped. Participants were provided with a $15

Table 1 Demographic characteristics of participants

FGD No.	No. of participants	Age range (years)	Ethnic group	Length of time in Australia (years)	Interpreter
1	8	25–38	Afghani	4–8	Dari
2	9	22–37	Afghani	2–5	Dari
4	3	24–30	African[a]	3–5	Arabic
3	6	25–37	Chinese	4–6	Mandarin
5	9	27–34	Middle Eastern[b]	7–11	Arabic

[a] 9 Mothers were expected to attend, but 6 did not attend

[b] Includes Palestinian, Lebanese, Syrian, Iranian and Jordanian mothers

Table 2 Major themes arising from the five focus group discussions

	Afghani	Afghani	African	Chinese	Middle Eastern[a]
Theme 1 The need for family support and complex social environments					
Social isolation, importance of extended family, support from fathers	+	+	+	−	+
Theme 2 Dealing with two cultural identities					
'Picking and choosing' traditional cultural practises	+	+	+	+	+
Theme 3 The health of mother and offspring					
Uncertainty about whether their children were growing well postnatally; concern about mothers health; mothers body weight	+	+	+	+	+
Theme 4 Access to health system					
Difficulty accessing hospital; postnatal care good	+	+	+	+	+
Theme 5 Life-skills for better health					
Increasing life-skills; mothers group for cooking healthy foods, and walking	+	+	+	+	−

[a] Includes Palestinian, Lebanese, Syrian, Iranian and Jordanian mothers

gift voucher for participating. English translations of participant responses made by the bilingual workers during the FGDs were later transcribed verbatim for analysis by an experienced transcriber.

Data Analysis

Detailed analysis of the data was conducted by two researchers (JO, AR) who independently and manually coded the transcripts and categorised responses into common themes. Coding included four steps: (1) pattern recognition; (2) thinking 'systems' and 'concepts'; (3) having tacit knowledge and background information; and (4) having relevant information [25, 26]. Codes that shared a relationship represented categories, and subsequently, the emergent themes. The researchers identified examples from the transcripts to illustrate each theme [27]. The researchers met to discuss the development of the themes with reference to the transcript data. In case of differences of opinion about the definition of a theme, researchers went back to the transcripts and re-read them independently to ascertain thematic identity and composition. Supplementary notes by the notetaker were also incorporated into data analysis.

Results

Thirty-five *mothers* participated in five FGDs. The demographic characteristics of participants are shown in Table 1. Five themes emerged from the analysis: (1) the need for family support and complex social environments; (2) dealing with two cultural identities; (3) the health of mother and offspring; (4) access to the health system; and (5) life-skills for better health. The themes are summarised in Table 2.

Theme 1 The need for family support and complex social environments

This theme was best explained by mothers' level of acculturation. The theme was dominated by lack of integration characterised by social isolation, the importance of extended family and the role of fathers. Many migrant mothers, particularly Afghani, African and Middle Eastern mothers, but to a lesser extent Chinese mothers, described feeling socially isolated during and after their pregnancy due to separation from their extended family ("parents, in-laws, sisters, cousins"). They described it being "*hard"* without family support. Other reasons for their social isolation were that they were in a new country with which they were not familiar, could not speak fluent English and did not have sufficient time to identify people with whom they could communicate in their native language and form supportive friendships. They described this social isolation as contributing considerable mental strain, possibly resulting in depression as summed up by this Middle Eastern mother:

> …I was living alone, no friends, no family that is why I felt depressed and the depression continued after pregnancy for nearly 1 year after giving birth …it started from birth my pregnancy…sorry I don't speak English well… and it continued after pregnancy…(Middle Eastern mother)

Mothers who had been living in Australia for longer were better integrated and had better social networks ("now I have friend, now, before no"*),* better English communication skills ("now I have confidence… I go everywhere, ring anyone") and greater engagement with health services compared with those who had not been living in Australia for long as described by this Middle Eastern mother:

