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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202540110

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 30 April 2025 and was last updated on 30 April 2025.

INTRODUCTION

Review question / Objective The research questions are:

1. What is the current evidence on the economic burden of movement behaviours, including insufficient physical activity, high levels of sedentary behaviour, inadequate sleep duration, and not meeting the 24-hour movement guidelines?
2. What methodological approaches have been used to analyse economic burden of movement behaviours in previous studies?
3. What are the limitations of previous studies and gaps in evidence on economic burden of movement behaviours?

The objectives are:

1. To systematically review and synthesise evidence on economic burden of movement behaviours.
2. To determine which methodological approaches have been used to analyse economic burden of movement behaviours.

3. To assess methodological quality of previous studies and identify gaps in evidence on economic burden of movement behaviours.
1. What is the current evidence on the economic burden of movement behaviours, including insufficient physical activity, high levels of sedentary behaviour, inadequate sleep duration, and not meeting the 24-hour movement guidelines?
 2. What methodological approaches have been used to analyse economic burden of movement behaviours in previous studies?
 3. What are the limitations of previous studies and gaps in evidence on economic burden of movement behaviours?

Condition being studied Economic burden expressed in the monetary unit, including total direct, indirect costs.

METHODS

Search strategy The literature search will be conducted through titles, abstracts, and keywords of documents in English indexed in Open Dissertations, PsycINFO, PubMed/MEDLINE,

Scopus, SPORTDiscus, and Web of Science (including Emerging Sources Citation Index, Science Citation Index–Expanded, and Social Sciences Citation Index) from database inception, using the following search syntax: ("movement behavio*" OR "movement guideline*" OR "time use" OR "use of time" OR "physical behavio*" OR "24-hour activity cycle" OR "physical activity" OR "physical inactivity" OR "motor activity" OR "energy expenditure" OR "physically active" OR "physically inactive" OR sedentar* OR sitting OR "screen time" OR "screen use" OR "screen entertainment" OR television OR "TV viewing" OR "TV watching" OR "watching TV" OR "computer time" OR "computer use" OR "sleep* duration" OR "time spent sleeping" OR "sleep* time" OR "sleep* quality" OR "sleep quantity" OR "quality of sleep" OR "quantity of sleep" OR napping OR bedtime OR "bed time" OR "time in bed") AND ("economic cost*" OR "economic burden" OR "economic analysis" OR "economic evaluation" OR "economic consequence*" OR "economic implication*" OR "medical cost*" OR "medical expenditure*" OR "medical burden" OR "medical charge*" OR "healthcare cost*" OR "healthcare expenditure*" OR "healthcare burden" OR "healthcare charge*" OR "health care cost*" OR "health care expenditure*" OR "health care burden" OR "health care charge*" OR "cost saving*" OR "cost-benefit" OR "return on investment"). The reference lists of included documents will be screened for any additional relevant studies. The study selection will be performed independently by two researchers.

Participant or population The general population of adults (aged 18 years and above).

Intervention Insufficient physical activity, high levels of sedentary behaviour, inadequate sleep duration, and not meeting the 24-hour movement guidelines.

Comparator Sufficient physical activity, low levels of sedentary behaviour, adequate sleep duration, and meeting the 24-hour movement guidelines.

Study designs to be included Original studies that provided quantitative estimates of the economic cost of movement behaviours.

Eligibility criteria Inclusion criteria: Peer-reviewed journal articles, theses, and reports that provided quantitative estimates of the economic cost (monetary cost in a given time frame; overall, direct, indirect) of movement behaviours in the general adult population will be included in the review.

Exclusion criteria: Reviews, meta-analyses, commentaries, opinion papers, books, book chapters, conference abstracts, qualitative studies, and studies conducted in other age groups and special populations will not be included in the review.

Information sources Open Dissertations, PsycINFO, PubMed/MEDLINE, Scopus, SPORTDiscus, and Web of Science (including Emerging Sources Citation Index, Science Citation Index–Expanded, and Social Sciences Citation Index).

Main outcome(s) Overall, direct, and indirect economic cost of movement behaviours expressed in a monetary unit.

Quality assessment / Risk of bias analysis The methodological quality of included studies will be assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for Economic Evaluations.

Strategy of data synthesis All economic costs will be expressed in US dollars and adjusted for inflation. The economic costs will also be expressed relative to the overall national healthcare expenditure and gross national expenditure. If data allow, the global cost will be estimated and trends in national costs in different countries will be established. The analyses will be done separately for insufficient physical activity, high levels of sedentary behaviour, inadequate sleep duration, and not meeting the 24-hour movement guidelines.

Subgroup analysis None.

Sensitivity analysis Not applicable.

Country(ies) involved Australia, Croatia, and Singapore.

Keywords Economic cost; economic burden; physical activity; physical inactivity; sedentary behaviour; sleep; movement behaviours.

Dissemination plans The review will be published in a peer-review journal.

Contributions of each author

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