Descriptive Title:

How do caregivers understand and respond to unsettled infant behaviour in
Vietnam?: A qualitative study

Short Title: Caregiver responses to unsettled infants, Vietnam

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Abstract:

Background: Unsettled infant behaviours are a common source of concern for new parents and have been associated with perinatal common mental disorders among women in high-income settings. There is little evidence about how unsettled infant behaviours are understood and managed in low and lower-middle income countries. This study aimed to describe caregivers' understandings of, and responses to unsettled infant behaviours in Vietnam, and their family caregiving contexts.

Methods: Women who were mothers of infants aged 0-6 months were purposively recruited from two sites in Thua Thien Hue Province, Vietnam (one urban and one rural). An additional group of women who were grandmothers were recruited by snowball sampling. Data were collected in semi-structured interviews about demographic information, infant feeding practices, descriptions of infant crying episodes, beliefs about why infants cry, settling strategies, infant sleeping arrangements and sources of advice on infant care. Translated interview transcripts were analysed thematically.

Results: Twenty-four interviews were undertaken (21 with mothers and 3 with grandmothers). Five major themes emerged from the data after analysis: infant settling techniques, sources of information on unsettled infant behaviour, understandings of the causes of infant crying, the emotional responses of caregivers

and the intergenerational household context. Infants were commonly cared for by people from multiple generations, particularly during the day. Infant settling was characterised by attending to infants immediately, breastfeeding and bed-sharing with parents during the night. Most mothers received advice on caregiving from family members. Infant crying was attributed to hunger and loneliness, as well as traditional beliefs that the infant was being upset by 'ghosts' or becoming 'hot'. Women described feeling anxious, frustrated and helpless in relation to unsettled behaviours among their infants.

Conclusions: Educational interventions on interpreting infant cues, infant sleep requirements and bed sharing may be appropriate in Vietnam if multiple generations are included and traditional beliefs about infant crying are addressed.

Introduction

Unsettled behaviours among infants (babies aged 0-12 months) include episodes of excessive crying, being inconsolable and unreceptive to soothing, difficulties falling asleep, brief durations of sleep, and frequent waking periods during the night (Fisher et al., 2011). Only around five per cent of unsettled behaviours among afebrile infants can be attributed to an underlying organic cause, yet both health professionals and parents often inaccurately attribute such behaviour to physical causes such as hunger, gastrointestinal pain or allergies (Fisher et al., 2011; Freedman et al., 2009; Douglas & Hiscock, 2010). Unsettled infant behaviours remain difficult to explain, but are thought to be multifactorially determined, including by infant temperament, caregiving practices and family sleeping arrangements, which have each been identified as influencing infant sleep problems and total daily duration of crying (Fisher et al., 2011; Mindell et al., 2010a).

Almost all research on unsettled infant behaviour has been conducted in high-income countries, where approximately 20 per cent of parents report that their babies cry excessively and around one third of parents report sleep disturbances (Fisher et al., 2011; Winsper & Wolke, 2014; Raiha et al., 2002; Reijneveld et al., 2004). Few studies have researched the prevalence of infant sleep disturbance in low and lower-middle income (LALMI) countries. In a large cross-sectional study, Sadeh et al. (2011) reported a higher prevalence of parent reported sleep problems in “predominantly-Asian” countries (52%) compared to “predominantly-Caucasian” countries (26%), but did not analyse differences in factors associated with sleep behaviours including settling practices or numbers of caregivers in the household between LALMI and high and upper-middle income countries.

Caregivers’ understandings of, and responses to unsettled infants are informed by cultural context. Cultural norms around practices such as bed-sharing, and assumptions about appropriate bedtimes and sleep duration influence the prevalence of perceived sleep problems among infants (Mindell et al. 2010b). It is hypothesised that sleep disturbances reflect an over-reliance on settling strategies extrinsic to the infant (such as depending on caregiver presence to go to sleep) rather than fostering intrinsic factors such as autonomy and self-regulation. Active caregiver involvement in the techniques used to settle infants (such as comforting through holding, rocking, and feeding to sleep), and over-involvement with the

infant while they are settling to sleep have been associated with greater infant sleep problems (Mindell et al., 2010a; Sadeh et al., 2010).

