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[Archived] Sleeping Behaviour and Its Impact on Child Psychosocial Development. Commentary on Holditch-Davis, Thoman, Anders , and Sadeh

Piero Salzarulo, MD

University of Florence, Italy

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Introduction

Many authors emphasize the importance of the first few months of life in the development of sleep patterns (see[1,2] for reviews). Before the end of the first year, the brain builds many of the activities and state characteristics that the child will have in adult life. Through polygraphic recordings, we can observe both brain activity (EEG) and other physiological variables; using other techniques, such as video and actigraphy, we can describe behaviour (including motor behaviour). The past few decades have shown the important contribution made by long-term recordings,[3,4] which show that sleep-wake patterns come under the heading of development of

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biological cycles.

A relatively recent approach (over the past 10 years) has been devoted to investigating parents' beliefs and understanding about infant sleep patterns.[5-7]

The four papers basically include these approaches, providing a good sampling of current research trends.

Sleeping Behaviour of Preterm Infants and Its Impact on Psychosocial Child Development. Commentary on Holditch-Davis[a]

Research and Conclusions

Holditch-Davis rightly insists on the link between sleep-wake patterns and brain functioning, specifically mentioning that infants with "neurological problems exhibit abnormal sleep patterns." The last statement is something we can all agree with since the pioneering studies by Dreyfus-Brisac and subsequently Prechtl. Normal development of the brain is also "represented" by the development of behavioural states.[8] In this regard Holditch-Davis presents personal data about the steps in the development of state components in high-risk preterm born infants. Moreover studies on infants born preterm when in a good state condition are evoked. The similarities between high-risk and low-risk infants trends are worth of mentioning and pose several questions.

The paper stresses responses to the environment that change during sleep – an important point. Description of "spontaneous" behaviour during sleep and waking is also important, since what parents first experience is the infant's spontaneous behaviour.

Evaluation of sleep patterns is said to be useful in predicting later outcome, which is mainly a clinical statement. We would agree, with the proviso that evaluation of sleep patterns be accompanied by other instruments and clinical examination (see Prechtl's "optimality concept").

We would agree about the usefulness of examining "maturation of sleep behaviour…". However, I feel that the systematic use of sleep states to determine which preterm infants could benefit from early intervention is excessive and overstated.

Implications for Development and Policy Perspectives

Another suggestion, in addition to those in the paper regarding policy and services, involves neonatal care services. Interventions should be implemented to reduce excessive motility and crying, in order to contribute to anabolic processes and weight gain, as has been shown for infants.[9]

Research and Conclusions

I fully agree with Thoman's statement that "sleep emerges from very complex physiological interactions." Unfortunately, we do not know which "areas of the brain" are involved.

Thoman stresses the "continuity of sleep problems over age," which would only be a trend for some sleep problems. We should bear in mind that severe precocious sleep-wake rhythm disturbances are often followed by the coexistence of multiple sleep problems at later ages,[10] while less severe early problems could disappear later.

Several clinical conditions are rightly mentioned, which are now currently investigated and can be therapeutically approached with success (what is called "child sleep medicine"): for example obstructive sleep apnea.

Implications for Development and Policy Perspectives

Regarding "policy and services," Thoman quotes (and underscores) research showing the usefulness of "prevention" and educating parents, which may become an acceptable practical perspective, provided that it is acknowledged that only "some" parents and "some" sleep disturbances may be helped. Information given to all parents and special forms of education should in any case be considered a fundamental part of any psychological approach to sleep and its developmental disorders.

Assessment involves new "diagnostic tools" and the people in charge of them may or may not be physicians and psychologists, although currently little is known about this. Training professionals in the field of developmental sleep disorders is one of the main challenges in approaching the problem. Rather than opening too many new units that focus on specific or rare sleep disorders, we need to help physicians and psychologists learn more about sleep.

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Concerning both Thoman and Holditch-Davis contributions, it should be added that regarding awakenings, whose increase is a major aspect of the early sleep disturbances, there are recent contributions that shed light on both psychophysiological and clinical aspects (see contributions in Salzarulo and Ficca[11]). In particular the physiological events sequence preceding the awakening has been described, both in normal development and in clinical contexts.[12,13,14,15]

Sleep-Wake States and Problems and Child Psychosocial Development. Commentary on Anders[b]

Research and Conclusions

Anders' paper correctly summarizes most of the papers on the development of sleep states and sleep-wake cycles. He reaches the conclusion that most development is completed by the end of the first year of life, a statement with which I concur (see[2,3,16]).

He raises a fundamental question: the respective roles of biology and psychological influences. From this question the paper shifts to "sleep problems," which are the main concern, saying that "little is known about what causes them." To use the word "cause" is to take an etiological perspective. I would prefer to say "under what conditions they emerge."

The paper stresses an important point, i.e. the relationship between successive and different sleep problems (from night waking to difficulty in falling asleep and how frequently they co-occur). Few data exist[10] on this, and further investigations are necessary. I agree with the statement that "drugs to promote sleep remain the most inappropriately prescribed medication," which is supported by various findings.[17]

Implications for Development and Policy Perspectives

Anders stresses the need for good sleep hygiene, evoking several negative consequences of sleep disorders. While I share his belief about the need for good sleep hygiene, some of the clinical cases he mentions are not necessarily related to the sleep problems.

It is certainly important to avoid stress on the family, which can have consequences for infant sleep and health (see comments on Thoman).

Both Anders and Thoman emphasize the consequences of sleep disturbances, i.e. “night waking” on parents’ sleep loss. We agree with this important perspective. Unfortunately, we know little about the characteristics of those families (see studies by Lozoff *et al.* on the role of socio-cultural factors). The first step, which may become a long-lasting problem, is the mother’s sleep disturbances.[18]

Both Anders and Thoman examine the major steps in sleep development. I agree with their summary description.

Development of the Sleep-Wake System and its Relationship to Children’s Psychosocial Development. Commentary on Sadeh

Research and Conclusions

Sadeh mentions the role of the psychosocial context (parents) on infant sleep and in turn the role of infant sleep disturbances on the well-being of the parents. We agree with both of these statements. What is somewhat lacking is the need to take the baby’s age into account when speculating about the influence of the environment.

Sadeh quotes percentages of children who are poor sleepers in the first three years of life (20 to 30%). These percentages are highly dependent, among other factors, on criteria for defining “sleep problems,” and vary considerably.

The role of parental characteristics and bedtime interaction between parents and child is also mentioned. However, the link between parent personality and psychopathology and bedtime interaction has not been investigated, although I feel it should be. It is not enough to ascertain the effect of parents at bedtime in quantitative terms; qualitative terms are of the utmost importance.

The author makes the important comment that not all stressors lead to disrupted sleep (and I would add, not for all infants and families).

Implications for Development and Policy Perspectives

Regarding the relationship between disrupted sleep and less than optimal adjustment in preschool, too much emphasis is placed, in my opinion, on the role of sleep disturbances. Preschool and school problems are often associated with, but not related to, sleep disturbances. In the Policy section, Sadeh insists on early treatment and intervention, with which most would agree. However, it is important not to overly pathologize any "problematic" behaviour at an early age. I am not sure that "early detection and intervention programs for sleep problems in early childhood should become an integral part of any health services for children."

Notes:

[a] Comments on the revised paper published by Diane Holditch-Davis in 2005. To have access to this article, contact us at cedje-ceecd@umontreal.ca.

[b] Comments on original paper published by Thomas F. Anders in 2004. To have access to this article, contact us at cedje-ceecd@umontreal.ca.

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