



# Prevalence of Sleep Problems in Children with Cerebral Palsy: A Systematic Review and Meta-analysis

Zain Ali Nadeem, Obaid Ur Rehman, Umar Akram, Muhammad Ali Iftikhar, Hamza Irfan, Eeshal Fatima, Hiba Imran, Sonia Hurjkiliani, Alishba Khan

## BACKGROUND

Children with cerebral palsy (CwCP) often struggle with sleep issues, which has a serious negative influence on their general health and quality of life. There are insufficient data on the prevalence of various sleep disorders, even though recognising and treating them is vital.

## OBJECTIVE

Determining the prevalence of sleep disorders in CwCP is the primary objective of this systematic review and meta-analysis.

## METHODS

An electronic search was conducted on MEDLINE, Embase, Scopus, ScienceDirect, and Web of Science for all relevant articles using pre-specified eligibility criteria. Pooled proportions of CwCP having sleep problems were calculated in a random effects model using R version 4.3.2.

## RESULTS

The updated systematic review and meta-analysis included 42 studies. The Sleep Disturbance Scale for Children (SDSC) showed abnormal scores in 26 % (95 % CI: 17 %-37 %) of children with CP. Subscale abnormalities included disorders of initiation and maintenance of sleep (28 %), sleep breathing disorders (17 %), excessive somnolence (12 %), sleep hyperhidrosis (10 %), and sleep-wake transition disorders (19 %). The Paediatric Sleep Questionnaire (PSQ) indicated abnormal scores in 39 % (95 % CI: 6 %-80 %) of children. Sensitivity analyses confirmed these findings, though some publication bias was noted in the PSQ outcome.