Unsettled infant behaviours are a common source of concern for new parents. There appears to be a relationship between unsettled infant behaviours and parental mental health (Sadeh et al., 2010). Excessive infant crying can have serious effects on the confidence and emotional wellbeing of parents. The mothers of infants who cry excessively report significantly higher parenting stress and lower feelings of efficacy than the mothers of infants without sleep disturbance (Beebe et al. 1993). In high-income countries, clinical depression rates are approximately twice as prevalent amongst mothers with unsettled infants, and excessive infant crying is associated with higher depression scores among women six months postpartum (Vik et al., 2009; Karraker & Young, 2007).

Postnatal common mental disorders (PCMDs) are a significant health problem for women who have recently given birth in resource-constrained countries. PCMDs occur at a higher prevalence in low- and lower-middle income (LALMI) countries (19.8%) compared to high-income countries (13%) (Fisher et al., 2012). In Vietnam, the prevalence is higher still, with 18-30% of women experiencing a PCMD (Fisher et al., 2004; Fisher et al., 2010; Murray et al., 2015). An established literature reveals that PCMDs are predominantly socially determined in both high income and LALMI

settings (Fisher et al., 2012; Hanley, 2009). Infant crying episodes of greater than an average of ten minutes are associated with postnatal depression scores in the clinical range in Vietnam (Fisher et al. 2004). However there is limited research about parent's emotional responses to unsettled infant behaviour in LALMI countries, and how settling strategies can be used to enhance parental confidence and emotional wellbeing.

Unsettled infant behaviours can have a deleterious effect on the caregiver-infant relationship. Irritability and a lack of emotional availability have been associated with parental fatigue and can have an adverse effect on caregiver-infant interactions (Sadeh et al., 2010). Approximately five per cent of infants in high-income settings are slapped or shaken in the first six months of life, and such parental behaviours are associated with the perception that their infant's crying is excessive (Reijneveld et al., 2004; Fujiwara et al., 2016).

The aim was to describe caregivers' understandings of and responses to unsettled infant behaviours in Vietnam, and the family caregiving contexts in which it occurs.

Methods

Setting:

This study was undertaken in Thua Thien Hue Province, Central Vietnam. The province has a population of approximately one million people who live in Hue City and eight rural districts (Government of Thua Thien Hue Province, 2011). Thua Thien

Hue Province has two hospitals that provide tertiary maternal health care, as well as a network of commune health centres that provide primary care including antenatal and newborn health checks. There is also a network of district hospitals and commune health centres that provide primary and secondary maternal health care services. Two communes (one rural, Phu Xuan and one urban, Thuy Xuan) were selected as field sites in order to include participants from diverse socio-economic circumstances.

Participants and Recruitment

This study used a purposive sampling strategy to recruit women who were mothers of infants 0-6 months of age who were registered at two commune health centres in Thua Thien Hue Province (one urban and one rural). An additional convenience sample of grandmothers was recruited after it was ascertained that intergenerational caregiving of infants was common.

Data Sources

The question guide for mothers and grandmothers included structured questions on demographic information (age, marital status, residential area, occupation, number of people in the family and living in the house, parity and age and gender of children), and infant feeding practices (24 hour food recall, breastfeeding history,

breastfeeding problems). Questions on infant crying included open-ended questions to elicit descriptions of length and characteristics of infant crying episodes in the past two weeks and in their first month after birth, beliefs about why infants cry, and strategies used to settle the crying infant (types of settling techniques, people involved in settling the infant and the practice of skin-to-skin contact). The final section contained open-ended questions about where mothers learned about infant settling, who gave them this advice, and where they sought help. The question guide was translated from English to Vietnamese and pilot-tested with two women for comprehensibility, salience and cultural acceptability questions.

Procedures

Data collection took place from November 2014 to February 2015. Trained research assistants conducted semi-structured interviews with mothers and grandmothers in Vietnamese. The interviewers met with the mothers on more than one occasion to build rapport (an initial recruitment visit followed by at least one interview visit, and a further visit if a grandmother agreed to participate) and to make sure all domains of the question guide were covered. Interviews took place in participants' homes and were recorded on an MP3 recorder. Recordings were transcribed in Vietnamese and then translated into English. Two translators with postgraduate qualifications completed the translation (one conducted the translation and the other verified accuracy).

Ethics

Human Research Ethics Committees in Australia (University of Tasmania: approval no H001440), and Vietnam (Hue University of Medicine and Pharmacy: approved October 1, 2014) approved this research.