> …I can understand English after three years… I can speak not very well but I can speak… the first year it was all English people and the nurse, she was Australian and so if I have some question and I cannot ask her in English so I didn't ask because she would not understand me…so it didn't help much…(Middle Eastern mother)

Mothers dealt with their social isolation by obtaining social support from community workers during home visits who assisted them with such things as food preparation during pregnancy and postnatally. Some mothers described multicultural mothers' groups in the postnatal period as sources of social support as these groups provided an opportunity for them to make contact with other speakers of their mother tongue. Initially, some mothers resisted joining a multilingual mothers' group not realizing how beneficial they could be (thoughts exacerbated by their depression) but their social isolation eventually drove them to join. This is summed up by this Middle Eastern mother:

> eventually when I told the nurse what happened she told me about the mothers' groups but when you come in from other culture in my mind I thought no…I don't want to mix with Australian people no…why should I go about with them maybe because I depressed as my English was very bad I cannot speak with them I cannot chat with them nothing, nothing… (Middle Eastern mother)

Migrant mothers described wanting more support from their husbands during the pregnancy and in direct childcare in the postnatal period. Husbands were very often working long hours in the new country and so were not available to provide support. Afghani, African and Middle Eastern mothers but less so Chinese mothers, accepted that the traditional role of fathers was as breadwinners, external to the household. However, mothers were clear that they wanted this to change with fathers providing more help with child rearing particularly in their new country where they were released from traditional expectations. Mothers reasoned that in many cases they too had joined the workforce and were therefore fulfilling roles that were traditionally their husbands prior to migration. For their part, fathers still did not see childcare tasks as their responsibility, continuing to see their role as being "providers" and having employment. The tension between mothers and fathers about roles and responsibilities for childcare is illustrated by this quote from an Afghani mother:

> ….yes…because in our culture she says…it is different because father never help mums when they are pregnant and after. Fathers say that child rearing is the mothers' job…they are the providers…some are good but most are complaining that is not their job… (Afghani mother)

Although mothers wanted a reassignment of childcare responsibilities in their new country with greater involvement of fathers, they were not certain how to achieve this. Childcare roles were so deeply ingrained that some mothers thought fathers needed 'training' before they could be involved and even this may fail. Also, training was resisted by fathers. The following quote reflects these ingrained attitudes, and although from an African mother, it summarises the views of Afghani and Middle Eastern mothers as well:

> …but sometime it is hard to teach an African man…. [I] say 'I am going to work, please look after the baby when the baby wakes up change it and do everything' and then the man say 'hmmmm I am a women now… I cannot do this sorry but let me go back [to work] because we need money…I cannot do it because I am not a woman' and then they leave you until the child is 1 year old… (African mother)

Theme 2 Dealing with two cultural identities

Both the Social Identity Theory and Acculturation Theory were important in shedding light on this theme, with mothers 'picking and choosing' traditional cultural practices. From an Acculturation Theory point of view, Chinese, Middle Eastern and African mothers more so than Afghani mothers, described differences between antenatal practices in Australia and in their traditional cultures. However, from a Social Identity Theory point of view, conformity to traditional practices and customary standards for behaviours widely shared by members in the country of birth were important. Traditional practices included giving maize porridge or beer made from sorghum to the mother after birth to stimulate lactation (e.g. African mothers); introducing a full range of solid foods to newborn among Middle Eastern mothers (e.g. "in my country Syria they give everything straight away"); taking traditional medicine to help reduce birthing pain (e.g. Chinese medicines) and the pouring of herbs on a mother to stimulate breastfeeding (e.g. Chinese mothers), staying indoors for 1 month after birth to prevent darkening of the child's skin (African mothers) and not washing the mother's hair for a certain period of time after childbirth to avoid getting headaches (Middle Eastern mothers).

