



Strengthening the Evidence in Exercise Sciences Initiative (SEES Initiative)

Assessment Report for Individual Study

Study title

Can consumer wearable activity trackerbased interventions improve physical activity and cardiometabolic health in patients with chronic diseases? A systematic review and meta-analysis of randomised controlled trials

PMID

32393357

Journal

Int J Behav Nutr Phys Act

Type of Publication and Period of assessment

Systematic Review with Meta-Analysis, SEES Pack 4

Note: The COVID-19 pandemics we are going through is very challenging and totally unprecedented. However, through it we can see that science conducted in an open, transparent and reproducible way is more than an ideal, it is a necessity. In this sense, we decided to keep our activities. However, we emphasize this evaluation was possibly not reviewed/questioned by the article authors due to the moment we are all going through. Thank you for your time and consideration.
SEES Initiative team.

Component	Item	SEES assessment
Transparency	Registration: Is the review registered in a public database?	Yes - Registered in PROSPERO
Transparency	Protocol: Is there referral of a publicly available methodological protocol? (Note: if so, you must also use the protocol to consult information about the review)	No
Completeness	Title: Is the study identified as a systematic review, meta-analysis, or both?	Yes
Completeness	Abstract: Does the abstract list the data sources used in the review? (Note: if more than five databases were used, simplified or partial referral should be considered as "Yes")	Yes
Completeness	Abstract: Does the abstract inform key eligibility criteria for study selection?	Yes
Participants	Abstract: Is there a description regarding the population (participants) or main condition(s) addressed in the review?	Yes
Intervention / Exposure	Abstract: Is there a description regarding the interventions/exposures (or, broadly, independent variables) addressed in the review?	Yes
Completeness	Abstract: Is there a description of the number of included studies?	Yes
Outcome	Abstract: Is there a result description for the main outcome of interest?	Yes
Completeness	Introduction: Is there an explicit description of the research question or specific objectives (with PICOS)?	Yes
Transparency	Methods: Is there at least one search query fully available? (Note: a full search query should allow complete replication)	Yes
Methodological rigor	Methods: Did the authors declare the inclusion of non-published evidence? ("grey literature")	No
Methodological rigor	Methods: If the search is restricted for evidence generated after 1980, is there an indirect or direct justification related to the time range?	The searches were carried out from the database inception (earliest date)
Methodological rigor	Methods: How many languages were considered for study eligibility?	3
Completeness	Methods: Is there a detailed explanation of eligibility criteria for PICOS elements? (Note: detailed explanation should allow complete replication)	Yes
Methodological rigor	Methods: Was the study selection carried out in duplicate?	Yes
Methodological rigor	Methods: Was the data extraction carried out in duplicate?	Yes
Methodological rigor	Methods: Is there a description of the assessment of risk of biases?	Yes
Methodological rigor	Methods: Was the assessment of risk of biases carried out in duplicate?	No
Outcome	Methods: Is there a description of the statistical combination (meta-analysis) regarding the effect measure (e.g., relative risk or mean difference), statistical method (e.g., inverse variance), and effects approach (fixed or random)?	Yes
Outcome	Methods: Is there a description regarding the assessment of statistical heterogeneity?	Yes
Completeness	Results: Is there a full description regarding the numbers of references (retrieval, eligibility, synthesis)?	Yes
Completeness	Results: Is there a description about the sample sizes of individual studies?	Yes

Participants, Intervention / Exposure	Results: Is there a full description of characteristics? (Note: the available PICOS elements should be considered)	Yes
Completeness	Results: Is there a description of study duration (follow-up lengths)?	Yes
Outcome	Results: Is there a minimally recommended description of meta-analytic summary estimates? (Note: binary outcomes as frequencies with and without the event (or as proportions such as 12/45); continuous outcomes as the mean, standard deviation, and sample size for each group)	No
Outcome	Results: Is there a full description of individual results for studies composing the meta-analysis? (Note: effects size, imprecision measure and percentage weight should be considered)	Partially yes
Critical appraisal	Results: Is there a description of risk of bias within studies? (Note: your assessment should be based on the characteristic of the RoB tool)	Partially yes (there are individual results without specification of specific criteria/domains)
Critical appraisal	Discussion: Is there a potential spin bias based on a specific reporting strategy to highlight that the experimental treatment (or condition of interest) leads to the hypothesized result?	Yes
Critical appraisal	Discussion: Are the results discussed in light of the risk of biases in individual studies?	No
Critical appraisal	Discussion: Are limitations discussed at the study/outcome and/or at the review level?	Yes, ONLY for the study and/or outcome level (review processes not mentioned)
Transparency	Is there a statement regarding the data availability (data sharing plan)?	Yes
Completeness	Is there a statement regarding the sources of funding? (Note: funding for the review itself)	Yes
Completeness	Did the review authors declare whether they had any conflicts of interest (COI)?	Yes