Conclusion: Although the effect of non-pharmacological interventions targeting sleep disturbances or the sleep disorder insomnia was statistically highly significant, the implication for clinical practice is questionable because of the overall quality evidence. None of the core outcomes used in contemporary IA trials have indicated clinical benefit in favour of non-pharmacological interventions targeting sleep disturbances or disorders.

In conclusion, more rigorous research on non-pharmacological management of sleep disturbances and disorders is urgently needed, also aimed at specific sleep disorders, in order to fully reveal the clinical utility of these novel treatment options. At this point, non-pharmacological treatment of sleep disturbances or disorders is promising and potentially highly effective, and may have the potential to persistently decrease the symptom burden and increase the quality of life of patients with IA.

REFERENCES:
[1] Li et al., Psychol Health Med. 2019 Sep;24(8):911-924

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Background: In children and young people (CYP) with JIA, we have previously identified clusters with different patterns of disease impact following methotrexate (MTX) initiation. It is unclear whether clusters of treatment response following etanercept (ETN) therapy exist and whether, in a group of CYP who have responded inadequately to or had adverse events on methotrexate, similar treatment response patterns exist. Novel response patterns would aid stratified treatment strategies through better understanding and potential forecasting of more specific response patterns across multiple domains of disease.

Objectives: To identify and characterise trajectories of juvenile arthritis disease activity score (JADAS) components following ETN initiation for JIA.

Methods: ETN-naïve CYP with non-systemic JIA were selected if enrolled prior to January 2019 in at least one of four CLUSTER consortium studies: BSPAR-ETN, BCRD, CAPS and CHARMS, at point of starting ETN as their first biological therapy. JADAS components (active joint count, physician’s global assessment (0-10cm), parent global assessment (0-10cm) and standardised ESR (0-10)) were collected at ETN initiation and during the following year.

Multivariate group-based trajectory models, that identify clusters of CYP with similar patterns of change over time, were used to explore ETN response clusters across the JADAS components. Censored-normal (global scores, ESR) and zero-inflated Poisson (active joint count) models were used, adjusting for year of ETN initiation. Optimal models were selected based on a combination of model fit (BIC), parsimony, and clinical plausibility.

Results: Of the 1003 CYP included, the majority were female (70%) and of white ethnicity (90%), with rheumatoid factor-negative JIA the most common disease category (39%).

The optimal model identified five trajectory clusters of disease activity following ETN initiation (Figure 1). Clusters following ETN were similar and covered similar proportions of CYP to those previously identified following MTX: Fast (Group 1: 13%) and Slow (Group 2: 10%) response, active joint count improves but either physician (Group 3: 6%) or parent global scores (Group 4: 34%) remain persistently raised and a group with persistent raised parent global scores across all JADAS components (Group 5: 36%). Compared to the persistent disease cluster, those with greater improvement had lower age and higher functional ability at ETN initiation and those with persistent raised parent global scores had lower ESR levels and were less likely to be RF-positive at ETN initiation.

Figure 1. Clusters identified following ETN initiation in children and young people recruited to the UK BSPAR-ETN, BCRD, CAPS and CHARMS studies.