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Responding to evidence: Breastfeed baby if you can — the sixth public health recommendation to reduce the risk of sudden and unexpected death in infancy

Key Words: *breastfeeding, sudden infant death syndrome, sudden unexpected deaths in infancy, evidence-based practice, public health recommendations*

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ABSTRACT

Abundant evidence recognises breastfeeding as being associated with significant short and long term health benefits for both infant and mother. Until recently, the role of breastfeeding as an independent factor in reducing risk for sudden unexpected infant death remained unclear. In October 2010, SIDS and Kids Australia held a consensus forum with international researchers and key stakeholders to review current evidence relating to safe infant sleeping recommendations. Following this forum and the publication of key reviews, the SIDS and Kids National Scientific Advisory Group has supported the decision that a critical threshold had been reached within the evidence that is supportive of breastfeeding as a specific risk reduction measure for sudden unexpected death in infancy. A sixth recommendation, Breastfeed baby if you can, will be included in the 2012 SIDS and Kids Safe Sleeping national public health campaign.

INTRODUCTION

It is recognised universally that breastfeeding not only contributes significantly to improved infant health and lowered infant mortality but that it can also offer life long protection against several chronic illnesses (U.S. Department of Health & Human Services 2011; National Health & Medical Research Council [NHMRC] 2003, 2011; Chen & Rogan 2004; National Public Health Partnership 2001). The positive health implications that are known to be associated with breastfeeding for both mother and infant have formed the basis of national and international policy in relation to nutritional guidelines and also in relation to health care provision for support of breastfeeding (NHMRC 2011; Commonwealth of Australia 2009; World Health Organisation 2003, 2011).

While the role of breastfeeding in reducing infant mortality remains unchallenged, the relationship between breastfeeding and sudden and unexpected death in infancy (SUDI), including sudden infant death syndrome (SIDS) as a protective factor, has been an area of debate in recent years relating to quality of evidence on which to base public health recommendations. Variation in subject selection criteria, definitions used for SIDS and SUDI, definitions of breastfeeding exposure, and adjustment for potential confounders (Ip et al 2007), have contributed to the difficulty in rigorously evaluating the evidence in order to ascertain whether breastfeeding is an independent protective factor for reducing sudden and unexpected infant deaths.

It is undisputed that public health policies should be based on the best available knowledge, derived from

diverse sources and evidence-based methods (NHMRC 2009; Rix & Matete 2005). Braveman and colleagues (2011) propose that the standards for evidence to guide public health and social policies must be equally rigorous but also more comprehensive than those traditionally used to inform clinical interventions, as public health and social policies must deal with upstream factors that affect health through complex causal pathways over potentially long time periods (Braveman et al 2011).

The Australian National Health and Medical Research Council's most recent guidelines on determining levels and grades of evidence now reflect the best study types for the specific type of question; no longer considering randomised controlled trials as being the only designs to achieve the Level 1 evidence category. Systematic reviews that include meta-analyses appear at the top of the hierarchy of evidence; reflecting that if rigorously conducted, they should give us the best possible estimate of any true effect (NHMRC 2009).

In the last five years, several meta-analyses have been conducted examining breastfeeding as a protective factor for SIDS (Hauck et al 2011; Ip et al 2007; McVea, Turner & Peppler 2000). The Australian nongovernment agency SIDS and Kids, recognised for their active support in the distribution of the safe infant sleeping public health recommendations, has been considering this accumulating evidence. In 2012, SIDS and Kids will launch a new public health campaign promoting safe infant sleeping messages which will contain a sixth message relating to the role of breastfeeding in reducing risk of sudden unexpected infant death. This paper will briefly outline current definitions used in the classifications of SUDI and SIDS; the benefits of breastfeeding; the history of breastfeeding in Australian safe sleeping public health recommendations; and evidence relating to the specific role of breastfeeding in reducing sudden, unexpected deaths in infancy. Current recommendations relating to key infant care practices influenced by breastfeeding (ie pacifier use, co-sleeping) will be discussed to inform provision of evidence-based parent advice by health professionals and parent support organisations.