Data Management and Analysis

The translated transcripts were analysed using Nvivo (version 10) software for data management. Theoretical thematic analysis was then undertaken using the method outlined by Braun and Clarke (2006). Thematic analysis is driven by the researcher's theoretical area of interest rather than by approaching analysis without preconceived notions of what the data contains. The aim of analysis was to gain a nuanced description of the socio-cultural contexts and structural conditions that informed the individual accounts provided within the data (Braun & Clarke, 2006; Vaismoradli et al., 2013). The initial analysis was conducted by one researcher (LM), a bilingual Vietnamese researcher (TT) verified the final analysis to ensure that the themes accurately reflected the Vietnamese context

Results

All mothers with infants 0-6 months registered at the two Commune Health Centres were invited to participate and all agreed, resulting in interviews with 21 mothers.

As data collection progressed, the importance of intergenerational family members became apparent so a convenience sample of 3 grandmothers who lived with participating mothers were also recruited. Grandmothers were chosen as they were often present in the house during the day at the time of interview, when other extended family were often working elsewhere. Interviews lasted between 14-32 minutes with a mean duration of 18 minutes (SD 5.5). Longer interviews involved more than one family member (i.e both a mother and grandmother).

Participant Characteristics

Participants were aged between 25-43 years, and had between 1-3 children. Five women provided full time care for their children and the rest undertook paid work approximately 7-8 hours a day 5-6 days per week. Three women fished, three were tailors, three worked as accountants and the others were employed as teachers, doctors, or in hotels or factories.

Most participants had husbands who were employed at least 8 hours per day, 5-6 days per week. However two women had husbands who stayed at home due to injuries acquired at work. Five husbands worked in either fishing or construction industries. Others were employed in industrial companies, in hospitality or as public servants. One husband was a teacher and one was a doctor.

Thematic Analysis

Five major themes emerged from the data. Four aligned closely to the topics included in the question guide, and one new theme was identified. These themes related to infant settling techniques, sources of information on unsettled infant behaviour, understandings of the causes of infant crying, the emotional responses of caregivers. A final unexpected theme emerged relating to the intergenerational constitution of households:

Infant Settling Techniques

The most common strategy described for helping babies to sleep was breastfeeding. If this was not effective, mothers would try singing, rocking or rhythmically patting their infants in their arms, or supplement with formula milk if they attributed the crying to hunger:

“If he cries loudly, I will sing, and breast-feed. If he refuses to be fed, I will lull the baby to sleep, or pat him softly to stop him crying...If breast milk is not enough, I will supplement with formula milk.” – Mother, Phu Xuan (a rural commune), Age 43

Walking, patting and singing were also used by other family members:

“I: How did his grandmother soothe him?”

A: Carry him and walk back and forth” – Mother, Phu Xuan, Age 26

In all interviews we enquired about whether skin-to-skin contact (laying a naked infant on their mother or caregiver’s bare chest) was used as a soothing technique. Skin-to-skin contact was rarely used and some mothers were concerned this practice would make the baby uncomfortable due to becoming cold.

Information Sources and Education about Unsettled Infant Behaviour

Participants gained information about unsettled infant behaviours from previous experience of taking care of infants, or from older relatives. Older relatives were the most commonly mentioned sources of advice for women from both urban and rural areas of Thua Thien Hue. Other sources of information mentioned included the internet (particularly Google and Facebook), TV, and less commonly, books.

“I learned from older people, such as my mum and other mothers who have had experiences...I also find methods of child care from the Internet. I search about the way to take care of children on Google. Yes, It’s great.” - Mother, Thuy Xuan (an urban commune), Age 25

Women also often deferred to the experience of other family members if they could not settle their infant or had a problem they could not solve:

"Sometimes I cannot (stop her crying) and transfer her to her grandmother or father and she stops crying" – Mother, Thuy Xuan, Age 30

"If his father, grandparents or aunts are there, they can help me...I think maternal and paternal grandmothers have much experience, so they can soothe him better." – Mother, Thuy Xuan, Age 27

The grandmothers interviewed all stated that they had learned about infant care from their own mothers, and no other sources.

"I just followed my mum... I had nothing else" - Grandmother, Phu Xuan (age unknown)

Participants from both urban and rural areas stated they would not usually seek advice from health professionals on infant crying or settling. Although they would seek advice from health professionals for other matters or if they thought their infant was sick.

