

Discussion These data provide a basis for further studies of the relationship between sleep and other risk factors. It also provides valuable data about sleep habits in Africa, with potential for future analysis of how it is affected by urbanisation and industrialisation. Finally, it offers a unique opportunity for a population-based comparison of the effects of treated and untreated HIV infection, increasingly unavailable elsewhere.

P059 ADHERENCE TO WAKEFULNESS PROMOTING MEDICATION IN PATIENTS WITH NARCOLEPSY

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Introduction Excessive daytime sleepiness (EDS) is disabling and its control is usually contingent on ongoing pharmacological therapy including: modafinil, methylphenidate, dexamphetamine, pitolisant, and sodium oxybate. Irrespective of the medication used, all pharmacological options must be taken to have an effect and while assessment of treatment adherence is standard clinical practice in many chronic conditions, in sleep medicine, evidence regarding adherence to prescribed medications is strikingly limited.

The aim of this study was to assess degree and predictors of adherence to prescribed treatment in patients with narcolepsy attending a tertiary Sleep Disorders Centre.

Methods We examined adherence to treatment in consecutive adult patients with a final diagnosis of narcolepsy by comparing prescription collection rates with prescribed therapy over a one-year period. Three levels of adherence were defined depending on the medication supplied in the last year in

proportion to the total prescribed: poor ($\leq 50\%$), intermediate (51–79%), and good ($\geq 80\%$) adherence. Patients with adherence $< 80\%$ were considered as sub-optimally adherent.

Results Demographic and clinical characteristics 162 patients were identified, from which 123 subjects with accurate information regarding current treatment regimen and adherence were included (see table 1). Good adherence was seen in 52.8% of patients, whilst 12.2% were intermediately and 35% poorly adherent. No difference was seen in proportion of good adherence between patients with refractory vs non-refractory symptoms (41.5% vs 58.5%; $p=0.68$). The proportion of refractory patients with suboptimal adherence was 44.9%. Patients with NT1 were less likely than those with NT2 to have suboptimal adherence (40.4% vs 75%; $p=0.002$).

Discussion Our findings suggest that poor adherence is observed in a high proportion of patients with narcolepsy, and that a diagnosis of NT2 seems to be associated with non-adherence to prescribed treatment. Adherence to treatment should be routinely assessed in narcolepsy, particularly prior to initiating any step-up in therapy.

P060 CO-MORBIDITY OF DELAYED SLEEP PHASE AND PSYCHIATRIC CONDITIONS IN A COHORT OF ADOLESCENTS

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Introduction Delayed Sleep Phase (DSP) is an extremely common sleep problem during adolescence. It is typically manifested as frequently occurring late bedtimes and difficulties waking up. The prevalence in entire populations is estimated to be over 15%. While it is common in typically developing teenagers (estimates ranging from 15%–50%), its prevalence may be even higher in those suffering from psychiatric conditions such as severe depression or anxiety.

Methods We studied a cohort sample ($n=295$) of 17-year-olds (70% girls) in order to detect co-morbidity of DSP and several psychiatric disorders. For sleep measurements we used actigraphy (GeneActiv Original) for a minimum of 7 days as well as the Pittsburgh Sleep Quality Index. These served as tools for estimating a tendency towards DSP, which was defined as having a bedtime later than 1 AM for more than three times per week. Psychiatric disorders (major depressive disorder, generalized anxiety disorder, hypo-manic disorders, obsessive-compulsive disorder, psychotic disorders, and eating disorders) were evaluated using a validated MINI structured interview.

Results The overall prevalence of DSP was 50% in our sample of adolescents. There were no differences between girls and boys in the prevalence of DSP ($p=0.24$). DSP was significantly higher in those with major depressive disorder ($p=0.018$), generalized anxiety disorder ($p=0.025$), and almost significant for obsessive-compulsive disorder ($p=0.055$). DSP was not more prevalent in hypo-manic disorders, psychotic disorders, or any eating disorders (all p -values > 0.3).

Discussion We found a significant co-morbidity between DSP and several psychiatric disorders. This suggests that there is an added burden of sleep problems in those with issues relating to mental well-being. As our study population is from a

Abstract P059 Table 1 patient characteristics

	N = 123
Age	39.4 (± 13.9)
Female sex	69 (56.1%)
Diagnosis	
Narcolepsy type 1	99 (80.5%)
Narcolepsy type 2	24 (19.5%)
Psychiatric comorbidities	28 (22.8%)
Refractory sleepiness	49 (39.8%)
Number of wakefulness-promoting medications at last visit	
0	7 (5.7%)
1	67 (54.5%)
2	34 (27.6%)
3	13 (10.6%)
4	2 (1.2%)
Patients on	
Modafinil	57 (46.3%)
Methylphenidate XL	34 (27.6%)
Methylphenidate IR	16 (13%)
Dexamphetamine	25 (20.3%)
Sodium Oxybate	38 (30.9%)
Adherence	
Good ($\geq 80\%$)	65 (52.8%)
Intermediate (51–79%)	15 (12.2%)
Poor ($\leq 50\%$)	43 (35%)

relatively healthy population it is likely that some of the associations remained undetected; for instance, the prevalence of eating disorders was not high enough to examine DSP reliably.