Definitions used in describing sudden and unexpected infant deaths

Sudden Unexpected Deaths in Infancy (SUDI) is a research classification that does not correspond with any single medical classification, the International Classifications of Diseases categories or Australian Bureau of Statistics categorisation. Currently, there is no single, internationally agreed definition. In Australia, working criteria used for the SUDI grouping includes infant deaths less than one year of age that were sudden, unexpected (no previous known condition likely to cause death), in which cause of death is not immediately obvious (Commission for Children & Young People and Child Guardian [CCYPCG] 2011).

SIDS is a subset of SUDI and is a classification of exclusion. The definition for SIDS (Krous et al 2004), currently accepted in Australia and by a majority of experts internationally, is: *the sudden and unexpected death of an infant under one year of age, with onset of the lethal episode apparently occurring during sleep, that remains unexplained after a thorough investigation including performance of a complete autopsy and review of the circumstances of death and the clinical history. (Krous et al 2004, p 234).*

SUDI is a broad category of sudden and unexpected deaths which include SIDS and deaths that remain undetermined; deaths associated with infections or anatomical or developmental abnormalities not recognised before death; sleep accidents due to unsafe sleep environments, and sudden unexpected deaths that are revealed by investigations to have been the result of non-accidental injuries (CCYPCG 2011).

Most SUDI deaths occur as a result of either SIDS or a fatal sleep accident. Epidemiological investigations have shown that many of the maternal, infant and socio-demographic risk factors for SIDS are common to SUDI and fatal sleep accidents, therefore safe sleeping strategies will target all three of these causes of infant death (CCYPCG 2011, NSW Child Death Review 2005). In this paper, the more inclusive term SUDI will be used to describe sudden infant deaths unless the specific paper under discussion used the SIDS classification.

Benefits of breastfeeding for infants

Human milk is a superior form of nutrition that is uniquely suited to infants and has sufficient nutritional value to support infant growth and development for the first 6 months of life when provided exclusively, and in addition to complementary foods (solids), for the first year and beyond (NHMRC 2003, 2011). There is significant evidence supporting the benefits of exclusive breastfeeding to infant wellbeing in both the short and long term. Initially, newborn infants gain the healthiest start for their immature systems through protection against common gastrointestinal and respiratory infections, and a reduced frequency and severity of episodes that do occur during the first year of life (Ladomenou et al 2010; Ip et al 2007; Hanson & Korotkova 2002; Kramer et al 2001). Breastfeeding has been linked to improved cognitive development in infants (Kramer et al 2008) and when examining psychological benefits, breastfeeding encourages regular skin-to-skin contact between mother and infant which optimises opportunities for maternal-child attachment (Moore, Anderson & Bergman 2009).

When observing individual health in later life, associations have been made between breastfeeding and reduced asthma, eczema and other allergic (atopic) conditions (Horta et al 2007; Ip et al 2007). Lower rates of coeliac (Akobeng et al 2006) and inflammatory bowel

disease (Barclay et al 2009) as well as lower serum lipid levels (LDL) (Owen et al 2008), lower glucose levels and reduced incidence of blood pressure problems have each been associated with breastfeeding (Ip et al 2007; Martin, Gunnell & Smith 2005; Horta et al 2007). Breastfeeding for at least six months has been associated with a lower incidence of childhood leukaemia (acute lymphoblastic leukaemia) (Ip et al 2007). There is also considerable evidence that being breastfed reduces the risk of obesity throughout all stages of a persons life (Owen et al 2005; Horta et al 2007; Ip et al 2007; Monasta et al 2010; NHMRC 2011).

