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Original Citation

Straw, Joanne and Jones, Pat (2017) Parent-infant co-sleeping and the implications for sudden infant death syndrome. Nursing Children and Young People, 29 (10). pp. 24-29. ISSN 2046-2336

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An Overview of the Evidence: To explore the Risks and Benefits of parentinfant co-sleeping to inform practice.

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Abstract

Following the amendments to the National 'Postnatal clinical guidance 37' in December 2014 and February 2015 (National Institute for Health Care Excellence (NICE), 2015) the practice of parents and their infants co-sleeping has been a topic of continuing controversy and debate. The emphasis of this guidance is to provide parents with balanced information so that they can make informed decisions about where their babies sleep rather than highlighting the risks. This contradicts previous public health messages on co-sleeping which discourages parents from sleeping with their babies (Department of Health (DH), 2009a). Consequently, the current national guidance has been criticised for failing to provide parents with safer sleep information and this had led to widespread confusion for both parents and professionals.

Health professionals have a fundamental role to play in the delivery of safer sleep advice in order to support parents in their decision making. Unfortunately, due to inconsistent guidelines and evidence in relation to parent-infant co-sleeping, this often means the professional's feel apprehensive and ill-equipped to provide advice and support as requested, for fear of unintentionally causing risk of harm to an infant. This paper draws on a non-exhaustive literature review to discuss the risks and benefits of co-sleeping, and the implications of this practice in relation to SIDS. It also aims to provide transparency and improve understanding for health professionals in order to effectively support parents to proactively adopt safer sleep strategies for their baby.

Key words:

Co-sleeping (Bed-sharing, sofa-sharing & chair-sharing), Risk, Benefits, Sudden Infant Death Syndrome (SIDS) and safe sleep.

Definitions

It is imperative that professionals are familiar with the terminology used in relation to parent-infant co-sleeping. This being due to diverse terms used and many are frequently interchangeable within the research literature (Infant Sleep Information

Source (ISIS), 2016). NICE (2015) suggests this can cause confusion when validating the evidence.

Anthropological and epidemiological research literature identified within the majority of the SIDS Case-control and parent-infant sleep studies; define the term 'co-sleeping' as 'parents and infants sleeping in close proximity, but not necessarily on the same surface' (ISIS, 2016). In addition room-sharing, bed-sharing, sofa-sharing, chair-sharing are all subsets of co-sleeping (The Lullaby Trust, 2016a).

Sudden Infant Death Syndrome (SIDS) is the sudden, unexpected and unexplained death of an apparently healthy baby (NHS Choices, 2016a).

Introduction:

The practice of parent-infant co-sleeping has been a topic of controversy and debate and health professionals are often asked to give advice to parents. The literature on co-sleeping identifies a significant number of risks and benefits to both parent and infant but there remains a lack of clarity to establish reliable advice. Co-sleeping involving parents and young infants is a frequent everyday practice within societies but there are few detailed studies regarding its true prevalence (Ball & Volpe, 2013; McKenna and McDade, 2005). Ford (2015) and Harries (2012) suggests this might be because parents do not wish to admit to professionals that they do it for fear of being judged.

Following the successful national 'safer sleep' campaigns to raise awareness of SIDS in the early 1990's, the number of infant deaths has decreased significantly (The Lullaby trust, 2016b). Unfortunately though, SIDS is still prevalent with 230 unexplained infant deaths occurring in the UK in 2014 (a rate of 0.3 deaths per 1,000 live births) (Office of National Statistics, National Records Scotland and Northern Ireland Statistics and research Agency (ONS), 2016).

Interventions to decrease infant death rates are fundamental to the delivery of current recommendations for children and families (NHS England, 2014; DH, 2009b; & Department for Education, 2015) and this is outlined in the Public Health Outcomes Framework (DH, 2013 & NHS 2016b). According to NICE (2015) there is ongoing uncertainty whether co-sleeping (falling asleep with a baby on a bed, a sofa or chair) was entirely safe.

