Author’s response to reviews

Title: Trajectories of antidepressant medication use in individuals before and after being granted disability pension due to common mental disorders- a nationwide register-based study

Authors:

Syed Rahman (syed.rahman@ki.se)

Michael Wiberg (Michael.Wiberg@Ki.Se)

Kristina Alexanderson (Kristina.Alexanderson@ki.se)

Jussi Jokinen (Jussi.Jokinen@umu.se)

Antti Tanskanen (Annti.Tanskanen@ki.se)

Ellenor Mittendorfer-Rutz (Ellenor.Mittendorfer-Rutz@ki.se)

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We appreciate that the reviewers have taken their valuable time and provided fruitful comments for manuscript improvement. We have incorporated the suggestions in the revised manuscript accordingly, using traceable changes. We have also made some language editing and clarified aspects that the reviewers’ comments made us aware of. Our point-by-point responses to the reviewers’ comments and suggestions follow below.
Kind regards,

Syed Rahman, PhD, MD

Karolinska Institutet

Reviewer reports:

Sarah Dorrington (Reviewer 1): This is an interesting paper exploring an important question about the trajectories of AD use amongst patients on DP for CMD. The paper analyses a representative sample of patients with DP for CMD.

I have a few questions:

1) In the abstract you state that "suboptimal antidepressant medication before DP can be crucial in such DP". Could you cite any literature that suggests that optimal antidepressant use reduces DP, as opposed to reducing symptoms of depression and increasing productivity?

Authors’ response: Thank you very much for the interesting query. In fact, there is no such study published to date comparing optimal versus suboptimal antidepressant treatment in relation to subsequent disability pension (DP). However, Beck et al. in 2014 reported that improvement in depression symptoms facilitated improvements in productivity following primary care treatment by antidepressants [1]. Similarly, it has also been reported that delay in diagnosis and insufficient treatment in psychiatric patients before the DP application are contributing factors for subsequent work disability [2]. Additionally, according to an OECD expert meeting report 2010, ‘under-treatment’ leads to more mental DP claims [3]. Inadequate pharmacological treatment has also been found to be a risk factor for DP in Norway [4] and in Finland [5]. On the other hand, it is also reported that improvement in symptoms does not always improve work capacity [6, 7]. In the revised manuscript, we have now included reflections on these issues on page 5 lines 77-82 (introduction), and on page 17 lines 342-349, 351-353 (discussion) including the references mentioned above.

2) As you mention, some groups are less likely to access optimal AD doses, and there is inequality in access to specialist services. However, without knowing which additional
treatments have been offered to these patients (e.g. anxiolytics, psychotherapy, occupational interventions) it is difficult to draw firm conclusions about suboptimal treatment.

Authors’ response: We agree with your comment. In our study population, nearly 10% of the individuals were prescribed anxiolytics or sedatives along with antidepressants or alone, but unfortunately, we did not have any information regarding other types of treatment. Therefore, we did not firmly conclude that there was suboptimal treatment, but expressed merely a suspicion about such possibility. We have now edited the discussion on this issue in the manuscript on page 17 lines 344-349 (discussion).

3) Did CMD severity vary by trajectory? You comment on severity in the abstract but not in the text.

Authors’ response: Thank you for pointing this out. In this study, we did not have the possibility to measure formally the severity of the underlying psychiatric disorder, rather we used the proportions of the individuals in a trajectory group using in- or specialized outpatient healthcare as a proxy of severity. Table 2 shows that trajectory groups were significantly different regarding previous in- or specialized outpatient care due to mental diagnoses (p<0.001). Therefore, we concluded that trajectory groups were heterogeneous regarding disease severity. We have now added text on page 8 lines 148-150 (methods) and page 16 lines 328-330 (discussion) to clarify this matter.

4) Your results suggest that the trajectories may partly reflect patients' social situations but you don't mention the role of employers in your discussion. For example, perhaps patients with higher educational attainment tend to have more employment security and are able to remain in work with more severe symptoms (and higher AD doses), to a later age, before requiring DP?

Authors’ response: Thank you for your interesting reflection. There are, of course many aspects, at different structural levels, that can affect both mental morbidity and the possibility to remain in work when having mental disorders – as well as being granted DP with such disorders. One of those aspects is employers, and various aspects of the work and work site. Unfortunately, we do not have access to such information in this study. In the manuscript, we have now included text on page 16 lines 334-336 (discussion) and on page 18 lines 370-375 (discussion).
5) Did any participants return to work during the study period?