Benefits of breastfeeding for mothers

Breastfeeding has well documented short and long term maternal health benefits which many mothers are aware of (Bolling et al 2007). Benefits include a reduced incidence of anaemia and associated complications post partum (Sobhy & Mohame 2007); prolonged return of menstruation (Lopez, Hiller & Grimes 2002) and low incidence of pregnancy (Gross & Burger 2002; Hiller); reduced Type 2 Diabetes for especially for women who experienced gestational diabetes (Ip et al 2007); and lower incidence of breast and ovarian cancer in later life (Ip et al 2007; U.S. Department of Health and Human Services 2011). Breastfeeding offers economic benefits for the family and for society as a whole. Infant formula feeding has significant cost implications within a family budget, and society in general benefits considerably through the reduced occurrence of common childhood illnesses known to be improved by breastfeeding (Smith, Thompson & Elwood 2002; NHMRC 2011).

National and international recommendations

The World Health Organization (WHO) recommends the initiation of breastfeeding exclusively up to 6 months of age to be followed with continued breastfeeding and the introduction of appropriate complementary foods up to 2 years of age and beyond (World Health Organization 2003, 2011). In January 2011, the Surgeon General in the USA published a call to action to increase national breastfeeding rates, citing the health, economical, and psychosocial benefits for their nation (U.S. Department of Health and Human Services 2011).

Current Australian infant nutritional guidelines propose the provision of exclusive breast milk until around 6 months of age (22–26 weeks) when complementary food is introduced, with breastfeeding to continue for the first 12 months and beyond (NHMRC 2003, 2011). The Australian National Breastfeeding Strategy 2010–2015 details Australia's commitment to supporting, promoting and monitoring breastfeeding on a national level (Commonwealth of Australia 2009). This strategy document bases its measures on the concept of the breastfeeding continuum; recognising that the nutritional needs of the infant and the support services necessary for the mother evolve over time and that health care providers need to meet the challenges this presents (Commonwealth of Australia 2009).

Historical perspective: Breastfeeding and sudden unexpected deaths in infancy

In 1987, the National SIDS Council of Australia held a scientific symposium, attended by national and international experts, to review the evidence in relation to risk and protective factors for sudden infant death syndrome. As a result of this forum, the *Reducing the Risks of SIDS* campaign was developed and launched in 1991 (Henderson-Smart, Ponsonby & Murphy 1998). Breastfeeding was officially recognised as a protective factor against sudden infant death syndrome and included as a Reducing the Risk of SIDS message in 1991 following the endorsement of scientific symposium participants at that time. The original campaign emphasised four main recommendations: Sleep your baby on his or her side or back; Do not let your baby get too hot; Keep your baby in a smoke free environment (ie avoid smoking in pregnancy and the first year); and Feed your baby breast milk if possible (Cooper & Lumley 1996; Henderson-Smart, Ponsonby & Murphy 1998).

Between 1991 and 1997, research into potential causal and preventative relationships for sudden infant death reported findings that were inconclusive in relation to breastfeeding once other factors (eg infant sleep position, maternal smoking status, socioeconomic status) were controlled for. Having no direct evidence-based link between breastfeeding as a specific risk reduction measure for SIDS impelled the National SIDS Council of Australia to remove breastfeeding from the Reduce the Risk recommendations in 1997 (Henderson-Smart, Ponsonby & Murphy 1998). The four messages were reduced to three key recommendations in the 1997 KIDS&SIDS Three ways to reduce the risk campaign: Put your baby on the back to sleep; Make sure your baby's head remains uncovered during sleep; Keep your baby smoke-free, before birth and after (Henderson-Smart, Ponsonby & Murphy 1998). In 2002, these three recommendations were relaunched nationally in the SIDS and Kids Safe Sleeping campaign, with wording revised for clarity.

Women continued to be encouraged to breastfeed for all of the well documented benefits; however, the role of breastfeeding as a protective factor for SIDS remained unclear.