The differences between these traditional practices and the advice provided by Australian nurses only resulted in tensions when extended families checked up on mothers to ensure traditional practices were being observed. However, mothers could reconcile both sets of practices and they did not describe these differences as a source of significant

internal conflict. Mothers described weighing both options (i.e. picking and choosing) which traditional cultural practices they would retain and which ones they would covertly ignore. Their new Australian identity, reinforced by western nursing advice, enabled them to adopt this method. This is illustrated in the following quote which summed up the views of many Chinese, Middle Eastern and African mothers:

> ….yeah actually my parents say you don't have to listen too much to the [Australian] nurse because they [nurses] don't really know about our Chinese traditional but for me I believe in Australia I take what the nurse said so I listen half and half…(Chinese mother)

Theme 3 The health of mother and offspring

The Social Identity Theory was informative here suggesting that mothers interpreted and acted on health information using different frameworks. It was characterised by mothers' uncertainty about how well their children were growing and developing well postnatally as well as concerns about their own health, particularly their body weight. Many mothers, especially Afghani and Chinese mothers were uncertain about what the appropriate care was for their children postnatally and how healthy their children were. For example, Afghani mothers were uncertain about the duration of breastfeeding and the type of solids to use for weaning. Chinese mothers had many questions about children's sleeping arrangements (e.g. in a cot by themselves or in bed with their parents; the use of blankets). All mothers described Maternal Child Health Nurses as excellent sources of helpful information in addressing these uncertainties. Afghani mothers in particular said they were uncertain about the physical health of their children. For example, they wanted to know what constituted healthy growth postnatally. When they compared their children with other children they were concerned about their children's growth, which was a source of anxiety, as illustrated by this quote:

> … she wants to know about child growth because she is comparing her child with other kids she wants to know what is the normal height and weight for this child… is it fine for him to be this tall because she thinks the other children are much taller… (Afghani mother)

Chinese mothers more so than other mothers said that they were worried about linguistic development in their children. They described children in Australia generally as "*talking quite late*" and being slow in achieving other developmental milestones (e.g. toilet training, feeding themselves) compared to children in China. Mothers' anxiety was exacerbated by the extended family particularly grandparents who put pressure on mothers to make their children learn as they do in China. Although they wanted their children to be bilingual, they were uncertain whether trying to teach their children two languages was the reason for their 'delayed' development (i.e. trying to do too much) or whether it was solely accounted for by the Australian education system. These differences were evident in other aspects of child-raising such as disciplining children. Tensions were created as Chinese parents wanted to discipline their children using traditional methods (e.g. smacking) but this was not acceptable in Australia. This is as illustrated by this quote:

> …actually, I found out the little kids they are free and happy but they don't really listen to parents they say 'no, no' but in China they listen to parents. In China, the parents are more strict but in here you cannot hit the children, you cannot smack you see them cry, you hug them, you spoil them too much, they not listen to you… (Chinese mother)

Mothers were also concerned about aspects of their own health in pregnancy (e.g. high blood pressure, diabetes, swelling in legs and arms, morning sickness) and in the postnatal period (e.g. depression, pain, dry skin). However, of paramount importance was their concern with their body weight during and after pregnancy. Mothers spoke about the considerable social pressure to conform to a particular body size. Desirable body size varied between cultures. In fact, what was considered a *healthy* body weight differed between ethnic groups. Middle Eastern mothers described being expected not to gain excessive weight during pregnancy (which was considered healthy) and to rapidly return to a normal body weight once they had delivered. Women were expected to be '*in good shape*' at all times. Those who did not gain much weight during pregnancy (even if it was caused by morning sickness) were viewed as '*lucky*'. In contrast, African mothers said in Africa they were judged as to how good a mother they are, and how healthy they are, based on how heavy they were, particularly after pregnancy. African mothers reported their husbands brought them the food that they desired during pregnancy in order to keep them healthy, which resulted in them gaining weight. As one African mother noted: "you say 'I need fish' he [husband] brings you fish". African mothers said that 'being heavy' is viewed as socially desirable in the African culture because it indicates caring, generosity, happiness and warmth as illustrated by this quote:

> …no, no if you are fat everyone loves you. They say you are a good mother… If you are too skinny a lot of people say you are hard in your heart…If you are fat

people say yes it is good you are good in your heart, you never hurt anyone or about anything. You are happy… (African mother)