"I am familiar with the baby's crying, so I do not ask (health professionals), but I will ask the other information related to children's health" – Mother, Thuy Xuan, Age 30

Understandings of the Causes of Unsettled Infant Behaviour

Women from both urban and rural areas commonly attributed infant crying to the baby feeling lonely, abandoned or wanting attention:

"It can be because he wants to be held or he feels unsafe to be alone."- Mother, Phu Xuan, Age 29

"He cries because he feels lonely and needs to be comforted. If he wakes up at midnight and knows someone is beside him, he won't cry. Otherwise, he will cry." – Mother, Thuy Xuan, Age 27

Reasons given for why babies cried included hunger, being soiled, being cold or ill.

Some participants indicated that extended family believed excessive crying was caused by malnutrition. Many women described a situation where they had to negotiate with a relative who wanted to feed a crying infant formula to settle them:

"He was breast-fed for two hours but he was still crying. I didn't know how to stop his crying, meanwhile two grandmothers were convincing me that feeding him with 30ml formula milk can help him fall asleep. I did and still feel regret about that" – Mother, Thuy Xuan, Age 27

Spiritual Beliefs

Some respondents attributed excessive crying to spiritual beliefs specific to central Vietnam, and consulted monks at a Buddhist pagoda or traditional healers. Of the six participants that made comments relating to this, four were from a rural area.

One such belief relates to babies crying on particular days of the month when ancestors are worshipped. It was believed that on these days, babies may see or be unsettled by ghosts or ancestors that have passed away:

“It can be due to coming to a strange house, especially when you bring the baby to his grandparents’ houses. Therefore, you should burn incense in these houses.

Because, some people said ghosts love us, so we have to worship them and often burn incense....For example, in my sister’s baby’s case, if the baby cries, she will burn incense.” - Mother, Phu Xuan, Age 26

Another traditional understanding related to infants crying because their body or blood was too “hot” (đẹn), and a traditional healer was called to make small pricks with a needle all over the baby’s body to relieve this. In Vietnam it is common for people to explain illness using a humoral schema where health conditions are attributed to the body being out of balance by being too “hot” or “cold”, and traditional medicines are then sought to “re-balance” the condition (Doan, 2002).

"I don't know why my baby could not go to sleep, I asked other people. Maybe he doesn't sleep deeply because he has "đẹn"... This leads the baby to refuse to eat, sleep badly, and have diarrhoea. So I then have to invite someone who can do needling to treat đẹn.... He is a healer, who knows how to treat it." – Mother, Phu Xuan, Age 43

However other participants discounted such "causes" of unsettled behaviour as superstition, indicating such beliefs aren't universally held.

"I do not really believe in going to the pagoda or burning incense. I think all things have their own reasons. If a baby has any problem, the reason often comes from inside the body." – Mother, Phu Xuan, Age 29

No participants mentioned overtiredness or overstimulation as reasons for unsettled infant behaviour.

Emotional Responses of Caregivers with Unsettled Infants

Mothers described a number of emotional responses to infant crying, and responses did not differ significantly between urban and rural communes. Such responses included feeling stressed (*stress*), anxious (*Sốt ruột*), worried (*lo lắng*), and physical

sensations of nervousness in the stomach (*nóng ruột, hẫ hẫ trong bụng*) when they could not sooth their baby:

"I am nervous in my heart. I have to nurse him if he is crying" – Mother, Phu Xuan, Age 43

These emotions were explained in relation to a sense of helplessness about not knowing what to do (*bất lực*), and were resolved when mothers felt they had learned to discern the cause of unsettled behaviour:

"When I don't know the reason why, I can only cry with him" - Mother, Phu Xuan, Age 25

*"At first, when my baby was crying too much, I was anxious and perplexed because I didn't know why he cried. However, now I know all possible reasons and how to control them, so I feel normal and calm although he cries loudly. Only when I don't know reasons of his crying, I feel helpless (*bất lực*)" – Mother, Thuy Xuan, Age 27*

One participant also described a "loss of control" (*luống cuống*) where her limbs became unco-ordinated when her baby was crying excessively and she did not know how to respond:

“He cries and screams if I cannot prepare formula milk right away. So someone comes to sooth him, and I make formula milk for him...I lose my self-control (luống cuống) when hearing the baby crying” – Mother, Thuy Xuan, Age 29

