

Obesity and sudden unexpected infant death

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In 2022, the American Academy of Pediatrics (AAP) Task Force on Sudden Infant Death published updated recommendations for a safe environment to reduce the risk of sleep-related infant deaths.

The issue is relevant because, despite the decrease achieved in the first years of the campaign, from 2000 to the present, there has been practically no improvement in the rates, and, in some cases, there has been an increase in mortality.¹

Following the basic triple risk model (vulnerable children, during the first year of life, exposed to unfavorable environmental factors), we see that those developmental conditions during pregnancy and environmental conditions during the first year of life face new challenges. The consumption of alcohol, tobacco, and illicit drugs during pregnancy, social vulnerability, precarious living conditions, the rise of movements in favor of home birth, co-sleeping as absolute, and anti-vaccine movements have increased. These are some examples of this reality.

The AAP recommendations are a detailed analysis of measures to reduce the risk of sudden unexpected death (SUD), with its scientific rationale and current level of knowledge.

In this extensive document, maternal obesity is

not mentioned among the clinical conditions that can affect fetal development. It only turns up when mentioning co-sleeping. In general, it states that the risk of sudden death increases 10 times in co-sleeping situations when the adult has decreased alertness or difficulty in waking up due to fatigue or sedative medication. The retrospective series showed that mothers with higher body mass index (BMI) were more likely to co-sleep. A case-control study of 2006 found that co-sleeping increases the risk of sudden death, with no differences in different maternal BMIs.

Research on the relationship between preconception maternal obesity and SUD was recently published. Tanner et al. propose that, although obesity is recognized as a risk factor for pregnancy complications, it is not considered as such for SUD. A retrospective study of all U.S. live births registered in the Centers for Disease Control and Prevention (CDC) databases from 2015 through 2019 found that the adjusted risk increases with BMI. In cases of class I obesity (BMI 30.0-34.9), it is 1.1; in class II (BMI 35.0-39.9), it is 1.2; and in class III (BMI \geq 40.0), it increases to 1.39.²

The interpretation of these findings is that, in a co-sleeping situation, sudden death could be due to suffocation because of the larger body

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size if the mother falls asleep while breastfeeding or due to depression of the mattress that would favor the infant's sliding toward the mother's body. The main limitation of this study is that it did not analyze whether sudden death in these cases was related to the practice of co-sleeping.

Another interpretation is that obesity increases the risk of obstructive sleep apnea. These episodes of chronic hypoxia could affect fetal neurodevelopment, as demonstrated in other entities that cause placental vasoconstriction and intermittent hypoxia (tobacco or illicit drug use).

Campaigns to reduce the risk of sleep-related infant deaths have highlighted the importance of pregnancy care to ensure that fewer vulnerable infants are born and a safe sleep environment during the first year of life so as not to challenge the ability to wake up in situations of suffocation, at a still immature stage of life.

But health is a continuum that is developed every day. Like mortality, it has factors that are not modifiable, others that are difficult to modify, and others that can be modified. Obesity is associated with circulatory, cardiovascular, endocrine, metabolic, oncological, psychological, and social disorders. It would not be surprising if it affects the baby's normal development in

intrauterine life. In the editorial accompanying the Tanner et al. report, the question arises about the mechanism by which maternal obesity affects the fetal brain. As a risk factor, it is complex in its causes and challenging to modify if the issue is addressed in the preconception stage.³

It is desirable to reach pregnancy in the best possible health conditions. But this is built in childhood, adolescence, and adult life, from culture, education, pediatrics, adolescent medicine, the media, in short, society as a whole in search of the common good. In the immediate future, we can reinforce the recommendations with special care in these cases. In the medium and long term, everything else.

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