Theme 4 Access to health services

From an Acculturation Theory point of view, integration was essential for mothers to access and use the MCHS. Such integration was facilitated by maintaining regular contact with the MCH nurses and by tapping into the nurses' knowledge of the system when seeking assistance. Mothers from all ethnic groups commented that they would be "lost without the Maternal Health Nurses" because the nurses provided them with reassurance in relation to children's development and other supports. The support provided was either in the form of health information (e.g. about rashes in the children; vaccination; breastfeeding; health resources) or emotional support allowing mothers to discuss fears and anxieties with a health professional. Their practical, hands on support was viewed as invaluable ("to demonstrate to you"). Poor English language skills were a barrier to accessing health services. Mothers overcame this by asking people in their immediate vicinity, such as neighbours, to advocate for them by making enquiries on their behalf and interpreting letters from the health care providers for them. Considerable confusion arose about how to navigate 'systems of care'. For example, it was unclear to mothers when primary care services (i.e. management by General Practitioners) during pregnancy should end and secondary care commence for their delivery (i.e. hospital services). Mothers described going back and forth between their General Practitioners and hospitals trying to get answers. One mother presented independently at a hospital when she thought she had a problem (e.g. "the baby was kicking too much") but was not admitted because she was not "*booked in*". She then went back to her GP who identified that she had high blood pressure. She subsequently presented to the hospital where she was admitted for an emergency caesarean section. Another Middle Eastern mother described getting a referral letter from the General Practitioner requesting admission for management of a breech delivery. When she didn't hear from the hospital she enquired only to be reassured that everything was normal and she did not require admission. The anxiety and fear caused by these conflicting messages from health care providers in many mothers is summed up in the Middle Eastern mother's own words:

…my doctor sent a letter to the hospital to take me straight away for caesarean operation and I waited for 1 month and I didn't receive any answer from hospital I went to my neighbour. She speaks English better than me and she can understand what they explain and take me to hospital and they said 'you are alright, your baby alright, all your blood tests everything alright and you can wait until your due date'…but I am 41 years, I had two miscarriages and [it] was the third pregnancy for me and I was scared and I started crying…(Middle Eastern mother)

Theme 5 Life-skills for better health

Social identity, especially group formation and membership, was seen as the best framework to achieve good health during and after pregnancy. Mothers identified many factors that would help them achieve good health antenatally such as English language classes, walking groups, healthy cooking demonstrations and help from extended family especially grandparents. A major life skills deficiency that was identified was poor English language ability ("it is very hard to live in a country where you don't speak the language"). Mothers identified that although English language classes are available through government initiatives, practical difficulties such as lack of child care facilities and morning sickness in pregnancy precluded some mothers from taking up these classes. Many of them said that the urban environment in which they lived was conducive to a healthy lifestyle. For example, the presence of parks encouraged mothers to walk. African mothers in particular said walking in groups and having a group leader were ways to increase physical activity ("without a group leader I don't think there would be a group"). Groups leaders within a community arose from within families, were respected people within a community (e.g. leaders within church groups) or were identified through their actions (e.g. friendly, well organised people within their community). Participants also highlighted the value of practical demonstrations as ways of teaching. As one African mother noted in relation to healthy cooking demonstrations:

…Yes it takes 10 min… it is good for someone to come and show you 'this is good oil……this is not good'…then you know… (African mother)

Discussion

This is one of the first studies to investigate the views and perceptions of migrant mothers in Dandenong, Victoria, about factors that enhance their experience of pregnancy and the postnatal period. The key findings from our study are that migrant mothers have numerous concerns about their health needs during the pregnancy and the postnatal period including social isolation and lack of family supports (e.g. lack of fathers' involvement), their health and that of their children (e.g. infant growth) and access to health care services (e.g. receive conflicting messages from

primary and secondary health care providers during pregnancy). In addition, mothers reconcile different and often conflicting messages from their traditional cultures and Australian health care advice without it being a source of tension and confusion.