Feelings of annoyance (*bực bõ*), tension (*căng thẳng*) and interpersonal conflicts with partners were also described as responses to babies who cried excessively:

“Sometimes my husband and I had small conflicts because our baby is crying too much” – Mother, Thuy Xuan, Age 25

Mothers also described themselves as feeling heartbroken or worried when they thought their baby may be ill or suffering:

“If he cries as normal, that's ok. But when he cries because of his sickness, I feel heart-broken and tired because that is my child.” – Mother, Thuy Xuan, Age 32

The other feeling repeatedly described throughout the interviews was tiredness (*mệt*) and feeling overwhelmed by responsibilities (*vất vả*). However, many participants expressed the opinion that this was “acceptable” or to be expected when caring for a newborn.

"I'm tired but I have to accept it... It is ok since I have not gone to work yet. I'm afraid I will be exhausted if I go to work...It's normal. You accept it, don't you? This is your love to the baby." - Thuy Xuan, Mother, Age 25

Intergenerational Household Context

Most participants described their living arrangements as a "three generation" household that included the participant, her husband and children, and at least one grandparent. This was the case for participants from both urban and rural areas. Other adults living in the house (usually the infant's grandparents) were actively involved in infant caring and settling. A communal living context was described where mothers and fathers worked up to eight hours per day and infants were cared for by other family members, usually the grandparents during this time. Parents (most often mothers) would then care for and feed the infants overnight:

"I sleep all night with him. Grandmothers help me with cooking and washing clothes." – Mother, Thuy Xuan, Age 32

It was reported that infants usually slept in a room with their mother and father. It was also common for mothers to sleep with the infant and their husbands to sleep in another room with other children. Most mothers described infants as sleeping in the

bed with them at night. Otherwise infants slept in a cot next to the bed and were moved between the parent's bed and the cot at different times of the day/night or when the weather was cold. Bed mattresses were typically made of thin foam, and cots could be either commercially made from wood or plastic with a mattress, or woven from materials such as rattan. Babies were generally clothed in many layers including hats, and covered in blankets when sleeping:

"In the day-time, he sleeps in a cradle. In the night-time, he sleeps with me in a bed from 7:30pm until the morning...his dad and the older brother also sleep in this bed."

– Mother, Thuy Xuan, Age 29

"Where does he sleep? A: Sometimes in a cot, sometimes in the middle of the bed" –

Mother, Phu Xuan, Age 43

"The baby sleeps in a cot, bed, sleeps in my arms. I always lie next to the baby, sleep in the same bed with him." – Mother, Thuy Xuan, Age 27

Discussion

This is the first qualitative study investigating caregiver's understandings of, and responses to unsettled infant behaviours in Vietnam. The inclusion of a diverse range of women from both urban and rural areas of Thua Thien Hue, and multiple

members of intergenerational families (mothers and grandmothers) strengthened the findings. Rigour was ensured through having a skilled bilingual research team involved in verifying the question guide, conducting data collection and confirming analysis.

To date, most research on infant sleep and settling has been conducted in western, high-income countries where infant care occurs in the context of nuclear families and multi-generation households are rare. Also, few cross-cultural studies investigating infant sleep consider the presence of intergenerational caregivers. The findings from this study illustrate that infants in Central Vietnam most commonly live with multiple adults of different generations, who share care provision, in particular during the day. Lundberg & Trieu also (2011) identified the requirement for Vietnamese parents to return to paid employment soon after the infants' birth as a major socio-economic factor for sharing caregiver responsibilities with other family members.

In high-income settings in Europe, the UK, US, Australia and New Zealand, public health campaigns have discouraged bed-sharing due to its association with sudden-unexplained deaths in infancy (Moon, et al., 2007). Societal perspectives about infant sleeping location are culturally informed, and in western, high-income countries, the prevalence of bed-sharing varies between 13-50 per cent (Ball & Volp,

2013). Bed-sharing is commonly practiced in Confucian countries such as China, where it is part of a cultural values system that places importance on reinforcing family bonds (Huang et al. 2010). Bed-sharing was very common amongst participants in this study, which is consistent with previous research suggesting most (83%) Vietnamese families practiced bed-sharing (Mindell et al., 2010b). Whilst it was most common for mothers to bed-share with infants, some families reported that husbands also bed-shared with the infant and other young children.

