

Workshop Report

Workshop title: Assessing Evidence in Translational Chronobiology (in person)

12th June 2023 | 14:30 - 17:00

13th June 2023 | 09:00 - 17:00

Aim

One of the main challenges in translating chronobiology research into clinical practice is the difference in evaluating evidence between basic scientists and clinicians. The aim of this workshop was to bring together scientists with different backgrounds in order to assess the current evidence and to produce practical recommendations on the following questions:

- 1) Do healthy individuals have an increased risk of road traffic accidents during the Daylight Saving Time (DST) months (April-October) compared to the standard time months (November-March)?
- 2) In high school students, do delayed school start times result in longer sleep duration compared to regular schedules?

Keynote speaker

Prof. David McDaid, London School of Economics, UK

Workshop programme

Day 1

- Welcome and Registration (Prof. Debra J. Skene, University of Surrey, UK)
- Concept and Procedure (Prof. Sara Montagnese, University of Surrey, UK)
- Literature Search Results about DST and road safety (Mr Gianluca Giusti, University of Surrey, UK)
- Literature Search Results about DSST and sleep duration (Dr. Chiara Mangini, University of Padua, Italy)

Day 2

Morning session - DST and road safety

- Analysis of the evidence from a chronobiological perspective (Dr. Eva Winnebeck, University of Surrey, UK)
- Analysis of the evidence from a transportation perspective (Dr. Federico Orsini, University of Padua, Italy)
- Discussion, vote, production of a recommendation/statement
- Translational medicine and public health - how to approach stakeholders (keynote lecture: Prof. David McDaid, London School of Economics, UK)

Afternoon session – school start times and sleep duration

- Analysis of the evidence from a chronobiological perspective (Prof. Mary Carskadon, Brown University, US)
- Analysis of the evidence from an evidence-based medicine perspective (Prof. Lise Lotte Gluud, University of Copenhagen, Denmark)
- Discussion, vote, production of a recommendation/statement

Closing remarks: Debra J. Skene, University of Surrey, UK

Event themes

The event themes were the evaluation of the available evidence for DST contributing to road traffic accidents, and for delayed school times resulting in increased sleep duration in high school children. These were discussed by use of the following methods:

- The literature was interrogated via two very well defined PICO (population, intervention, comparator, outcome) questions, i.e.:
 - *Do healthy individuals (P) have an increased risk of road traffic accidents (O) during the Daylight-Saving Time months (April-October)(I) compared to the standard time months (November-March)(C)?*
 - *Are delayed school start times (I) associated with longer sleep duration (O) in high school students (P)? (Comparator: standard school times)*
- The evidence was first examined and summarised in a comprehensive, detailed fashion by two PhD students (one with a neurobiological and one with a clinical background)
- Then the same evidence was analysed from more specific perspectives: that of a chronobiologist and a transportation safety engineer for the DST-centred question, and that of a chronobiologist and an evidence-based medicine (Cochrane-based) for the question on school times and sleep duration.
- Finally, the audience, acting as a Delphi panel (i.e. the type of panel that generally reviews PICO-based clinical practice guidelines), discussed the overall evidence and attempts

were made at producing and voting a recommendation. This proved a more difficult task for the DST-centred question, as considerable homogeneity and confounders emerged from the literature. By contrast, the evidence for a relationship between school start times and sleep duration was found to be solid.

Prof. David McDaid, from the London School of Economics, gave a keynote lecture on how to approach stakeholders in order to help transform scientific evidence/recommendations into actual policies. All through the meeting he also very actively contributed to the discussions, often identifying existing individuals/committees/panels that are active on similar topics from a decision-making perspective, and may be contacted in the near future.

Photos



Next steps - outcomes

While the debate on the relationship between DST and road traffic accidents highlighted considerable heterogeneity in the literature (the origin of which was largely clarified), that on

the relationship between school starting times and sleep duration lead to more clear-cut results, and will lead to the production and publication of a meta-analysis.

Existing individuals/committees/panels will be contacted in relation to practical strategies to turn available knowledge on the relationship between DST and road traffic accidents and that on school start times on sleep duration into relevant public health campaigns.

Feedback

The workshop was valued by speakers and attendees and represented an excellent opportunity for collaborative, diverse and constructive discussions. Here is some of the feedback received:

“It was a brilliant workshop and I have very much enjoyed every aspect of it”

“Really interesting to have experts from various fields explain their perspectives on chrono research topics!”

“And very valuable information on working with stakeholders - I learned a lot so thank you”

“The speakers were excellent, and really added to the broad approach. I learned a lot!”

“It would be great to get updated on any progress made afterwards in case there is any”

Acknowledgements

We are grateful to our sponsor, the Institute of Advanced Studies at the University of Surrey. We would also like to thank Mirela Dumic and Louise Jones for their support and advice throughout the workshop planning. Finally, we are grateful to all the speakers and the participants for a lively and fruitful debate.