Our finding that many mothers were socially isolated is consistent with a study of the experience of motherhood among Thai women in Australia [28] who commonly expressed feelings of isolation and loneliness. As in our study, these feelings stemmed in-part from being removed from extended family, which is an essential part of childrearing in Thai culture [28]. In other Asian communities (e.g. Vietnamese, Korean, Phillipines), women frequently live with extended family such as parents-in-law and siblings to allow them to rest after childbirth [29]. However, when they move to a new country they leave their kin and support from their extended family [29]. In our study, mothers described several coping mechanisms to help them deal with this. For example, African mothers coped by having contact with community workers and other mothers through the church and social groups (e.g. walking groups). In contrast, Middle Eastern mothers said they overcame social isolation by having contact with mothers who spoke their native language for example through multilingual mothers' groups. These groups contribute to the 'social categories' to which Hogg and Abram [15] refer in the Social Identity Theory which help define mothers' identity or sense of self. Post-migration motherhood identity is in-part defined through membership of these mothers groups [28].

A consequence of this social isolation is considerable mental stress, possibly resulting in depression. This was expressed more strongly by Afghani, African and Middle Eastern mothers, but to a lesser extent by Chinese mothers. Previous studies in Asian migrant women in Australia have also found that social support plays an important role in maternal health [29]. Available data suggest that migrant mothers in Australia have a higher prevalence of postnatal depression compared with Australian-born women (28.8 vs. 15 %) [30, 31]. Factors that have been associated with the development of postnatal depression in addition to social isolation include antenatal depression, unplanned pregnancy, difficult relationships with mothers-in- law, dissatisfaction with overall care, stress and perceived low parenting knowledge [32–34]. Immigrant mothers' greater exposure to some of these risk factors, in particular separation from family is evident in this study and is a likely contributor to the high levels of depression reported. Available evidence suggests that interventions such as healthy lifestyle programs [35], peer support [36] or intensive, professionally-based postpartum programs [37] can reduce signs of depression during pregnancy and in the early postpartum period. However, the extent to which migrant mothers seek help for postpartum depression is influenced by cultural background, poverty, immigration status, level of discrimination, and spousal relationships [38]. Acculturation may also play a role. We found evidence that mothers who had been residents in Australia for longer periods tended to be more integrated in terms of the Acculturation Theory, have better social networks, better English and a greater awareness of the services available to them than those who had not been in Australia for long or were traditionally oriented. This underlines the need for health care services to take acculturation into account and pay particular attention to the mental health needs of migrant mothers in Australia [37].

We found that Afghani, African and Middle Eastern mothers in particular wanted greater involvement of fathers in child rearing. This is in contrast to a previous study which found that immigrant women from the Philippines, Vietnam, the Netherlands, Germany and Sri Lanka were more likely to be happy with the contributions their partners made towards household tasks than Australian-born women [30]. Other literature shows the father's role in child rearing overall is increasing [39–42] resulting in better outcomes for children [43]. Among migrants the role of fathers in child rearing is arguably more complex because migrants have to reconcile differences in the parenting roles and responsibilities of their home country with accepted practice in Australia. This was evident in our study in relation to father's traditional roles as breadwinners versus hands on childcare responsibilities in Australia. According to the Social Identity Theory, the difficulty parents have in negotiating new identities may lie in the strong identification with roles embedded within traditional social categories to which they belong and define their sense of self. Mothers seem to better negotiate a new identity in the host society (taking on employment for example), whereas fathers appear to have a much great attachment to traditional social groups and conceptualisations of themselves (e.g. resisting child rearing in favour of external employment). In Australia, fathers continue to be the main income earners but they also get involved in the day-to-day activities of raising children, although they spend less time engaging in these activities than mothers [44, 45]. Fathers with school age children are likely to increase their relative contribution to childcare when they have a greater proportion of male children in the family and when changes in employment or financial status or other major life events are experienced by the family [46]. Mothers on the other hand are responsible for more of the caregiving, although their relative level of involvement tends to decrease when there are no young children in the family [43, 46]. Government policy to address structural inequalities can also influence gender-based roles [47]. Policies addressing the balance between work and family

life can encourage mothers to stay in their occupations and result in a greater involvement of fathers in child rearing. Such measures include mandating employers to provide paid parental leave for employees so that both parents can care for children without risk to their careers, more flexible parental leave so that both parents can take time off, providing fathers with educational programs for antenatal care and government-provided day care for young children or financial support for employees to pay for their own childcare [47].