In December 2014, NICE amended its recommendation for health Professionals on SIDS and co-sleeping following a paper published within the British Medical Journal by Blair et al (2013), based on Carpenter et al (2013) review of five major case-control studies on bed-sharing and its association to SIDS. However, according to Ball et al (2012) and Carpenter et al (2013) the conclusions were insufficiently robust to substantiate a causal link between bed-sharing and SIDS. This may have been due to differing terminologies and the limited data from autopsy findings.

Fleming et al (2015) argues that the "current guidance only part way meets the needs of families and falls short of providing the correct emphasis given the risk involved" (p.563). In comparison the American Academy of Paediatrics reports that there are no grounds to recommend co-sleeping as a strategy to reduce SIDS (AAP, 2005 & 2016).

The implications for current practice suggest, the current guidance on co-sleeping lacks clarity as it does not advise parents not to sleep with their baby and this reinforces the need for clearer guidance for Health Professional's in-order to offer accurate evidence-based information to parents. The aim of this paper was to discuss the risks and benefits of co-sleeping, and the implications for this practice in relation to SIDS, in order to provide parents with safe sleep practice advice.

Method

A literature review underpinning Cochrane Collaboration principles was deemed the most appropriate to explore this topic as it offers invaluable methodologies within health and social care forums, where the expectation is to undertake evidence-based practice.

A non-exhaustive review of the literature databases was completed and included CINAHL, Cochrane Library, MAG online, PubMed, Scopus, Evidence Search and Trip Search. There was a pre-set inclusion and exclusion criteria including limiting the literature to papers published between 2005 to 2015 and utilising Boolean search terms (Benefit, Risk, infant, Co-sleeping, SIDS). This generated a total of 10 papers relevant to the review. Of these papers there were several empirical studies, one meta-analysis and two systematic reviews, papers subsequently were critically appraised using recognised tools (Public Health Resource Unit, 2006).

In addressing the aims of the review the 10 papers covered the potential risks and benefits of co-sleeping (Table 1). The empirical studies used a mix of both qualitative and quantitative approaches.

Following analysis of the relationship between SIDS and co-sleeping all of the studies identified a causal link between SIDS and co-sleeping environments, alongside contributory factors such as infant's age (less than 3 months old), maternal smoking, alcohol and drugs.

Five studies identified limitations within the research that currently informed the NICE guidance and Public Health policy/advice. However, none of the studies suggested that there was an increased risk of SIDS associated with co-sleeping practices in the absence of the contributory factors (drink alcohol or take drugs, smoke or if the baby was born prematurely or was of low birth weight (The Lullaby Trust, 2016b; Carpenter et al, 2013; McGarvey et al, 2006; Tappin et al, 2005; Vennemann, 2012 and Ball et al (2012).

Table 1

Author (year)	Study Design	Comments/key finding
Ball et al (2012)	Qualitative	Co-sleeping and bed-sharing should not be amalgamated in studies of SUDI as a solitary exposure.
Blair et al (2014)	Qualitative	Supports current Public Health policy.
Carpenter et al (2013)	Meta-analysis	Bed-Sharing increased the risk of SIDS when combined with alcohol consumption, smoking or drug use.
Das et al (2014)	Systematic review	Reported bed-sharing is associated with increased breastfeeding rates and a significant increased risk of SIDS.
Glasgow et al (2005)	Quantitative	Increased risk of SIDS when accompanied by one or more key risk factors.
Horsley et al (2007)	Systematic review	Further studies required to improve health professional's understanding.
Krouse et al (2012)	Qualitative	Parental educational programmes required.
McGarvey et al (2006).	Qualitative	Increased risk of SIDS when accompanied by one or more key factors.
Tappin et al (2005)	Qualitative	Co-sleeping is associated with an increased risk of SIDS for infants less than 11 weeks of age, sharing a sleep surface.
Vennemann et al (2012)	Systematic review	Need for health Professionals to inform parents of the increased risk of SIDS associated with co-sleeping practices.

