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Sleeping infants safely

Considerations for GPs

Sudden infant death syndrome in 2009

Infants who die from sudden infant death syndrome (SIDS) account for the majority of infants who die suddenly and unexpectedly. In New South Wales alone, 50–60 SIDS deaths occur each year.

Risk factors for SIDS

Although no clear cause for SIDS has been identified, studies have identified three key factors associated with an increased risk of SIDS: sleeping position, parental (particularly maternal) smoking, and co-sleeping.

Knowledge of safe sleeping practice

Safe sleeping messages are promoted widely throughout Australia. Australian and overseas studies suggest midwives, nurses and general practitioners have inconsistent knowledge about current safe sleeping recommendations.

Considerations for Australian GPs

Because of GPs known influence on infant care practice, they have a crucial role to play in the continuing education of parents, and have the potential to further reduce the risk of SIDS.

Keywords: sudden infant death syndrome; patient education; risk factors



The sudden death of an infant is a traumatic experience for both families and health practitioners. The most common cause of sudden infant death is SIDS, defined as 'the sudden and unexpected death of an infant under 1 year of age, with onset of lethal episode apparently occurring during sleep, that remains unexplained after a thorough investigation including performance of a complete autopsy review of the circumstances of death and clinical history'.¹ In 2004, SIDS accounted for 4.5% of deaths in infants aged less than 1 year in New South Wales.² Evidence suggests the most common age of death from SIDS is 2–5 months, with a peak incidence at around 3–4 months.¹

Following the 'Reduce the Risks' campaign in 1991, SIDS deaths in Australia have decreased from 168.1 per 100 000 live births in 1991 to 63.2 per 100 000 live births in 2002.³ New South Wales has shown a similar reduction with the SIDS rate falling from 1.5 per 1000 live births in 1991 to 0.4 per 1000 live births 2006.² The reduction in SIDS in Australia has largely been attributed to the success of a national health promotion campaign, focusing on safe sleeping and SIDS prevention.²

Although SIDS rates have reduced considerably, there are still 50–60 SIDS deaths in NSW each year.⁴ In Australia, the incidence of SIDS is higher in indigenous, rural and low socioeconomic communities.^{4–6} The reasons for a higher than expected SIDS rate in these communities is not clear, but may be related to cultural background, increased rates of smoking, infant care practices and level of knowledge about infant safe sleeping.⁶

Risk factors for SIDS

Although no clear cause for SIDS has been established, studies have identified three key factors associated with an increased risk of SIDS:

- sleeping position
- parental (particularly maternal) smoking, and
- co-sleeping with parents or siblings (in particular where parents have been drinking alcohol or using drugs).

Other factors known to have an association with SIDS are: type of bedding used, overheating or overcooling of the infant when in bed, loose bed clothing in the baby's cot, young maternal age, low socioeconomic status of parents, low parental educational level, and cultural background.^{7,8}

Sleeping position

The current recommended sleeping position for infants aged 1 year or less is on the back.¹ The main justification for recommending that babies sleep on their back and not on their side is the

tendency infants have to roll over onto the tummy while sleeping on the side; thereby placing them at increased risk of SIDS.⁹ To date, the results of intervention studies have thrown little light on the statistical difference in SIDS rate between placing babies on their side, compared to their back.⁹

There is however, evidence to support the safety of sleeping infants on their back. In a series of studies, Jeffery and colleagues¹⁰ identified a mechanism by which tummy sleeping could confer an increased risk of SIDS. The major concern of practitioners regarding back sleeping has always been the aspiration of stomach contents. This has not been the experience in Asian countries, where babies are traditionally put to sleep on their back, and physiological studies of spontaneous reflux suggest that healthy infants can protect their airway, and do so when placed on the back.^{10,11} Infants are not at increased risk of choking, provided that their swallowing and arousal reflexes are intact.¹¹

Studies suggest that consistency of sleeping position is one of the most important risk reduction factors for SIDS.⁹ In a study supported by the National Institute of Child Health and Human Development, researchers showed that infants placed on their side to sleep were twice as likely to die of SIDS as those placed on their back.¹² However, when researchers looked specifically at the position in which the infant was last placed to sleep compared to their usual sleeping position, infants who usually slept on their back, and were subsequently placed in the side position, were at a 7–8 times higher risk of dying from SIDS.¹²

In a comprehensive review of physiological studies investigating back versus tummy sleeping position, Galland and colleagues¹² concluded that when infants sleep on their tummy there is reduced vasomotor tone, less flexibility in heart rate variability, reduced arousal and waking ability, and poorer ventilatory and airway protective responses. All these factors contribute to respiratory stress, and while not the sole cause of SIDS, could contribute to the increased risk of SIDS.¹²

It is recommended that infants are put to sleep in the 'feet to foot' position, ie. the infant's feet should touch the end of the cot and the sheets be tucked in 'short' to prevent the infant slipping under the sheets or covers. Pillows, toys, bumpers and heavy blankets should not be used in cots of

infants due to the risk of suffocation should they cover the baby's head.¹³

Parental smoking

A multitude of studies have been conducted to investigate maternal smoking during pregnancy, and in almost every epidemiological study maternal smoking has emerged as a major risk factor for SIDS.^{8,14,15}

