PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Sick leave and return to work for patients with anxiety and depression: A longitudinal study of trajectories before, during, and after work-focused treatment
AUTHORS	Sandin, Kenneth; Anyan, Frederick; Osnes, Kåre; Gunnarsdatter Hole Gjengedal, Ragne; Risberg Leversen, Jonas Sigurd; Endresen Reme, Silje; Hjemdal, Odin

VERSION 1 – REVIEW

REVIEWER	Goorts, Kaat Katholieke Universiteit Leuven
REVIEW RETURNED	31-Jan-2021

GENERAL COMMENTS	I accept the revision of this manuscript and I recommend to accept this manuscript for publication.

REVIEWER	Stapelfeldt, Christina Aarhus University, Public Health
REVIEW RETURNED	07-Feb-2021

GENERAL COMMENTS	Reviewer 1 Thank you for a thorough answering and clarifying response to the reviewer comments. I think the manuscript has improved and has a nice flow to it. Below are some suggestions for smaller corrections / additions. I recommend the manuscript to be accepted for publication. Measures Page 6, line 20: change have to had Page 6, line 23: change is to was Page 6, line 24: change contains to contained Page 6, line 26: change is to was Clinical characteristics Page 7, line 19: change is to was Page 7, line 19: Change sentences to "The same was true for the background characteristics and diagnoses; as they were recorded from patient journals. The exception was "Higher education" with 3.1 % missing values."

	Statistical analyses
	Page 7, line 41: change "Akaike (AIC) information criterion" to "Akaike information criterion (AIC)"
	Discussion
	Page 10, line 24: add the between "of patients" Page 11, line 8: change shows to showed
	Page 11, line 12: change remains to remained
	Strengths and limitations
	Page 11, line 33: change showed to shown
	Page 11, line 48: A point for consideration; to maybe emphasize the lack of workplace-related variables in your study. Reference 40 finds organization sector and organization size to be important variables in their RTW trajectories. A considerable amount of studies within this research field have also pointed towards the importance of employer and colleagues support.
	Conclusion and future research
	Page 12, line 26: change "compared to" with than
	Page 12, line 34: insert "," after "thus" Page 12, line 38: Insert "?" after "patterns". And start the following sentence with "All….."
	Page 12, line 48: You end with this statement: "The findings in the present study point to the possibility of improving outcomes for patients on or at risk of sick leave due to anxiety and depression through stratifying and tailoring treatment."
	However, I miss your reflection on the "High risk" and the "Recovery" groups' baseline similarities and thus, difficulties with treatment stratification, accordingly. Is it ok from a clinical perspective to stratify in two groups "Resilience" and "The rest"? Pros and cons. What would be the next step if a three-class solution is to be prioritized from a clinical point of view? How should the models be improved to better differentiate between "High risk" and "Recovery".

VERSION 1 – AUTHOR RESPONSE

We would like to thank the reviewers for their time and effort, and for their attention to detail, which has been of great help in improving the manuscript. We have followed the recommendations of Reviewer 1 and made the suggested changes to language (please see tracked changes in the marked copy).

Reviewer 1 also raises two points in the Discussion:

1. "Page 11, line 48: A point for consideration; to maybe emphasize the lack of workplace-related variables in your study. Reference 40 finds organization sector and organization size to be important variables in their RTW trajectories. A considerable amount of studies within this research field have also pointed towards the importance of employer and colleagues support."

Author's re: We agree that this is a pertinent point. It is briefly addressed in the following paragraph (Page 11, lines 52 - 55): *"As for the background and clinical data used in the post-hoc analyses, no data was collected on workplace conditions. We do therefore not know to which degree workplace issues affected outcomes."*

We have now expanded this section and also included a reference to the review study on workplace factors by Cullen et al. 2018, and the reference suggested by the reviewer*: "Future research on the topic would benefit from including workplace factors known to influence the RTW process, such as job sector, size of workplace, and support from colleagues and supervisors [1, 2]."*

2. Page 12, line 48: You end with this statement: "*The findings in the present study point to the possibility of improving outcomes for patients on or at risk of sick leave due to anxiety and depression through stratifying and tailoring treatment.*" However, I miss your reflection on the "High risk" and the "Recovery" groups' baseline similarities and thus, difficulties with treatment stratification, accordingly. Is it ok from a clinical perspective to stratify in two groups "Resilience" and "The rest"? Pros and cons. What would be the next step if a three-class solution is to be prioritized from a clinical point of view? How should the models be improved to better differentiate between "High risk" and "Recovery".

Author's re: This is a very good question! To the extent that we divided the groups into "Resilient" and "the rest", the idea was to briefly address the characteristics of the "Resilient" group so that we could spend the majority of the Discussion focusing on the "Recovery" and "High risk" groups. These were the groups where the majority of patients were on sick leave at start of treatment, and thus where there may be greatest potential for improving interventions in future.

As you point out, the differences between "High risk" and "Recovery" were mainly visible after treatment. One way of stratifying treatment could thus be to schedule further clinical follow-up or consider if other services could be useful for these patients. This is addressed on page 11, line 15 – 16:

"This implies that clinicians should be wary of residual depressive symptoms and low RTW-SE scores at the end of treatment."

We have now added the following paragraph to attempt to clarify and expand on this point: *"A further implication is that these patients may need further follow-up. Clinicians could schedule future sessions or assess whether there are other services more appropriate for helping the patient recover. It is also possible that there are factors explaining the continued sick leave of the "High risk" patients that were not recorded in the present study. Examples may include personal circumstance or characteristics of the work or workplace. As residual depressive symptoms predicted future sick leave, it is also worth*

noting that the wide-ranging impact of depression on a patient's life may not always be adequately recorded by standard clinical instruments [3]. Future research investigating longitudinal sick leave trajectories in this patient group could thus benefit by a more thorough recording of workplace factors, and perhaps by supplementing quantitative measures with a qualitative approach to get a deeper understanding of the causes of continued sick leave."

1. Cullen, K., E. Irvin, A. Collie, F. Clay, U. Gensby, P. Jennings, S. Hogg-Johnson, V. Kristman, M. Laberge, and D. McKenzie, *Effectiveness of workplace interventions in return-to-work for musculoskeletal, pain-related and mental health conditions: an update of the evidence and messages for practitioners.* Journal of occupational rehabilitation, 2018. **28**(1): p. 1-15.
2. Spronken, M., E.P.M. Brouwers, J.K. Vermunt, I. Arends, W.G.M. Oerlemans, J.J.L. Van der Klink, and M.C.W. Joosen, *Identifying return to work trajectories among employees on sick leave due to mental health problems using latent class transition analysis.* BMJ Open, 2020. **10**.
3. Chevance, A., P. Ravaud, A. Tomlinson, C. Le Berre, B. Teufer, S. Touboul, E.I. Fried, G. Gartlehner, A. Cipriani, and V.T. Tran, *Identifying outcomes for depression that matter to patients, informal caregivers, and health-care professionals: qualitative content analysis of a large international online survey.* The Lancet Psychiatry, 2020. **7**(8): p. 692-702.