It was reported in this study that babies were sometimes covered in blankets and many layers of clothing including hats, even in hot and humid weather. This differs from high-income settings where it is advised that infants sleep on a firm surface uncluttered by extra bedding (e.g doonas, pillows), and babies are to be dressed to avoid overheating. Currently, it is difficult to know if infant deaths in LALMI countries such as Vietnam are associated with bed-sharing or bedding environments due to a lack of vital registration systems recording the causes of infant deaths and associated behavioural and household factors.

Parental perceptions about infant sleep are influenced by their own childhood sleeping arrangements and the cultural context of caregiving (Sadeh et al., 2011). Mothers and grandmothers who contributed data to this study stated that their main sources of information about infant sleep and settling were older relatives. Some participants mentioned traditional understandings of unsettled behaviour,

such as infants being “bothered” by ancestors or having symptoms traditionally understood as a condition known as “den”. Such understandings are important as they affect pathways through which parents seek care for unsettled infants. Where parents thought that such traditional causes were responsible for their infant’s crying, they were more likely to seek help from a traditional healer or pagoda than to consult a health professional.

The most common understandings of unsettled infant behaviours were that infants cried because they felt lonely and needed to be held, or were hungry. Techniques such as patting, rocking and singing were used, as well as ensuring someone was with the infant to settle them to sleep. This suggests a pattern of caregiving where infants are continuously held and attended to. Sadeh et al. (2011) has observed that in “predominantly-Asian” countries including Vietnam, parents had a greater presence at infant bedtimes and a higher frequency of involvement in infant night-time waking when compared with “predominantly-Caucasian” countries. It has been hypothesised that parental over-involvement in the sleep setting and feeding on-demand can reduce the quality and duration of infant sleep and increase unsettled behaviour (Fisher et al. 2011; Mindell et al., 2010a; Sadeh et al., 2010).

Excessive crying was often interpreted by extended family (such as grandmothers) as the baby being under-nourished. The belief that infants cry because the mother’s breast milk supply is insufficient has been documented in both high and LALMI

settings (Heinig et al., 2006; Khanal et al., 2015; Murray et al., 2016). There is also evidence that infant cues indicating tiredness (grizzling, crying and frowning) are commonly misinterpreted as hunger or boredom (Craig et al., 2000).

It has been reported that infants who have less total sleep within a twenty four hour period than the average for infants their age have more crying episodes, which are often linked to fatigue or overstimulation (Fisher et al. 2011; Hiscock & Jordan, 2004). Interestingly, none of the participants in this study mentioned tiredness or overstimulation as a reason for unsettled infant behaviour. Extended family (grandmothers) were considered the most influential sources of advice regarding infant setting, and most grandmothers reported that they learned about infant care from their own mothers. Parent's understandings of, and responses to infant cues are influenced by their own family and upbringing, but can be modified by education. Changes in caregiver knowledge and behaviour such as an awareness of the amount of sleep young infants require, and maintaining a regular routine can increase the amount an infant sleeps (Fisher et al. 2011). Therefore it is possible that education on infant sleep requirements, cues and settling strategies could be beneficial for caregivers in Vietnam.

There is currently little research explaining the relationship between unsettled infant behaviours and parental mental health and wellbeing in Vietnam, although

prolonged infant crying has been associated with higher Edinburgh Postnatal Depression Scores in Ho Chi Minh City (Fisher et al., 2004). This qualitative study did not include formal assessment of psychological state, but did explore how women described the emotional experience of trying to settle a baby. Most mothers in this study expressed emotions related to anxiety or distress when their infant was crying excessively. Other emotional responses to unsettled infants included feelings of helplessness, being overwhelmed, and a loss of control. These findings suggest that associations between unsettled infant behaviour, low confidence and increased parental stress found in high-income settings may also be present in Vietnam.

Limitations

Data were contributed to this study by a group of women who were mothering infants aged 0 – 6 months registered at local health centres in a rural and an urban area of Central Vietnam. The qualitative design of this study means the results are not generalizable to other LALMI countries, which may have different cultural traditions and health systems. It is acknowledged that infant sleep and feeding patterns change in the first six months, with the duration of crying episodes peaking around three months of age (Mindell, 2005). As participants were only interviewed twice over a four-week period, responses to infant behaviour that may be related to age could not be described. As the importance of intergenerational caring only became apparent after interviews commenced, the recruitment of extended family

members was not included in the original study design. The inclusion of a broader range of extended family (including both males and females) would have resulted in a richer dataset.