Results

The key themes arising from this review indicated that there were benefits and risks. Beneficial aspects of co-sleeping in relation to the establishment and maintenance of breastfeeding; parent – infant bonding and less desirable effects, including disrupted sleep patterns. The main associated risk was related to SIDS and this was dependent on other environmental factors

Each of these will now be discussed

Breastfeeding

There is a strong relationship between regular everyday mother-infant co-sleeping practices and successful establishment and maintenance of breastfeeding across cultures (Ball et al, 2012). This view is supported by Horsley et al (2007) who suggested that breastfed babies were more likely to co-sleep, whilst Das et al (2014) reported that parents believed that co-sleeping promoted successful breastfeeding, as the mother and infant sleep alongside each other to initiate feeding more easily. This was further supported by UNICEF (2014); La Leche (2016); World Health Organisation (WHO, 1998), McKenna and McDade (2005). Similarly Krouse et al

(2012) identified that this level of ease of feeding increases sleep for mothers who breastfeed. Conversely Das et al (2014) and Krouse et al (2012) identified that infants who co-slept with their mothers had an tendency to demand overnight feeds compared to solitary sleeping infants.

Horsley et al (2007) undertook a systematic review and identified the benefits of cosleeping, including breastfeeding, infant- parent bonding and improved parent-infant sleep). This review advocated a positive association between co-sleeping and breastfeeding, although it concluded that there was an increased risk of SIDs where infants were co-sleeping whilst feeding. Carpenter et al (2013) corroborated this stating that, even in the absence of risk factors such as alcohol consumption, drugs or smoking, and where the infant is being breastfed, there was an increased risk of SIDS when co-sleeping occurs.

Infant Arousal

It was found that co-sleeping had a negative effect on the infant's quality of sleep, suggesting that infants sleep lighter with shorter periods of deep sleep in comparison to solitary sleeping infants. Interestingly, Vennemann et al (2012) and McKenna and McDade 2005, McKenna et al 2007, Thoman 2006 cited in Horsley et al (2007) reported that although co-sleeping infants appear to be lighter sleepers, this was beneficial in assisting rapid arousal during life-threatening events. They also highlighted that infants who are in deep sleep may not be able to rouse in times of physical distress. This factor needs to be considered when contemplating co-sleeping practices, as there appears to be limited research exploring the effects of fragmented sleep, compared with infants who solitary sleep. However, the enquiry of whether the benefits of fragmented sleep outweigh the potential detrimental negative consequences remains unanswered.

Risk factors

The evidence reviewed suggests that there are a number of key risk factors associated with the increased risk of SIDS connected with co-sleeping. These include unsafe sleep surfaces, alcohol consumption, smoking, drug ingestion and age of the infant (i.e. < than 12 weeks old (Blair et al, 2014; Carpenter et al, 2013; Glasgow et al, 2005; Horsley et al; 2007; McGarvey et al, 2006; Tappin et al, 2005; & Vennemann et al, 2012). The findings report that some of these factors are modifiable and would be open to adjustment in order to potentially reduce the risk of SIDS.

Carpenter et a (2013) undertook a meta-analysis and recognised a five-fold increase in SIDS risk for breastfed babies under the age of 12 weeks, who co-slept with non-smoking parents. These findings were raised with the Department of Health with the intention to highlight risk and amend their current NICE guidance.