Researchers and public health agencies have continued to respond to the scientific evidence that has highlighted further ways that parents can modify infant care practices to reduce their baby's risk of dying suddenly and unexpectedly. Since 2002 the safe sleeping recommendations have been adapted and, as of December 2011, SIDS and Kids promote five key Safe Sleeping messages based on the modifiable risk factors

which parents and health professionals can influence the most (SIDS and Kids 2011):

- Sleep baby on the back from birth — never on the tummy or side
- Sleep baby with head and face uncovered
- Avoid exposing babies to cigarette smoke, before and after birth
- Provide a safe sleeping environment, night and day: safe cot, safe mattress, safe bedding and safe sleeping place
- Sleep baby in their own cot or bassinette in the same room as the parents for the first 6–12 months.

The balance of evidence has strengthened in support of breastfeeding as a protective factor against sudden infant death in recent years. Studies which have highlighted the increased arousability of breastfed babies compared to non-breastfed infants have contributed to this evidence-base. In addition there was mounting recognition of the major short and long-term health benefits that are associated with breastfeeding for both mother and infant. While still being unable to endorse breastfeeding as a specific protective factor, SIDS and Kids Australia developed an information statement advocating breastfeeding for optimal health and wellbeing of infants and reduction of infant mortality generally (SIDS and Kids 2008).

Accumulating evidence over last 15 years

Since breastfeeding was removed as a risk reduction strategy for SIDS in 1997 many population research studies and several meta-analyses have focused on the relationship between breastfeeding or formula-feeding and sudden infant death syndrome.

McVea, Turner & Peppler (2000) in their meta-analysis of breastfeeding and SIDS identified that there was a two-fold increased incidence of SIDS amongst infants who were bottle-fed. Alm et al (2002) demonstrated a relationship, although weak, between breastfeeding and SIDS reduction in their case control study.

Byard and colleagues (1995) identified greater arousability and higher levels of docosahexaenoic acid in breastfed infants compared to bottle-fed infants. This long chain fatty acid has been associated with more mature infant sleep patterns (Cheruku et al 2002, Moon et al 2007).

Horne et al (2004) demonstrated that arousal patterns during active sleep were significantly more frequent in breast fed babies than in bottle-fed infants. Interestingly, Matturri and colleagues (2004) identified that in infants whose deaths had been attributed to SIDS, there was a significant relationship between the severity of atherosclerotic vessel disease present in the infants' major coronary arteries, and the incidence of formula feeding and exposure to cigarette smoke. These combined risk factors were also seen to have a compounding effect on the extent of the disease observed (Matturri et al 2004).

In 2007, the Agency for Healthcare Research and Quality published a summary of systematic reviews and meta-analyses on breastfeeding and maternal and infant health outcomes in developed countries (Agency for Healthcare Research and Quality 2007; Ip et al 2007). This report reaffirmed health risks associated with formula-feeding and early breastfeeding cessation and included a meta-analysis which addressed the limitations identified in previous studies and systematic reviews. Ip and colleagues (2007) found statistically significant reductions in risk for SIDS for 'ever breastfed' infants. This analysis used only studies (n=6) which provided a clear definition of SIDS (autopsy confirmed SIDS among infants 1 week to 1 year of age), clear reporting of breastfeeding data, and outcomes adjusted for important confounders or risk factors (eg sleep position, maternal smoking, socioeconomic status). Results demonstrated that 'ever' breastfeeding was associated with a reduction in the crude and adjusted risk of SIDS [crude OR 0.41; 95%CI (0.28, 0.58), and adjusted 0.64; 95%CI (0.51, 0.81), respectively]. The authors concluded that the risk of sudden infant death syndrome is 56% higher among infants who are never breastfed (Ip et al 2007, U.S. Department of Health and Human Services 2011) compared to 'ever breastfed' infants. However, the authors did not report results for exclusive breastfeeding or specific durations.