Recommendations

This study reports that infant care in Vietnam occurs in an intergenerational context that differs considerably from western, high-income countries in terms of the infant sleep environment, the way infant cues are interpreted, and the avenues through which carers of unsettled infants seek help. Educational interventions about the amount of sleep young infants require, interpreting infant cues and settling strategies may be helpful for assisting new parents to create a household environment that is optimal for infant sleep. However such interventions should include carers from multiple generations, address traditional understandings of the reasons infants cry, and acknowledge that multiple family members (including other children) often sleep in the same bed. Maternal and child health professionals could also be trained to include information on infant sleep into other opportunities for education on infant care (such as antenatal classes).

Research exploring factors relating to the infant sleep environment (bedding and sleeping arrangements) and epidemiological data on infant deaths is required to ascertain if guidelines on safe sleeping for infants in high-income countries could be

appropriately applied to LALMI settings such as Vietnam. Further quantitative research investigating the strength and nature of the associations between unsettled infant behaviour, parental stress, common mental disorders and the social circumstances of families in LALMI settings is also recommended. This is especially important as unsettled infant behaviour is a potentially modifiable influence on parental mental health and wellbeing.

Key Messages:

- The majority of research on responding to infant settling comes from high-income countries
- In Vietnam, infants are commonly cared for by people from multiple generations, particularly during the day.
- In Vietnam, infant settling is characterised by attending to infants immediately, breastfeeding and bed-sharing with parents during the night.
- Caregivers in Vietnam attributed infant crying to hunger and loneliness, as well as traditional beliefs about ghosts and humoral schemas
- Educational interventions on infant settling and sleeping may be successfully adapted in Vietnam if multiple generations are included and traditional beliefs about infant crying are addressed.

References:

- Ball, H.L. Volpe, L.E. (2013). Sudden Infant Death Syndrome (SIDS) risk reduction and infant sleep location - moving the discussion forward. *Social Science and Medicine*, **79**, 84-91.
- Beebe, S. Casey, R. Pinto-Martin, J. (1993). Association of reported infant crying and maternal parenting stress. *Clinical Pediatrics*. **32**(1), 15 - 9
- Braun, V. Clarke. V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, **3**(2), 77-101.
- Craig, K. Gilbert-Macleod, C. Lilley, C. (2000). *Crying as an indicator of pain in infants*. In: Barr R, Hopkins, B., Green J., editors. Crying as a sign, a symptom and a signal. London: MacKeith Press.
- Doan, V.H. (2002). *Traditional and Modern Medicine*. In: Nguyen VT, editor. An introduction to Vietnam and Hue. Hue: Hue University International Centre.
- Douglas, P.S. Hiscock, H. (2010). The unsettled baby: crying out for an integrated, multidisciplinary primary care approach. *Medical Journal of Australia*, **193**(9), 533-536.
- Fisher, J. Cabral de Mello, M. Patel, V. Rahman, A. Tran, T. Holton, S. & Holmes, W. (2012). Prevalence and determinants of common perinatal mental disorders in women in low-and lower-middle-income countries: A systematic review. *Bulletin of the World health Organisation*, **90**, 136-149H.

Fisher, J. Morrow, M. Ngoc, NTN. & Anh, LTH. (2004). Prevalence, nature, severity and correlates of postpartum depressive symptoms in Vietnam. *British Journal of Gynaecology*, **111**(12), 1353-1360.

Fisher, J.R. Hiscock, H. Jordan, B. Bayer, J. Calahan, A. & Amery, V. (2011). *Understanding and responding to unsettled infant behaviour. A discussion paper for the Australian Research Alliance for Children and Youth*. Australian Research Alliance for Children and Youth.

Fisher, J. Tran, T. Boi, LT. Kriitmaa, K. Rosenthal, D. & Tran, T. (2010). Common perinatal mental disorders in northern Viet Nam: Community prevalence and health care use. *Bulletin of the World Health Organisation*, **88**, 737-745.

Freedman, SB. Al-Harthi, N. Thull-Freedman, J. (2009). The crying infant: Diagnostic testing and frequency of serious underlying disease. *Pediatrics*, **123**(3), 841-848.