Figure 1: PRISMA Flow Diagram

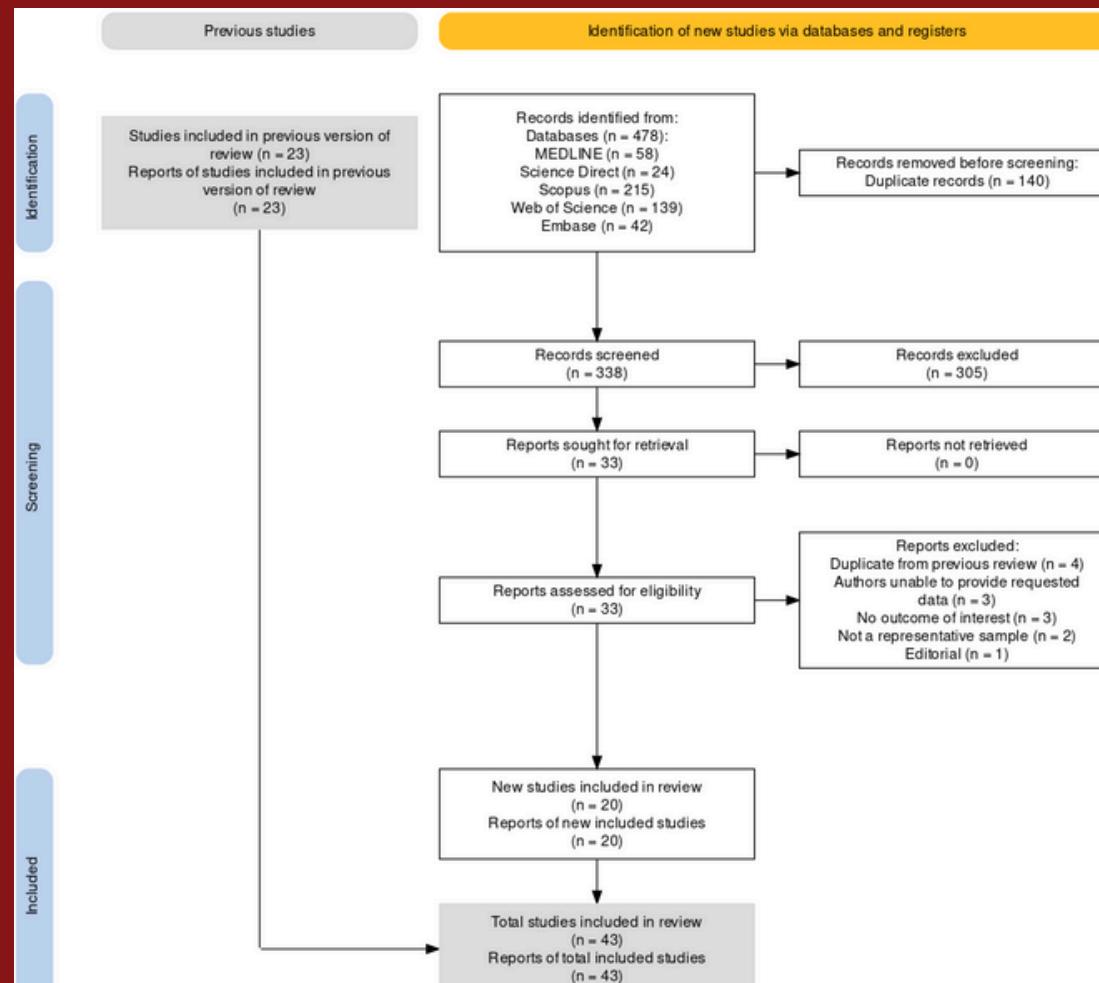
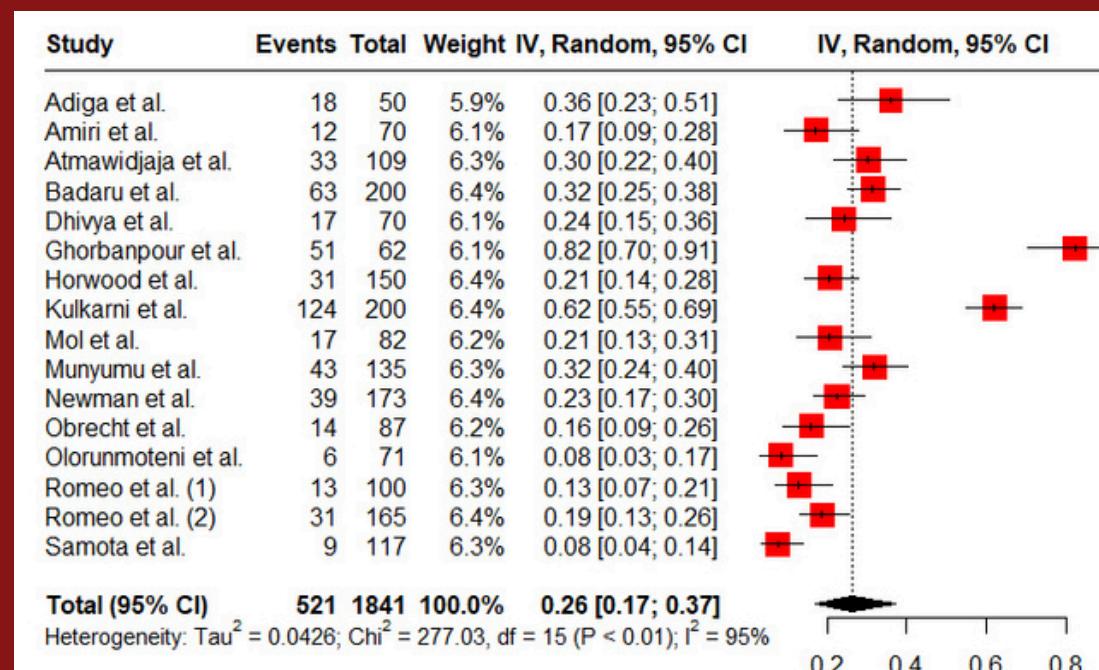


Figure 2: Forest Plot for Sleep Disturbance Scale for Children Total Score



## CONCLUSION

About a quarter of CwCP have experienced sleep problems, which may deteriorate their quality of life. In order to improve the quality of life for CwCP, regular sleep examinations and focused therapies are necessary.