**Reviewer’s report**

**Title:** Association between subthreshold depression and self-care behaviours in people with type 2 diabetes: a systematic review of observational studies

**Version:** 0 **Date:** 26 Jan 2020

**Reviewer:** Reint Meursinge Reynders

**Reviewer's report:**

SYSR-D-19-00556

Title: Association between subthreshold depression and self-care behaviours in people with type 2 diabetes: a systematic review of observational studies

Article type: Research

Peer reviewer: Reint Meursinge Reynders

Recommendation: Major revision

**MY DECISION ON THE SYSTEMATIC REVIEW**

The authors have conducted a systematic review that is clearly reported. The protocol of this systematic review has been published a priori. During my peer review I identified various shortcomings that are formulated as comments (comments are listed under here). I ask the authors to address all comments in detail. My decision on this manuscript is 'Major Revision'.

**METHODS OF THIS PEER REVIEW**

I used the PRISMA checklist and its pertinent guiding paper (Liberati 2009, Moher 2009) and the Methodological Expectations of Cochrane Intervention Reviews (MECIR) standards (Higgins 2019) to assess how this review was reported. I further consulted the AMSTAR 2 tool (Shea 2017) to assess how this systematic review was conducted. For the assessment of the abstract I used the PRISMA for Abstracts Checklist (Beller 2013).

**BRIEF SUMMARY OF THE SYSTEMATIC REVIEW**

This systematic review examines the association between subthreshold depression and self-care behaviours in adults with type 2 diabetes.
STRENGTH OF THE SYSTEMATIC REVIEW

The authors addressed an important research question that could benefit a large population both short- and long-term and could influence future health policies. Important knowledge gaps were identified.

SHORTCOMINGS OF THE SYSTEMATIC REVIEW

All shortcomings of this systematic review are formulated as comments under here. I reported my comments in the order in which the manuscript was reported.

ABSTRACT

Comment 1

Please adapt the abstract according to The PRISMA for Abstracts Checklist (Beller 2013). Currently the objectives (Item 2), eligibility criteria (Item 3), and information sources (Item 4) are not given.

Comment 2

The submission guidelines of the journal Systematic Reviews (Systematic Reviews 2020) state that the abstract of a research article such as this submitted systematic review should not exceed 350 words. The current abstract has a wordcount of 216 words, so there is ample space for additional transparent reporting. Please address this issue.

Comment 3

Please delete the sentence (Page 2 lines 38 and 39): 'Due to a limited number of studies, a meta-analysis could not be done.' Instead write the following: 'Meta-analyses were not conducted, because criteria for conducting such analyses were not met.' I agree that a meta-analysis should not have been conducted in this systematic review, but besides the limited number of studies there are other valid reasons for not conducting such analyses (Borenstein 2009, Deeks 2009). The authors already have referred to this in the section 'Data analysis' (See my comment 7).

Comment 4

Please delete the sentence: There is not clear evidence .....................in adults with type 2 diabetes. Replace this sentence with: 'The evidence from the 2 included studies on a possible association between subthreshold depression and self-care behaviours in adults with type 2 diabetes was not consistent and potentially biased'. I interpreted the findings as such, but the
authors should carefully assess whether they agree with my statement, i.e., is this statement congruent with their overall conclusions? I stated potentially biased, because that is reported in the section 'Quality appraisal'.

REGISTRATION

Comment 5

Please make sure that the PROSPERO registration is updated and congruent with the final status at the end of the last revision phase of this manuscript. Currently your registration CRD42018116373 has the status 'review ongoing'.

METHODS

Comment 6

On page 6 (Line 113): Please change 'following' to 'according to'.

DATA ANALYSIS

Comment 7

Criteria for conducting a meta-analysis include: 1) same or similar (outcome measures that can at least be standardized to the same measure) outcome measures 2) low risk of bias in the included studies 3) consistent outcomes between studies 4) low publication bias 5) a high number of included studies 6) low heterogeneity (Borenstein 2009, Deeks 2011). On page 8 lines 176-177 Please state which of these 6 criteria for conducting meta-analyses were not fulfilled in this manuscript.