Smoke in the environment after birth (passive smoking) is also associated with an increase in SIDS, but analysing the effect on SIDS rates between passive and maternal smoking before birth is difficult.¹⁶ An association with SIDS and exposure to smoke has been a consistent finding, and many studies have reported a dose response relationship.¹⁶ Recent studies in Australia have identified changes in the brain tissue of infants who are exposed to cigarette smoke.^{17,18} The 'Reduce the Risks' campaign carried an additional message of not smoking near babies, however smoking behaviour has not declined as dramatically as the SIDS rate, so it is difficult to determine the contribution of smoking cessation to a reduction in SIDS cases. There are nevertheless some researchers who consider that the reduction of parental smoking has become the most significant avoidable SIDS risk factor.^{8,19}

Co-sleeping

There is strong evidence to suggest co-sleeping increases the likelihood of SIDS.²⁰ Although it is often difficult to determine the cause of death as SIDS or accidental death.²¹ Adverse sleeping conditions that may occur when co-sleeping include: being smothered by bedclothes; being trapped face downward in a space between the parent and the bed, the wall or the back of a couch; and being face down in an indentation pocket of an adult waterbed.²¹ Co-sleeping is particularly dangerous when the parent is in an unnaturally depressed state of consciousness, such as from alcohol or drug use.^{20,21}

Recent evidence has shown there is a significant risk of SIDS from bed sharing with a mother or parents who smoke.¹⁶ There is also evidence to suggest that room sharing (ie. an infant in the room, but not in the bed) with one or more adults decreases the risk of SIDS.¹⁹ Bed sharing and co-sleeping is particularly common in Aboriginal families and families from non-English

speaking backgrounds.^{6,22}

Cultural background

Ethnic background has not been proven to be a predictor of SIDS. However ethnic disparity in rates of death attributable to SIDS has been observed for many years. Despite decreased SIDS death rates following the 'Reduce the Risks' campaign, the disparity in death rates has increased.²³ Research has shown that African American, Maori, Australian Aboriginal, Torres Strait Islander and Pacific Islander populations have an increased risk of SIDS.^{6,8,24} It remains unclear whether these population groups have an increased genetic risk of SIDS or whether environmental and cultural practices play a major part in this increased risk.⁸

Knowledge of safe sleeping practice

Safe sleeping messages to reduce SIDS are promoted widely throughout Australia. In spite of the annual 'Red Nose Day' campaign and regular health professional education, studies suggest that some midwives and nurses do not adhere to current safe sleeping recommendations.^{25,26} Studies in the United States of America^{27,28} highlighted the inconsistency in safe sleeping knowledge in a cohort of general practitioners and paediatricians and the need for additional safe sleeping education in this group. To date, no comprehensive study to assess GP knowledge in Australia has been undertaken.

Risk reduction strategies

Although there are still SIDS deaths where no apparent cause of death can be ascertained, around 75% of SIDS deaths have at least one co-existing risk factor identified.^{4,5}

Research suggests that the advice of the physician is influential in determining an infant's sleeping position, and that GPs are well placed to influence the behaviour of patients and promote a range of health promotion messages.²⁹ Although there has been a great deal of information about safe sleeping provided through health promotion campaigns, the key messages have changed since the beginning of the Reduce the Risks campaign, when placing infants on their side to sleep was considered safe. Brochures and posters outlining current recommended safe sleeping practices

are available free of charge from 'SIDS and Kids' offices in all states and territories (see *Resource*).

Safe sleeping guidelines

- Sleep baby on the back
- Sleep baby on a firm, flat, sleeping surface – in their own cot or bassinet
- Keep baby smoke free before and after birth
- Keep baby's head uncovered

The case for further research

Although many Australian GPs update their safe sleeping knowledge through professional education programs, a number do not attend these sessions, instead leaving safe sleeping education to the child and family health nurse. Australian studies have shown that there is still inconsistency in nurses' knowledge about safe sleeping position.²⁵ It is possible that Australian GPs are confused about current recommended safe sleeping guidelines due to changes in recommendations, length of practice, cultural background or medical training.

Evidence suggests women from non-English speaking backgrounds are more likely to attend GPs who speak their native language for well baby check ups and childhood health problems.²² As more families migrate to Australia and seek out GPs who can speak their native language, it is crucial that GPs are up-to-date with safe sleeping guidelines, particularly as safe sleeping brochures are not available in languages other than English at this time.

Considerations for GPs

- In spite of a very public, annual SIDS prevention campaign, some GPs may be unclear on the latest guidelines for safe sleeping in infants.
- Updates on SIDS prevention and safe sleeping in infants are important for all GPs, particularly those who were born or trained in a country where English is not the native tongue, or who have a high caseload of non-English speaking patients.
- Posters and brochures detailing safe sleeping practices should be available in all general practices and medical centres, and where possible translated into different languages.

- Opportunities for ongoing training should be explored by all appropriate general practice training organisations to ensure high quality professional training around SIDS prevention.

Resource

SIDS and Kids: www.sidsandkids.org/safe_sleeping.html.

Authors

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