Fujiwara, T. Yamaoka, Y. Morisaki, N. (2016). Self-reported prevalence and risk factors for shaking and smothering among mothers of 4-month old infants in Japan. *Journal of Epidemiology*. **26**(1), 4-13.

Government of Thua Thien Hue Province. (2011). Thua Thien Hue Portal. Retrieved from <http://www1.thuathienhue.gov.vn/>

Hanley, J. (2009). *Perinatal Mental Health: A Guide for Health Professionals and Users*. Wiley-Blackwell: Brisbane.

Heinig, M.J. Follet, J.R. Ishii, K.D. Kavanagh-Prochaska, K. Cohen R. and Panchula, J. (2006). Barriers to compliance with infant-feeding recommendations among low-income women. *Journal of Human Lactation*. **22**(1), 27-38.

Hiscock, H. Jordan, B. (2004). Problem crying in infancy. *MJA Practice Essentials – Paediatrics*, **181**(9), 507-12.

Huang, X. Wang, H.S. Zhang, L.J. Liu, X.C. (2010). Co-sleeping and children's sleep in China. *Biological Rhythm Research*, **41**(3), 169-181.

- Karraker, K. Young, M. (2007). Night waking in 6-month-old infants and maternal depressive symptoms. *Journal of Applied Developmental Psychology*, **28**(5-6), 493-498.
- Khanal, V. Lee, H. Karkee, R. Binns, C. (2015). Postpartum breastfeeding promotion and duration of exclusive breastfeeding in western Nepal. *Birth*, **42**(4), 329-336.
- Lundberg, P. Trieu, T.N.T. (2011). Vietnamese women's cultural beliefs and practices related to the postpartum period. *Midwifery*, **27**, 721-736.
- Mindell, J. Sadeh, A. Kohyama, J. & How, T.H. (2010a). Parental behaviors and sleep outcomes in infants and toddlers: A cross-cultural comparison. *Sleep Medicine*, **11**, 393-399.
- Mindell, J. Sadeh, A. Wiegand, B. How, T.H. & Goh, DYT. (2010b). Cross-cultural differences in infant and toddler sleep. *Sleep Medicine*, **11**, 274-280.
- Mindell, J. (2005). *Sleeping through the night*. New York: Harper Collins.
- Moon, R.Y. Horne, R.S.C. Hauck, F.R. (2007). Sudden infant death syndrome. *Lancet*, **370**, 9598 1578-1587.
- Murray, L. Beggs, S. Ayton, J. Angrahhini, S.M. & Woda, R. (2016). Exclusive breastfeeding and the acceptability of donor breast milk for sick, hospitalized infants in Kupang, Nusa Tenggara Timur, Indonesia: A mixed-methods study. *Journal of Human Lactation*. In Press
- Murray, L. Dunne, M. Vo, V.T. Phuong, A. Khawaja, A. Cao, N.T. (2015). Postnatal depressive symptoms amongst women in Central Vietnam: a cross-sectional study investigating prevalence and associations with social, cultural and infant factors. *BMC Pregnancy and Childbirth*, **15**, 234.
- Raiha, H. Lehtonen, L. Huhtala, V. Saleva, K. & Korvenranta, H. (2002). Excessively crying infant in the family: Mother-infant, father-infant and mother-father interaction. *Child: Care, Health and Development*, **28**(5), 419-429.
- Reijneveld, S. van der Wall, M.F. Brugman, E. Sing, R.A. Verloove-Vanhorick, S.P. (2004). Infant crying and abuse. *The Lancet*, **364**(9442), 1340-1342.
- Sadeh, A. Tikotzky, L. Scher, A. (2010). Parenting and infant sleep. *Sleep Medicine Review*, **14**(2), 89-96.

Sadeh, A.M. Mindell, J. Rivera, L. (2011). "My child has a sleep problem": A cross-cultural comparison of parental definitions. *Sleep Medicine*, **12**(5), 478-482.

Vaismoradli, M. Turunen, H. Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, **15**(3), 398-405.

Vik, T. Grote, V. Escibano, J. Socha, J. Verduci, E. Fritch, M...Koletzko, B. (2009). Infantile colic, prolonged crying and maternal postnatal depression. *Acta Paediatrica*, **98**(8), 1344-1348.

Winsper, C. Wolke, D. (2014). Infant and toddler crying, sleeping and feeding problems and trajectories of dysregulated behavior across childhood. *Journal of Abnormal Child Psychology*, **42**, 831-843.

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