Within this review, several case-controlled studies and two meta-analyses informed the NICE (2014) and the revised 2015 guidance, exploring the relationship between SIDS and co-sleeping practices. NICE acknowledged Fleming et al (2015) report written in the BMJ (2013) inferring that the reviewed evidence did not substantiate reliable statistical connection of an increased risk of SIDS associated with co-sleeping and a lack of data on various possible contributory factors. This reflected a shift in policy and further amendments were made in 2015 to recognise the cultural and socioeconomic differences in parent-infant co-sleeping practices and attitudes. However, NICE remains impartial in the advice given. Blair et al (2014); McGarvey et al (2006) and Tappin et al (2005) referred to the increased risk associated with cosleeping on unsafe sleep surfaces (sofa/chairs). Public Health Wales (2014) suggested that a sixth of reported SIDS cases occur in such environments and convey that this is a rare, but lethal, infant care practice that is worthy or greater attention, particularly if families are under the delusion that co-sleeping on a sofa /chair is no more hazardous than bed-sharing.

Most of the findings from this review were varied and contradictory and it is suggested that this continues to leave families confused and health care professionals unprepared to give advice on this significant issue.

Discussion

This review focused on the safety of co-sleeping and its potential links with SIDS. Most of the papers identified that SIDS is a rare unexplained phenomenon which results in the death of infants, usually during sleep, with risk factors and prevention of SIDS examined but there is a lack of consensus in the literature. Whilst current guidance recognises that co-sleeping practices may be intentional or unintentional, the Lullaby Trust (2016b) acknowledge that health professionals have a preventative role to play by assessing potential risk and advising parents on safer-sleep practices. Regrettably the current NICE (2015) guidance does not make reference to the increased associated risks of co-sleeping on a sofa/armchair, even though evidence of this has been clearly documented within four populations based case-controlled studies (Blair et al 1999 and 2009; Mc Garvey et al, 2006; Public Health Wales, 2015). It is therefore essential that all health professionals use every contact they have with parents to communicate this information and to erode the misconception that co-sleeping on a sofa/chair can be as dangerous as bed-sharing.

Researchers have noted an anthropological connection to co-sleeping. This form of sleep has also been cited as a possible preventive factor for SIDS and has been linked to increased rates of breastfeeding (Das et al, 2014). The literature identified that the associated risk factors of SIDS appear to be influenced by a number of confounding factors which were observed in varying cultures, Ball et al (2012) paper reported low incidences of SIDS in cultures where co-sleeping practices were widespread e.g. Asian cultures where there is an absence of maternal smoking, drug and alcohol use. Arguably, these findings alone may not be sufficient enough to

determine that co-sleeping is a preventative measure for SIDS. However, this does not imply that mothers who choose not to breastfeed are potentially responsible for SIDS.

Das et al (2014) offered reasons for co-sleeping, one being that parents perceive this increases attachment and are more likely to be attuned to their child's needs. Mitchell et al (2015) undertook a study of bed-sharing and maternal-infant bonding and discovered an "inverse association between bed-sharing and maternal bonding" (p.824), and drew the conclusion that bed-sharing augments maternal-infant bond further and that there may be identifiable benefits of co-sleeping for mother and baby in particular that this practice facilitates breastfeeding through frequent suckling.

Das et al (2014) reports a positive association with breastfeeding which enables mothers to easily feed, whilst allowing rest, and suggests that breastfeeding decreases the associated risk of SIDS. This is linked to the close contact the mother has with her infant thus increasing arousal and response to life threatening events (The Lullaby Trust, 2016b).

The needs of breastfeeding mothers/infants were not considered within the current NICE (2015) guidance (National Childbirth trust (NCT), 2014) but a senior advisor for NICE co-sleeping guidance stated; "sharing a bed with your baby at night can aid breastfeeding and in some cultures co-sleeping is observed to be quite the norm" (p. 2). A counter view was offered by UNICEF UK (2014) who stated that the "safest place for a baby to sleep is in a cot ideally by the side of parental bed so that it doesn't interfere with breastfeeding" (p. 14). Guidance remains contradictory making it difficult for health professionals to provide what they feel is the appropriate advice for families. Fleming et al (2015) have called for health professionals to communicate the potential risks of co-sleeping, so that families can weigh up the potential benefits and risks of various sleep practices.

