Author's response to reviews

Title: The association between sleep disturbances and suicidal behaviors in patients with psychiatric diagnoses: a systematic review and meta-analysis

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Author's response to reviews: see over
Dear Editor,

We thank you for the suggestions and comments. Here are our point-by-point responses.

Zhen Wang

Editor:

The authors have now added a column to their Table 1 that lists the types of sleep disturbances in each study. What is the origin of the classification system used? Is it derived from the International Classification of Sleep Disorders 2nd edition?

Response: Not all studies used the definition of the International Classification of Sleep Disorders. Some used self-reported subjective or objective (e.g. frequency of nightmares); while the others used American Academy of Sleep Medicine, American Sleep Disorders Association, or Disturbing Dream and Nightmare Severity Index, etc. We included in the first column “sleep disturbances” of Table 1 the classification system used in each study.

Should the authors category "mixed/unclear" be more accurately labeled "unclear," since it appears that the studies with insomnia plus some other sleep disorder have been included in the insomnia subgroup analyses?

Response: Some studies reported the outcomes of insomnia and other sleep disturbances separately. In the subgroup analysis of sleep disturbances, we analyzed these outcomes separately. In this case, the subgroup analysis for insomnia only included insomnia only. We changed the “mixed/unclear” category to “other/unclear”.

In the study by Krakow [34] the description "SMD and SDB assessed by AASM..." seems odd. Krakow actually used the term "potential sleep disorders," because sleep disordered breathing diagnosis was based upon subjective reports of snoring, etc. not polysomnography. Table 3 should have a footnote clarifying that the only SDB study included in the subgroup analysis for SDB was actually a study of patients with a high pretest probability of SDB, but no objective testing was performed to confirm a diagnosis.

Response: We added the footnote in Table 3 to clarify this. We thank the editor for this suggestion.

Table 1 has a typo Karkow 2011[39] should be "Krakow"

Response: We corrected this in Table 1 and Figure 3.

Please verify is any of the studies in Table 1 actually included any patients with narcolepsy. Currently none are so classified and if none included narcoleptics, then the category in Table 3 should be changed to "hypersomnia" since there are no patients with narcolepsy.
Response: We changed in the revised manuscript the term (hypersomnias and narcolepsy) to (hypersomnia). This is more accurate description because that study did not include patients with narcolepsy. We thank you for the suggestion.

The Methods section needs additional clarification about how the subgroup analyses were conducted. How were data from a study that included multiple types of sleep disturbances, for example their first entry in Table 1 includes patients with both hypersomnia and insomnia, which are two separate classifications in their Table 3. How were data from such a study included in their subgroup analyses? It would seem to be that either the original paper itself presented its results stratified by hypersomnia separate from insomnia, in which case the data from each subgroup could be included in the appropriate subgroup analysis, or the study would have to be dropped from the subgroup analysis. Which is it? And then this information should be specified for each included study - what data were actually included in the subgroup analysis? Which studies were not able to be included because they didn't specify their own data in a way that allowed it to be used in the subgroup?

Response: In the subgroup analysis of sleep disturbances, when one study reported multiple subtypes, they were pooled separately in each subgroup. When one study reported outcomes for multiple subgroups, these outcomes were pooled separately in each subgroup. When multiple outcomes reported in one subgroup, we chose the one that clearly defined and/or objectively measured. For example, if a study reported hypersomnia and insomnia, they were pooled separately in the hypersomnia subgroup and the insomnia subgroup. When a subtype did not fall into any of insomnia, hypersomnia, parasomnia, or sleep related breathing disorder, we categorized it as “other/unclear”. We did not exclude any study in the subgroup analyses. We clarified these in the manuscript.

Lastly, was this paper considered for eligibility, and if it was not eligible what was its reason for exclusion? If it was not identified in the search, then perhaps the authors search strategy needs revision.

Citation: Bernert RA; Joiner TE; Cukrowicz KC et al. Suicidality and sleep disturbances. SLEEP 2005;28(9): 1135-1141."

Response: We thank the editor for bringing the study to our attention. Bernert et al (2005) was included in our search; however we decided to exclude this study as the study did not report outcomes separately for depressive patients. The data presented in the paper also didn’t give us enough information to predict the outcomes exclusively for depressive patients, though the authors adjusted for depressive symptoms in the regression models.

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Response: We double checked the format and corrected discrepancies.