Vennemann and colleagues (2009) examined the relationship between SIDS and breastfeeding in a German case-control study examining risk factors for SIDS. Exclusive breastfeeding at 1 month of age halved the risk. Partial breastfeeding at the age of 1 month also reduced SIDS risk, but after adjustment the risk was not significant. Breastfeeding survival curves showed both partial breastfeeding and exclusive breastfeeding were associated with a reduced risk of sudden infant death syndrome. The authors concluded that breastfeeding reduces the risk of SIDS by 50% at all ages throughout infancy (Vennemann et al 2009).

Most recently, Hauck and colleagues (2011) conducted a meta-analysis to address this relationship. In this review, 18 case-controlled studies were included in the analysis of the relationship between 'any' breastfeeding and SIDS risk reduction. Studies were grouped according to the exclusivity and duration of breastfeeding. For babies who received any amount of breastmilk for any duration the univariate summary odds ratio (SOR) was 0.40 (95% Confidence Interval (CI): 0.35–0.44) and the multivariable SOR was 0.55 (95% Cl: 0.44–0.69). The univariable SOR for exclusive breastfeeding of any duration was 0.27 (95% Cl: 0.24–0.31). Hauck and colleagues (2011) concluded that any duration of breastfeeding is protective against SIDS, while the protective effect is stronger for exclusive breastfeeding. The authors argue, that while causation cannot be proven based on evidence from case-control studies (which would be unethical and unrealistic to conduct), that factors that have been proposed to support

causality in observational studies were found in this meta-analysis: consistent findings, strong association, dose-response effect, causal factor preceding outcome, and biological plausibility (Hauck et al 2011).

The concept of reducing the risk for sudden infant death is important as it recognises that there are often many variables within the environment and inherently present in an infant that in themselves do not constitute a great risk, but rather the accumulation of individual risk factors cause an exponentially higher risk to the infant. Kahn et al (2003) highlighted this notion when identifying infants who are potentially susceptible to sudden infant death syndrome will become even more so when exposed to additional risk factors.

Current safe infant sleeping recommendations

Since 1997, the Australian public health recommendations have promoted breastfeeding as an optimal infant care practice, but not as a specific risk reduction message for sudden infant death. In October 2010, SIDS and Kids held an international consensus forum with researchers and key stakeholders to review the evidence that supports national safe infant sleeping public health recommendations. Mitchell and colleagues (2011) have detailed the results of this consensus forum and the resulting infant care practice recommendations.

Following this forum and the publication of key systematic reviews (Hauck et al 2011), the SIDS and Kids National Scientific Advisory Group has supported the decision that a critical threshold had been reached within the evidence that is supportive of breastfeeding as a specific risk reduction measure for sudden unexpected death in infancy. A sixth recommendation, Breastfeed baby if you can, will be included in the 2012 SIDS and Kids Safe Sleeping national public health campaign.

Table 1: Six ways to reduce the risk of sudden unexpected death in infancy and sleep baby safely

1. Sleep **baby on the back** from birth, not on the tummy or side
2. Sleep baby with **head and face uncovered**
3. Keep baby **smoke free** before birth and after
4. Provide a **safe sleeping environment** night and day
5. Sleep baby in their **own safe sleeping place** in the **same room as an adult care-giver** for the first six to twelve months
6. **Breastfeed** baby if you can

Infant care practices that impact breastfeeding

Factors that either protect or increase the risk of infant death cannot be considered in isolation when considering human behaviours and infant care practices. Two infant care practices associated with breastfeeding but also known to be associated with the risk of sudden unexpected infant deaths in infancy are pacifier (dummy) use and co-sleeping.