Authors’ response: In Sweden, DP is a permanent measure for individuals aging from 30-64 years (around 75% of the study population). Moreover, as we have considered only the individuals who were on DP during the whole follow-up, it is unlikely for even the younger individuals to have returned to work. However, we do not have the information if some have returned to work after the follow-up period. We have now added text regarding this issue in the manuscript on page 16 lines 329-334 (discussion).

6) Did you include partial DP, or just full DP? If you included partial DP how did full time and partial DP vary in use across the trajectories?

Authors’ response: In the study, we have included all incident DP during 2009-2010 not taking into consideration the extent of it. The sensitivity analyses revealed no differences regarding the trajectories between full and part-time DP. Additionally, including all incident DP was advantageous in terms of the power of analyses. Related text has been added on page 10 lines 201-204 (methods).

Simon Rice, PhD (Reviewer 2): This is a well-written manuscript examining population-level data from Sweden regarding common mental disorders and anti-depressant use. The paper has noteworthy strengths, especially as population data is available for all cases meeting the study criteria, rather than sampling. The main finding seemed to be related to very low use of antidepressant medication for a sizeable proportion of the population. The authors suggest that this may reflect under-treatment or a sub-therapeutic dose, which is an interesting finding.

1) There seemed to be an absence of discussion about the limitation of antidepressant medication, especially in relation to side-effects, which are common and may result in cessation of medication. This may be especially relevant for those with enduring disorders.

Authors’ response: Thank you for bringing up the issue regarding side effects of antidepressants use. We have now expanded the discussion on potential side effects of AD treatment in the manuscript on page 17 lines 349-351 (discussion).
2) Is additional data available on the actual types of antidepressant medication that were
prescribed, and is it possible to consider medication type within the analysis? Could there be
different trajectories observed by medication type.

Authors’ response: To the best of our knowledge, this is the first study attempting to disentangle
different groups of trajectories related to the amount of prescribed ADs during the years before
and after being granted DP due to CMD. Analyses on specific types of ADs was not the aim of
this study and such information was not included. Moreover, sub-analyses revealed restricted
power for such detailed analyses. Based on the results of this study, considering actual types of
ADs would, however surely be an interesting topic for further research.

3) On inspecting Table 2, one of the standout results was the relatively high rates of disability
pension for those who had not received any specialised mental healthcare. This would seem to be
of concern, and suggests that the full range of treatment options may not have been considered /
delivered prior to disability pension being granted. The offers mention this briefly in the
discussion, but I actually think this is a very important additional contribution of this paper, and I
wonder if this group can be characterised in further detail using data available (i.e., a sensitivity
analysis for those who had not received any specialised mental healthcare).

Authors’ response: Thank you for this suggestion. We have now conducted sensitivity analyses
on the group of individuals who did not receive any in- or specialized outpatient care due to
psychiatric diagnoses during the 3 years before the date of being granted DP. It seems that these
1906 individuals (41.1%), were somewhat older than the whole study population (mean 49 vs 44
years), with somewhat better educational level (one third of this group attained university
education (26% in the study population). Regarding the main DP diagnosis, more individuals
without previous specialised health care were granted DP due to stress-related mental disorders
than in the whole study population (31.8% vs 22.6%), and fewer received DP due to anxiety
disorders (22.5% vs 31%).

The trajectory analyses showed that this ‘no previous psychiatric healthcare’ group had similar
patterns of trajectory groups, but larger proportions of ‘low constant’ and ‘high constant’ group
(38.5% vs 33.5%, and 24.3% vs 20.8%, respectively) and smaller proportions of ‘middle
constant’ trajectory groups (24.1% vs 33.7%). Moreover, cut-offs for DDDs of ADs for the
different trajectory groups differed. Multinomial regression suggested similar associations of
covariates with trajectory groups as in the whole study population. We have added in the
manuscript on page 14, lines 265-277 (results) that individuals without specialised health care before DP, were somewhat older, better educated, had a different diagnostic profile and different proportions in the different trajectory groups (i.e. received lower levels of ADs), and probable explanation for such health care us on page 19 lines 398-403 (discussions).

Minor:

I think the title would be clearer if it included the term "use" i.e., "Trajectories of antidepressant medication use in…"

Authors’ response: Thank you for this suggestion. We have now added the term “use” in the title.

References:


