Association between depression and physical activity in type 2 diabetes, 2000-2018: a systematic review  

Jusung Lee, Margaret Foster, Jane Bolin, Marcia Ory, Hongwei Zho, Timothy Callaghan, Mihyun Oh

Citation  

Review question  
Which instruments of depression and physical activity have been used in studies over the review period?  
What were the settings and designs of the studies?  
What was the association between physical activity and depression in type 2 diabetes?

Searches  
Concepts included in the search were: diabetes and depression and physical activity, using thesaurus terms appropriate for each database and terms in title or abstract. Searched MEDLINE (Ovid), Embase (Ovid), CINAHL (EBSCO), and PsycINFO (EBSCO) through July 25, 2018, limiting to English.

Types of study to be included  
Cross-sectional study OR Longitudinal study.

Condition or domain being studied  
The outcome of the study is depression. Depression is either a major depressive disorder or a clinical disorder, it is a mood disorder affecting activities, feelings, and thoughts of people with depressive symptoms.

Participants/population  
Persons diagnosed with type 2 diabetes,

Intervention(s), exposure(s)  
Physical activity is defined as bodily movement enhancing the health of people such as walking, dancing, exercising yoga.

Comparator(s)/control  
Not applicable.

Context  

Primary outcome(s)  
Association between depression and physical activity in type 2 diabetes.

Timing and effect measures

Secondary outcome(s)  
Instruments of depression and physical activity that have been used in studies.  
Settings and designs of studies.
Timing and effect measures

Data extraction (selection and coding)
We developed a data extraction form in an Excel spreadsheet that was subsequently tested and refined by all authors. One investigator conducted data extraction from included articles and entered into the finalized table. The extracted information includes 1) author/year/country, 2) sample size/gender/age, 3) Study design/setting, 4) physical activity/depression measurements, 5) Follow-up (longitudinal study only), and 5) results. Another investigator independently went over the extracted information. Two investigators discussed and resolved by consensus if there was disagreement.

Risk of bias (quality) assessment
The quality assessment will be done using the JBI (Joanna Briggs Institute) Critical Appraisal Tools. Given that cross-sectional and longitudinal studies are included for the review, we are going to use an appraisal tool specific for each study design. Two reviewers independently assessed included studies using the appropriate appraisal tools. After the initial assessment, two investigators discussed the assessments and achieved consensus in cases of any disagreement.

Strategy for data synthesis
We will use aggregate data to provide a narrative synthesis.

Analysis of subgroups or subsets
We separate studies into before 2011 and from 2011 to examine patterns in the use of instruments and association.
We present findings, such as frequency and association by instruments, settings, and designs.

Contact details for further information
Jusung Lee
lee14@tamu.edu

Organisational affiliation of the review
Texas A&M University

https://sph.tamhsc.edu/

Review team members and their organisational affiliations
Jusung Lee. Texas A&M University
Margaret Foster. Texas A&M University
Jane Bolin. Texas A&M University
Marcia Ory. Texas A&M University
Hongwei Zho. Texas A&M University
Timothy Callaghan. Texas A&M University
Mihyun Oh. Texas A&M University

Anticipated or actual start date
05 February 2018

Anticipated completion date
31 December 2018

Funding sources/sponsors
None.
Conflicts of interest

Language
English

Country
United States of America

Stage of review
Review_Ongoing

Subject index terms status
Subject indexing assigned by CRD

Subject index terms
Depression; Depressive Disorder; Diabetes Mellitus, Type 2; Exercise; Humans

Date of registration in PROSPERO
11 September 2018

Date of publication of this version
11 September 2018

Details of any existing review of the same topic by the same authors

Stage of review at time of this submission

<table>
<thead>
<tr>
<th>Stage</th>
<th>Started</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary searches</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Piloting of the study selection process</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Formal screening of search results against eligibility criteria</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Data extraction</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Risk of bias (quality) assessment</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Data analysis</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Versions
11 September 2018

This information has been provided by the named contact for this review. CRD has accepted this information in good faith and registered the review in PROSPERO. CRD bears no responsibility or liability for the content of this registration record, any associated files or external websites.