Pacifier use

Debate continues over pacifier use as a strategy to reduce the risk of sudden infant death and the negative impact of pacifier use on the establishment of breastmilk supply and breastfeeding duration (Nelson, Yu & Williams 2005; Hauck, Omojokum and Siadaty 2005; Callaghan et al 2005; Mitchell, Blair & L'Hoir 2006). Meta-analyses of available case-control studies have demonstrated a consistent reduction in the risk for SIDS with pacifier use (Callaghan et al 2005; Mitchell, Blair & L'Hoir 2006; Hauck, Omojokum and Siadaty 2005). However, mechanisms by which pacifiers have this effect remain unknown. In addition, well documented disadvantages associated with pacifier use include reduced breastfeeding initiation and duration (Callaghan et al 2005); significantly more middle ear, oral and gastrointestinal infections (Marter & Agruss 2007; Mitchell, Blair & L'Hoir 2006); and accidents associated with pacifier use (Simkiss, Sheppard & Pal 1998; Callaghan et al 2005; Mitchell, Blair & L'Hoir 2006). There is also concern that for babies who routinely use pacifiers, the risk of sudden infant death may actually be increased if the infant is placed to sleep without one (Fleming et al 1999).

Authors of these meta-analyses have varied slightly in parent advice, illustrating differences in interpretations of similar results; adding to this debate. Callaghan and colleagues (2005) concluded that due to the important advantage that breastfeeding confers on all children, the negative impact of pacifiers on breastfeeding outcomes, and the low incidence of SIDS, health professionals should generally advise parents against pacifier use, while taking into account individual circumstances. In contrast, Hauck, Omojokum and Siadaty (2005) and the American Academy of Pediatrics Taskforce (2011) support dummy use as a SIDS risk reduction strategy, recommending that parents introduce and use dummies up until the age of one year. For breastfed infants, parents are recommended to delay pacifier introduction until breastfeeding has been firmly established; usually 3–4 weeks of age (American Academy of Pediatrics, 2011). The authors of the other key meta-analysis (Mitchell, Blair & L'Hoir 2006) urged caution; arguing that understanding of any direct protective effect was required, in addition to consideration of negative impacts on breastfeeding and infection rates. These authors recommended that pacifiers should not be actively discouraged, but did not specifically recommend pacifier use.

Consistent with advice promoted in New Zealand, Britain, much of Europe, and the International Society for the Study and Prevention of Infant Death, current Australian public health recommendations (Mitchell et al 2011) relating to pacifier use and the risk of sudden infant death should include the following advice to parents. If parents choose to use a pacifier and wish to breastfeed, it is recommended that pacifier use is introduced after breastfeeding has been established; usually after the first 4–6 weeks. Parents are also advised not to force a child

to use a pacifier, and if the pacifier falls out of the mouth during sleep, not to reinsert it (Mitchell et al 2011).

Bed-sharing and co-sleeping

The practice of sharing sleep with an infant remains a controversial topic in sudden infant death research. Terminologies which differentiate between practices that are associated with different levels of risk are very important when providing practical advice to parents (Young 1999), and in understanding the difficulties of interpreting research results that examine this practice (Vennemann et al 2012). In developing guidelines for increasing the safety of shared sleep environments whilst supporting breastfeeding families, UNICEF (2004) has differentiated between co-sleeping and bed-sharing. UNICEF (2004) defines co-sleeping as a mother and/or her partner (or any other person) being asleep on the same sleep surface as the baby; while bed-sharing refers to bringing baby onto a sleep surface when co-sleeping is possible, whether intended or not.

Co-sleeping is the social norm for approximately 90% of the world's population, with two thirds of the world's cultures practising mother-infant co-sleeping on the same bed or sleeping surface (McKenna and McDade 2005). Sharing a sleep surface with a baby is a common child care practice which appears to be increasing in mainstream Australia with the majority of Indigenous families (>90%) and between 51–80% of non-Indigenous families habitually bringing their babies into the parent bed during the first 6 months of life (Rigda, McMillen & Buckley 2000; Young et al 2007; Douglas, Buettner & Whitehall 2001; Panaretto et al 2002; Schluter & Young 2002).