P061

CAN NON-PHARMACOLOGICAL INTERVENTIONS FOR NOCTURIA IMPROVE SLEEP OUTCOMES? A SYSTEMATIC REVIEW

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Background Nocturia results in reduced sleep due to waking after sleep onset. Treatments for nocturia may result in improved sleep outcomes, but lack of evidence for long-term outcomes has brought pharmacological approaches to managing nocturia in to question. Behavioural approaches for nocturia management have not been assessed for their effects on sleep.

Objective To evaluate the evidence for non-pharmacological nocturia treatments on sleep outcomes in adults.

Search methods: Four databases (Medline, PsychInfo, Embase & Web of Science) were searched, and relevant results were hand-searched for additional papers. Databases were last searched in November 2018. Selection criteria.

The population was adults; the interventions were non-pharmacological treatments for nocturia; outcomes were measures of sleep; study designs were restricted to randomised controlled trials. No limit was placed on comparison or year of publication. The publication type was restricted to journal articles in English.

Results Only 3 studies (N=137) were found to be relevant. No significant differences between intervention and control for nocturia outcomes was found in any study. There were mixed, but mostly null findings for objectively measured sleep outcomes. There was some evidence for subjective sleep outcomes.

Conclusion The small, underpowered studies that were found limit the conclusions that can be drawn from this evidence base. Given the loss of sleep quality associated with nocturia is implicated in the development of hypertension and type 2 diabetes, larger, appropriately powered trials should be undertaken.

P062

NON-PHARMACOLOGICAL INTERVENTIONS FOR SLEEP PROBLEMS IN NEURO-TYPICAL CHILDREN: A SYSTEMATIC REVIEW

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Context Sleep disturbances and disorders are common in children. Non-pharmacological interventions for such disorders are recommended by current guidelines. Recent reviews important in this area focus solely on children with neurodevelopmental disorders (Scantlebury et al., 2018). The current review seeks to synthesise the evidence for children in the non-clinical population.

Objective To expand upon recent reviews by reviewing non-pharmacological interventions for sleep problems in neuro-typical children.

Data Sources Five electronic databases (MEDLINE, EMBASE, PsycINFO, CINAHL and Cochrane databases) were searched using search terms including and relating to 'Children', 'Sleep', 'Behavioural Interventions' and 'Randomised Control Trials'.

Study selection Randomised control trials using non-pharmacological interventions with a sleep outcome, for children and adolescents over five years old were included in the study.

Synthesis. Results were synthesised narratively in relation to intervention content, delivery and efficacy.

Conclusions The studies overall support the recommendation of using non-pharmacological interventions for sleep problems in children. The majority of research to date has investigated the efficacy of cognitive behavioural techniques and was found to be effective in a clinical setting. Future research should evaluate the feasibility and efficacy of these techniques applied on a wider scale and in home settings in order to reach more children.

P063

SLEEP MATTERS UK: EXPLORING THE RELATIONSHIP BETWEEN SLEEP DIFFICULTIES AND QUALITY OF LIFE IN PRIMARY SCHOOL CHILDREN

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Background Sleep efficiency is strongly related to academic performance and behavioural regulation across the lifespan (e.g., Fredriksen et al., 2004; Gruber et al., 2014). Lack of regular bedtimes has been associated with poorer cognitive abilities, including reading (Kelly et al., 2012). However, the relationship between sleep and wellbeing, and the scale of sleep problems in childhood is poorly understood.

Methods Data from a representative UK survey (n=1,100) of parents with children aged 6–11 years old asked 60 questions (based upon well validated scales) including the Child Sleep Habit's Questionnaire (CSHQ) and Pediatric quality of life (QoL; measured by PedsQL) and family routines. Data were analysed using ANOVA, correlations and hierarchical linear regression.

Results The NHS recommends ~ 10 hours sleep in children of this age. Thirty-six percent of children achieved < eight and 15.2% < seven hours – levels likely to impair daytime functioning, and development. Worryingly, sleep problems of clinical significance (CSHQ) were prevalent (over 90%), Statistically significant relationships between poor sleep and lower QoL were found (r=0.567, p=0.001). Shorter sleep duration was associated with a range of problems at school, eg. difficulties in paying attention in class, forgetting things, keeping up with school work and missing school because of illness (all p <0.001).

Conclusions and implications Sleep problems in UK primary school children are widespread, often at levels likely to affect daytime functioning and wellbeing, borne out by the association between poor sleep and poor QoL. Further research is needed including objective sleep measures, and longitudinal evidence in order for causal relationships to be