In addition Krouse et al (2012) suggests that health Professionals need to understand parental attitudes, behaviours and motivations to be able to deliver Public health Messages in a sensitive non-judgmental manner. Chu et al (2015) advises that Health Professionals should address parental barriers as to why they may not adopt safe sleep practices in-order to reinforce an understanding of an associated risk.

Health professionals need to tailor advice which is person-specific to address needs and identify potential risk factors advising parents on real dangers associated with co-sleeping in hazardous circumstances (Blair et al, 2014; Glasgow et al, 2005; Bates et al, 2013; Horsley, 2007; Bates, 2016; NICE, 2015 & The Lullaby Trust, 2016b)

The revised NICE (2015) guidance does not give conclusive advice about whether parents should refrain from sleeping with their baby but instead advocates that

health professionals should communicate an unambiguous and impartial view addressing both the benefits and risks of co-sleeping practices. Fleming and Blair (2015) dispute that the current guidance only goes part way to meet the needs of families and falls short of providing the appropriate emphasis given the risks involved.

This review has revealed areas where health professionals need to offer additional support and advice namely to those identified to be at significant associated risk of SIDS, (parental smokers, infants less than 12 weeks old, parents who co-sleep following consumption of two or more units of alcohol or have taken drugs). The current guidance implies that the decision for infant-parent co-sleeping solely lies with the parent and is emphasised on informed choice following advice from the health care professional.

Regardless of NICE's (2015) amendments there remains a lack of congruence with the Department of Health (2009) 'Reduce the risk of cot death' guidance, on which the majority of NHS Trusts have developed their own safe sleep policies e.g. 'never bed-share'. Additionally Fleming et al (2015) and Ball (2015) hinted that NICE (2014) had come under significant criticism from a number of authors within the field of SIDS for being inadequate in their provision of fundamental sleep-safety information for parents, particularly as evidence has identified that a large proportion of parents are habitually adopting co-sleeping practices albeit unintentionally.

Fleming et al (2015) encourages health professionals to have open and honest conversations with families when notifying them of the potential risks arising from cosleeping predominantly associated to parental smoking, alcohol and drug usage. Furthermore stressing that if health professionals adhere to the current NICE (2015) and conflate all forms of co-sleeping practices, they could potentially miss the opportunity to acknowledge the greater associated risk identified from co-sleeping on unsafe sleep surfaces thus, placing vulnerable infants at risk of avoidable deaths.

Controversial issues relating to the discoveries/ disclosures of unsafe sleep practices highlight problematic judgments health visitors have to make. If families persistently continue to co-sleep against advice and where the risks are increased with parental behaviours, professionals are advised to discuss cases of concern with their safeguarding teams.

Conclusion

The safety of co-sleeping and its association with SIDS remains inconclusive. Some researchers have attempted to answer this question by addressing the enduring impact that co-sleeping has on an infant. Overall the research was often contradictory and confusing, and it was not possible to use the evidence to provide further clarity.

Anthropological theories imply that co-sleeping can be considered as a natural healthy practice whilst offering security, establishing breastfeeding and assisting with bonding between infant-parent. Contrary to this, co-sleeping was identified by some as an unhealthy and potentially dangerous practice with reports of an increased risk of SIDS, entrapment and suffocation.

Health professionals have a fundamental role to play in the delivery of Public Health messages to families, communities and wider populations, whilst at the same time raising the profile of issues such as SIDS. In order to support parents in their decision making it is essential that families be informed of both the risks and benefits of co-sleeping, to maximise safety if they choose to adopt this practice. Furthermore, health professionals are encouraged to reinforce safer-sleeping advice at every client contact (NICE, 2015) and review current sleep arrangements adopted by the family (The Lullaby Trust, 2016b & Ford, 2015).

The decision to practice co-sleeping ultimately lies with the parent in accordance with the NICE (2015) guidance and the decision to do this should be with the parent. Balanced information should be communicated to families as there is some contradictory evidence with regards to advising against co-sleeping and bed sharing.

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