SEARCH RESULTS

Comment 8

On page 9 Line 183: Please change 'search results is shown' to 'search results are shown'

Table 1

Comment 9
In Table 1 under Dirmaier et al. (2010) in the column 'Key observation', please change 'Subthreshold depression was associated with problem …..' to the plural form of problem 'Subthreshold depression was associated with problems ……………..'.

QUALITY APPRAISAL

Comment 10

In the section 'Quality appraisal' the reviewers report first on the study by Shin et al. and then on the paper by Dirmaier et al. On the other hand Table 2 presents Dirmaier et al. first and then Shin et al. Please keep the same order for the included studies in the text of the manuscript as in the table.

Comment 11

On page 13 lines 284-285 and in Table 2 the authors score questions 1 and 2 as 'Unclear' for the study of Shin et al (2017). I read Shin's paper, but do not understand why these questions were scored as 'Unclear'. Please give the rationale for these scores.

Comment 12

I read the 2 included studies (Dirmaier 2010 and Shin 2017) and I would like to get some additional clarifications.

First, Dirmaier et al. (2010) in their discussion section report on some of limitations of their study. Could you please incorporate these items in the Quality appraisal section and Discussion section of manuscript SYSR-D-19-00556 (For reference see: Page 176 second column and Page 177 first column in the paper by Dirmaier et al.).

Second, Shin et al. (2017) in their discussion section report on some of the limitations of their study. Could you please incorporate these items in the Quality appraisal section and Discussion section of manuscript SYSR-D-19-00556 (For reference see: Page 5 second column in the paper by Shin et al.).

Please note that I am aware that some of these limitations in both the Dirmaier and Shin studies were considered by the reviewers in this manuscript, but not all.

Comment 13

Please also give a short narrative summary on the quality of evidence. Consider in this summary 1) outcomes in the 2 included studies were not consistent 2) the limitations of the research design of the 2 included studies 3) potential sources of bias in the 2 included studies etc.
Please note: The reviewers should assess whether they agree that the evidence can be defined as 'inconsistent and potentially biased'. I interpreted the findings as such, but the reviewers should carefully assess whether they agree with this statement, i.e., is this statement congruent with their overall conclusions?

DISCUSSION

Comment 14

On page 14 (lines 313-315): Please rewrite the section 'Due to a lack of sufficient evidence ……. Is inconclusive'. I would suggest to replace this sentence with the following: Based on these findings and the various quality issues identified in both studies we concluded that the evidence on the association between subthreshold depression and self-care behaviours in people with T2D was inconsistent and potentially biased.'

Please note: The reviewers should assess whether they agree that the evidence can be defined as 'inconsistent and potentially biased'. I interpreted the findings as such, but the reviewers should carefully assess whether they agree with this statement, i.e., is this statement congruent with their overall conclusions?

CONCLUSIONS

Comment 15

On page 15 (Lines 340-344): Please delete the section 'Due to a lack of sufficient evidence ……. People living with T2D'. Please insert the following sentences: 'The evidence on this association was found to be inconsistent and potentially biased. High quality research studies are necessary to further explore this association which may subsequently help in planning interventions to improve self-management of people with T2D.'

Please note: The reviewers should assess whether they agree that the evidence can be defined as 'inconsistent and potentially biased'. I interpreted the findings as such, but the reviewers should carefully assess whether they agree with this statement, i.e., is this statement congruent with their overall conclusions?

DIFFERENCES WITH BETWEEN THE PROTOCOL AND THE FINAL REVIEW

Comment 16

Please state whether there were any differences between the protocol and the final review. If so, please explain with rationale.
REFERENCES USED IN THIS PEER REVIEW

Beller 2013


Borenstein 2009


Deeks 2011


Higgins 2019


Liberati 2009


Moher 2009


Shea 2017

Systematic Reviews 2020


Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field that should be highlighted to relevant networks

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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Were you mentored through this peer review?

No