

## ARCHIVES OF DISEASE IN CHILDHOOD

### Autistic kids have poorer sleep quality than their peers right up to their teens

*Sleep duration is shorter and they are more prone to frequent waking at night*

**[Sleep patterns in children with autistic spectrum disorders: a prospective cohort study Online First doi 10.1136/archdischild-2013-304083]**

Children with autistic spectrum disorders have poorer sleep quality than their peers right up to their teens, reveals research published online in the Archives of Disease in Childhood.

Total sleep duration is shorter and punctuated by more frequent waking at night, the research shows. Poor quality sleep may affect daytime learning and behaviour, say the authors.

Disrupted sleep patterns have been linked to autism before, but the quality of the evidence accumulated to date has often been compromised by small sample size, lack of agreed definitions, and poor comparability of study participants.

The authors of this study instead base their findings on long term data derived from the Avon Longitudinal Study of Parents and Children (ALSPAC), which has been tracking the health and development of more than 14,000 children born in 1991-2 in South West England.

All the parents were quizzed about their children's sleeping patterns when their kids were 6, 18, 30, 42, 69, 81, 115 and 140 months old, including when their children routinely went to bed and woke up on week days, and how much time they spent sleeping during the daytime.

The researchers also took account of other key information, including the results of validated questionnaires on social and communication skills (SCDC) and intelligence (WISC-III) when the children were 7 years old.

Eighty six of the children had been diagnosed with autistic spectrum disorders by the time they were 11 years old. Thirty had classic autism; 15 had atypical autism; and 23 had Asperger's syndrome.

The final analysis was based on 39 children with autistic spectrum disorders and 7043 typical children for whom complete data across all time points were available.

This showed that before the age of 30 months, there was no major difference in sleeping patterns between the two groups of children. But from 30 months onwards, children with autistic spectrum disorders tended to sleep less in total, with the greatest discrepancy (43 minutes) persisting up to 140 months of age.

Although the gap in total sleep narrowed after this point, autistic children still slept around 20 fewer minutes each day than their typical peers by the time they reached their teens.

These differences remained even after taking account of influential factors, such as prematurity, low birthweight, maternal education, and social class.

These differences were wholly due to the length of night-time sleep, which was shortened by frequent bouts of wakefulness.

From the age of 30 months onwards, children with autistic spectrum disorders were significantly more likely to wake three or more times a night than their typical peers, a difference that became even more noticeable the older the children became.

By the time the children were 81 months old, more than one in 10 of those with autistic spectrum disorders were waking three or more times a night compared with just 0.5% of their peers.

An increasing body of data also suggests that production of the sleep hormone melatonin may be impaired in some children with autistic spectrum disorders, which may explain disturbed sleep patterns, suggest the authors.

But it's unclear just what impact this shortened sleep pattern may have, they acknowledge. But they point out that other researchers have suggested that sleep loss may have impact on neuronal development.

"If this hypothesis of cumulative sleep reduction resulting in neuronal loss is confirmed, then clinically [children with autism] might gain from even a small consistent increase in total sleep time," they write.

Public link to paper: <http://www.adc.bmj.com/lookup/doi/10.1136/archdischild-2013-304083>

**Notes for editors:**

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