In contrast to Chinese mothers who predominantly raised questions about appropriate parenting practices (e.g. children sleeping arrangements) we found that Afghani mothers were anxious about the physical health of their children, in particular whether their children were growing normally. Previous studies have shown that parental education, and number of children are significantly associated with knowledge about infant growth [48]. Another study among predominantly African Americans found substantial inaccuracy in mother's assessment of infant body size [49]. Mother's concerns about infant growth raises the question as to how their perceptions of normal growth may differ between the country of origin and Australia. Mothers who are well integrated (according to the acculturation theory) are likely to view healthy growth in terms of the Australian norms. Health care providers need to be aware of differing parents' perceptions of infant growth and help improve families' understanding of healthy body size.

Our finding related to language and developmental delays in children, particularly among the Chinese mothers, is consistent with available evidence demonstrating that many immigrant children perform relatively poorly in reading and arithmetic [43]. Parents in our study appeared to look to the external environment (e.g. the education system) as the reason for delayed linguistic attainment. Comparisons were made by mothers to the development of children in China suggesting, consistent with the Social Identity Theory, that the country of origin was being used as the frame of reference. However, the child's family environment (parent child interactions, parental education level) is increasingly being considered important in a child's educational attainment [50–52]. Maternal perceptions of what is important in child development may differ by maternal educational level [53], with mothers with less education placing emphasis on the development of social and religious knowledge but mothers of higher educational attainment valuing scholastic achievement [53]. In Australia, migrant parents' expectations of day care education may differ from day care providers' views about the purpose of early childhood education [54]. This evidence shows that migrant families have higher expectations about language development than day care staff. These differing expectations could be stressful for children particularly when parents and carers are from different cultural backgrounds. The Acculturation Theory would suggest a greater congruence between parents and educators expectations among integrated families than traditionally oriented parents. Our findings suggest that acculturation may occur rapidly in certain domains (e.g. social networking, health care utilisation) but not in others (child education, child discipline). More research is needed to determine if true delays in educational attainment and development are occurring in the children of Australian migrants independent of parental expectations and the reasons for their developmental trajectories including the role of family environments. It also underlines the need for day care providers to develop an understanding of the home environments in which children from different cultural backgrounds live.

The finding that migrant mothers in Australia had high levels of satisfaction with Maternal Child Health Services has been found previously [9, 55]. For example, a study of women from refugee backgrounds living in Melbourne found mothers were very happy with the frequency of antenatal appointments in pregnancy and home visits from maternal child health nurses postnatally [55]. However, mothers in our study reported that other aspects of antenatal health care provision were not as streamlined. This was due to such factors as poor English, a reticence with speaking up, and a lack of understanding of referral and appointment booking systems, factors for which some prior evidence exists [9, 11]. However, there also appeared to be disagreements between primary and secondary care services about patient management which resulted in confusion in mothers. A lack of clarity in antenatal care management procedures in migrants has previously been reported in Australia. In one study African mothers giving birth found said they also felt they had little or no knowledge of their rights in relation to standard treatment and hospital policies [8] and mothers felt that what was happening in the hospital environment was not adequately explained to them [8]. Studies from the UK have identified several additional barriers to migrants accessing health care [56] including confusion around entitlements to some types of services particularly among migrants with insecure immigration status and cultural insensitivity of some health care providers [56]. Further research is needed to better understand ways in which access to health care could be improved for migrants in Australia, particularly for hospital based services. For example, researching how to improve communication and referrals between primary care, secondary care and migrant community organisations and the use of systems for exchanging client's medical information between sectors would help in the development of more integrated services [56].