Sharing a sleep surface with a baby is a complex issue that encompasses many factors. Co-sleeping has been associated with enhanced maternal-infant bonding and maternal responsiveness (Baddock et al 2006, Baddock et al 2007; McKenna & McDade 2005; Young 1998, 1999; Ball 2006); improved settling with reduced crying (McKenna, Ball & Gettler 2007; Young 1999); improved maternal and infant sleep with increased arousals (Horsley et al 2007; Mosko, Richard & McKenna 1997a, 1997b; Young 1999); increased duration of breastfeeding (Horsley et al 2007; McKenna, Ball & Gettler 2007; Blair, Heron & Fleming 2010; Möllborg et al 2010); lower intervals between breastfeeds (Gettler and McKenna 2011); reduced incidence of artificial feeding (Pemberton 2005; Möllborg et al 2010) and reduced pacifier use (Möllborg et al 2010).

However, studies have demonstrated an increased risk of sudden infant death and fatal sleeping accidents associated with sharing a sleep surface with a baby under some circumstances. A recent meta-analysis (Vennemann et al 2012) which attempted to resolve the ongoing debate has concluded that bed-sharing (co-sleeping) does increase the risk of SIDS. The risk is greatest when parents smoke and for infants less than 12 weeks of age. Previous studies have also highlighted the significant interaction between co-sleeping and the parental use of alcohol and drugs, and the excess of co-sleeping deaths on sofas (Blair et al 1999). A limitation acknowledged with this meta-analysis was that only recent studies included in the review separated sleeping with adults in a parental bed from infants sleeping with a parent on a sofa (Vennemann et al 2012).

In terms of public health advice it is still a subject of considerable debate as to whether a strategy to advise against all co-sleeping or only co-sleeping in hazardous circumstances, is most appropriate. At a minimum, families should be warned against co-sleeping when either parent smokes, or if alcohol or drugs have been consumed, and to avoid inappropriate sleeping surfaces such as sofas. Parents should be made aware that young infants are particularly at risk, regardless of whether either parent smokes (Vennemann et al 2012). This advice is consistent with current Australian public health recommendations (Mitchell et al 2011, SIDS and Kids 2011 FAQ) and health department policies (Queensland Health 2008) which endorse the recommendation that the safest place for a baby to sleep is in a safe, separate sleeping environment in the same room as their parent or caregiver. These recommendations also recognise that risk reduction advice for parents who choose, or who have no option but to share a sleep surface with their baby, should be provided to all parents to allow informed decision making, individual family circumstances and cultural practices.

Additional studies to analyse the contribution of multiple simultaneous factors (such as bed-sharing and breastfeeding or pacifier use and breastfeeding) to SIDS risk are needed (Hauck et al 2011).

CONCLUSION

Some have argued that bed-sharing and co-sleeping following risk reduction principles and avoidance of pacifier use supports exclusive breastfeeding (Howard et al 2003, Smith 2011). Public health recommendations around sudden unexpected infant deaths may differ between countries for those factors for which there is currently insufficient evidence to issue blanket statements for or against these practices, which include co-sleeping and pacifier use. For parents to make informed decisions about the infant care practices they use, health professionals have an important role in ensuring that parents are provided with clear information about the evidence base for both the risks and benefits of these practices, particularly when these practices may impact on breastfeeding outcomes.

The consideration of evidence relating to population health factors involves a continuous cycle of assessing the reliability and quality of original research using the most rigorous techniques available to health researchers. Currently, the evidence for breastfeeding is clear. Breastfeeding should be recommended for all newborn infants to enhance maternal

and infant wellbeing, and the accumulating evidence supports the addition of sudden infant death risk reduction to a long list of maternal and infant benefits (Hauck et al 2011). In view of this evidence, SIDS and Kids Australia will be adding a sixth message to the 2012 safe sleeping campaign: *Breastfeed baby if you can*.

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