



Critically Appraised Article

Use of a pacifier during sleep reduces the risk of sudden infant death syndrome

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Use of a pacifier during sleep reduces the risk of sudden infant death syndrome

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Structured abstract

Objective: to examine the association between use of a pacifier during sleep and the risk of sudden infant death syndrome (SIDS) in relation to other known risk factors.

Design: population based case-control study.

Location: eleven counties in California (USA).

Study population: mothers or caregivers of 185 infants whose deaths were attributed to SIDS and 312 randomly selected controls matched for ethnicity and age. The number of cases and controls were 50% and 41% respectively, of those potentially eligible.

Outcome measure: use of pacifier during the last night of sleep, determined through interviews.

Main outcome measure: 7 (4,1%) out of 169 dead children from SIDS used pacifier during the last night while 73 out of 309 (23.6%) of the control group used pacifier. The mean age of the cases of SIDS was 98 days and the mean age at interview for the controls was 104 days. The relationship between the use of pacifiers and SIDS was calculated by the crude Odds Ratio (OR) or adjusted for potential confounding factors by means of logistic regression analysis. As a result the adjusted OR was 0.08 (95% confidence Interval [CI]: 0.03-0.21). This means a reduction of risk greater than 90% for those that used pacifiers.

Use of pacifier was associated with a reduced risk in every category and factors examined. (These were grouped in three categories: maternal characteristics, infant characteristics and sleep environment).

A tendency towards a greater effect when the infant was in an adverse sleep environment was observed. Thus, infants who did not use pacifier and slept prone or on their sides, had an increased risk of SIDS OR: 2.61 (95% CI:1.56-4.38) while if they did use pacifier for sleep, the OR was 0.66 (95% CI: 0.12-3.59). The same thing happened if the mother was a current smoker: the risk without pacifier OR 4.5 (95% CI: 1.3-15.1) was reduced to OR: 1.1 (95% CI: 0.1-13.4) if they used pacifier. The risk of sleeping on soft beds was also reduced from OR:1.42 (95% CI: 0.79-2.57) to OR: 0.26 (95% CI: 0.02-3.27) using pacifier.

Sucking the thumb was also associated with a reduction of risk, adjusted OR: 0,43 (CI 95%: 0.25-0.77).

The use of pacifier was associated with a reduced risk in those that sucked their thumb and those that did not.

Authors conclusions: use of pacifier during sleep periods has been associated with a reduced risk of SIDS. Furthermore it is possible that this use may also reduce the risk of SIDS associated with other known risk factors.

Competing interests: none declared.

Financial sources: Institute of Child Health and Human Development (NICHD) y National Institute of Deafness and Other Communication Disorder (NIDCI).

Commentary:

Justification: SIDS is still one of the leading causes of infant mortality during the first months of life. Even though the use of pacifiers has been indicated as having an hypothetical risk reducing effect, there is no clear position about this, neither by individual pediatricians nor by pediatric scientific societies.

Validity: like any other case control study this one has the same risks of potentially important biases, especially those of selection and reporting biases. However due to the impossibility of doing a clinical essay with this purpose, observational studies of this type are appropriate.

On the other hand, the authors tried to discover these type of biases comparing the presence of the risk factors in the study population with those of the birth certificates of general population to which they belonged and seemingly no differences were found.

This study, with the exception of the previous comments is correctly designed and done.

As the authors acknowledge, the size of the sample for some of the stratified analysis was small, as a consequence of this the confidence intervals were large. This was especially significant in the part of the study that showed an effect on reducing the impact of other known risk factors of SIDS. On the other hand the association of the use of pacifiers with a reduced risk of SIDS must not be considered a cause-effect relation. Other studies have evaluated the continuous day-night use of pacifiers as a possible reducing effect on SIDS, due to a possible cumulative effect. Even though this effect has been observed in other studies¹ (though less robust than in this case). This fact could have had a greater impact on the relevance of this hypothesis.

Clinical relevance: getting to know whether the use of

pacifiers should be part of a counselling program is important.

A recent meta-analysis (MA) by Hauck¹ studied the result of 7 previous studies of similar design as this one to establish the relationship between SIDS and pacifier use. This MA showed a clear protective effect of pacifier use during last night, OR= 0.47 (95% CI: 0.40–0.55) and OR= 0.39 (95% CI: 0.31-0.50) respectively depending on whether a univariate or a multivariate model was used. This effect could be quantified in an univariate model as an OR= 0.43 (95% CI: 0,38-0.50)*. In other words: not using a pacifier the last night could be associated with a risk 2 or 3 times greater of SIDS. Even though the heterogeneity of the studies was important, the fact that all of them concluded as a result that the use of pacifiers is protective with a magnitude that is approximately equal²⁻⁴, is suggestive, regardless of the limitations that the methodology used imposes, that this protective effect is real.

Feasibility in clinical practice: pacifier use has been associated with negative consequences such as breastfeeding reduction, (week association which is debated), dental malocclusion, and increased incidence of some types of infective symptoms as otitis media, gastroenteritis and thrush⁵. Even though these effects have been associated with prolonged use, the use of pacifiers has been banned by some pediatricians.

However it may be a good idea to recommend its use at some moments of the day like during sleep periods in the first months of life, once breastfeeding has been well established (after the first month of life). Considering that the habit of using pacifier becomes more established the more time it is used, it seems as a good idea to recommend discontinuing its use after 6 months of life when the risk of SIDS becomes smaller.

There are many questions left to answer about SIDS; one of these that has been elucidated by this study is the hypothetical possibility of reducing the impact of known risk factors by the use of pacifier. This stresses the necessity of new studies to get to know better how to fight against this silent enemy known as SIDS.

* Information calculated by the authors of this critically appraised article

Bibliography:

- 1.- Hauck FR, Omojokun OO, Siadaty MS. Do Pacifiers reduce the risk of sudden infant death syndrome? A meta-analysis. *Pediatrics*. 2005; 116: 716-23
- 2.- L'Hoir MP, Engelberts AC, van Well GT, Damste PH, Idema NK, Westers P, et al. Dummy use, thumb sucking, mouth breathing and cot death. *Eur J Pediatr*. 1999; 158: 896-901
- 3.- Fleming PJ, Blair PS, Pollard K, Platt MW, Leach C, Smith I, et al. Pacifier use and sudden infant death syndrome: results from the CESDI/SUDI case control study. *Arch Dis Child*. 1999; 81: 112-6
- 4.- Hauck FR, Herman SM, Donovan M, Iyasu S, Merrick MC, Donoghue E, et al. Sleep environment and the risk of sudden

infant death syndrome in an urban population: the Chicago infant mortality study. *Pediatrics*. 2003; 111: 1207-14

5.- American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome. The changing concept of sudden infant death syndrome: diagnostic coding shifts, controversies regarding the sleeping environment, and new variables to consider in reducing risk. *Pediatrics*. 2005; 116: 1245-55