Many of the traditional cultural practices that we found particularly in the postpartum period such as the early

weaning among Middle Eastern mothers [57] or the practice of staying in doors for one month postnatally in Chinese mothers [33, 58, 59] have been described in previous studies. Consistent with the Social Identity Theory, these traditional practices appeared to be used as a frame of reference when negotiating their new identity in the host society. The literature also shows that mothers' previous health care experiences in their country of origin may influence maternal health seeking behaviour among migrant women in their new country. For example, in 2008 a study in Afghanistan showed literacy among women was very low (6 %), the use of skilled birth attendants was also low (~13 %) and in 2002 only 8 % of mothers received antenatal care [60]. Afghan migrant mothers, particularly in the immediate post-migration period, may still be influenced by these factors which in turn affect their health seeking behaviour in Australia.

We found differences between traditional expectations of migrant women and the services provided by modern Australian health care not to be a source of tension suggesting, according to Acculturation Theory, mothers were 'integrated' into Australian culture (accepting both host culture and culture of origin as a way of life). We found that differences between traditional and modern practices were only a source of conflict when extended families put pressure to mothers to conform to traditional practices, as has been reported previously [33]. Otherwise mothers reconciled these differences by having varying levels of adherence to both set of practices. How they did this (i.e. what was chosen and what was ignored) was not clear in our study and factors such as the opinions of husbands, their understanding of the effectiveness of traditional practices or their historical value may have played a role. Some studies show that some traditional practises are not beneficial for women in the new country. For example, Matthey et al. [33] did not find any evidence for the protective effect of traditional practices for mental health among Chinese mothers. Our findings suggests the need for a stronger role of health care providers to bridge the gap between traditional practices and modern expectations [58, 59].

Mothers reported that enablers to good health in the antenatal period included lifeskills such as language skills, walking groups and healthy cooking demonstrations. Lifeskills are important as they have been identified by migrant mothers as areas to target to improve their experience of pregnancy and the postnatal period [55]. Postnatal interventions to improve lifeskills in non-migrant populations include regular parent education modules and peer support group sessions [61]; nurse home visits with proactive telephone support between the visits [62]. The literature among migrant mothers suggests that local ethnic specific mothers groups that incorporate strategies for improving cognitive and behavioural development of the children, and English language practice for mothers, are needed [55]. Our data suggest that future interventions in migrant mothers in Victoria also needed to test the efficacy of enablers to health such as walking groups with peer leaders, and practical cooking demonstrations.

The FGD were conducted by male researchers, with the help of female bilingual workers. Using bilingual workers may have resulted in some loss of richness of the data during translation. We have found in our previous research that many migrants are sensitive about their immigration status in relation to entitlements to services. As we thought this may deter their participation in the study we did not collect these data related to migration status (humanitarian refugee, economic migrant), housing and family situation, mothers' educational level and occupations or livelihoods. Further studies are required which include these data in order to provide further insights into sociocultural barriers and health needs during pregnancy and in the postnatal period.

Conclusions

Pregnancy and motherhood are challenges which are made more difficult by migration. Our findings point towards the need for policies and interventions: to reduce the negative impact of social isolation and lack of support during pregnancy and postnatally; to support greater fathers' involvement in childcare; to streamline antenatal health care referrals between primary and secondary care; and to reconcile different practices and expectations between traditional cultures and Australian norms at a health service level. There exists a need to test interventions that address health and lifestyle needs in migrant women and education programs for mothers to address concerns about their health and that of their offspring.

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Conflict of interest None.

Appendix 1 Focus Group Discussion Intrview Schedule

1. What are the major challenges of motherhood in Australia [probe: During pregnancy ? Post-birth?]
2. What can be done to help mothers overcome these challenges?

3. What are the cultural influences you draw upon to shape behaviours and practices during pregnancy and post birth? [probe: which ones do you still practice? Which ones have you abandoned?]
4. What are the characteristics of a good pregnancy? [Probe: And post-delivery care?]
5. What type of programs would help mothers during pregnancies? [Probe: And post-delivery? What is the best way to deliver such programs?
6. Do want to make any comments or ask a question?

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