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Wake Up To Learn 2009

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Background

Actiwatches are small devices, usually worn on the wrist, which record body movement and exposure to light. They are used in sleep research, and provide accurate and reliable data about how much a person is sleeping. There is limited information available about their use for people with cerebral palsy.

Aims

1. To determine the reliability of Actiwatch data in measuring the sleep of people with cerebral palsy.

2. To establish guidelines for clinicians using actigraphy with people with cerebral palsy.

Participants

Six school aged children (age 2 – 16) with cerebral palsy, and their mothers.

Method

Child and parent wore an Actiwatch-2 for seven nights[1], whilst keeping a sleep diary. Two nights of video recording were used (in all but one family) as a further measure of sleep and activity during the sleep period.

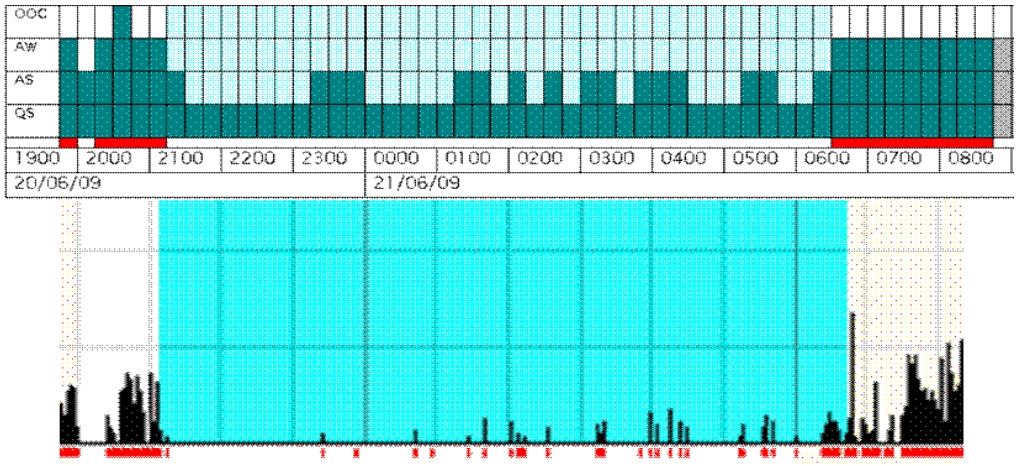
Results

The video scores matched the Actiwatch data, determining periods of wakefulness and sleep. The method of scoring the video[2] had 85.2 – 87.6% agreement between three independent scorers. Diary records were useful for the interpretation of the Actiwatch data.

Conclusions

-Video and actigraphy provide comparable results.
-A simple sleep diary provides useful information to complement the actigraphy.
-Actigraphy is a simple, user friendly means of assessing amount of sleep in children with cerebral palsy.

Thirteen hours of video scores (top) compared to Actogram (below).



OOC = out of cot
AW = awake
AS = active sleep
QS = quiet sleep

References

1. de Souza, L., Benedito-Silva, A.A., Pires, M.L., et al. (2003). Further validation of actigraphy for sleep studies. Sleep, 26(1),81e85.
2. Anders, T.F., & Keener, M. (1985). Developmental course of nighttime sleep-wake patterns in full-term and premature infants during the first year of life. Sleep, 8(3), 173-192.

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