

Investigating the effects of COVID-19 and the UK lockdown on Impulse Control Behaviours in people with Parkinson's

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1 Introduction

Impulse Control Behaviours (ICBs)

ICBs involve pleasurable behaviours carried out excessively, compulsively and repetitively. They are characterised by a loss of control and a lack of/no consideration to adverse consequences^{1,2}.

- Over a 5-year cumulative period, ~46% of People with Parkinson's (PwP) experience ICBs³.
- ICBs can be associated with factors such as dopamine agonist medications, anxiety, impulsivity, apathy and certain demographics¹

COVID-19 and the UK lockdown

- There have been enormous impacts on all aspects of every day life. There have been increases in stress and anxiety in the general population⁴.
- PwP already experience higher levels of anxiety⁵ and may experience additional impacts of COVID-19.

2 Method

186 PwP and 61 Healthy Controls completed the online survey.

Participants completed the following measures:

- **ICBs** – QUIP (Questionnaire for Impulsive-Compulsive Disorders) Completed twice – referring to 'before' and 'since' the participants personal chosen COVID-19 date.
- **Anxiety** – STAI (State Trait Anxiety Index). Trait referred to 'Before' and state referred to 'Since' COVID-19.
- **Impulsivity** – BIS (The Barratt Impulsiveness Scale)
- **Apathy** – SAS (Starkstein Apathy Scale)
- **Social Impact of COVID-19**

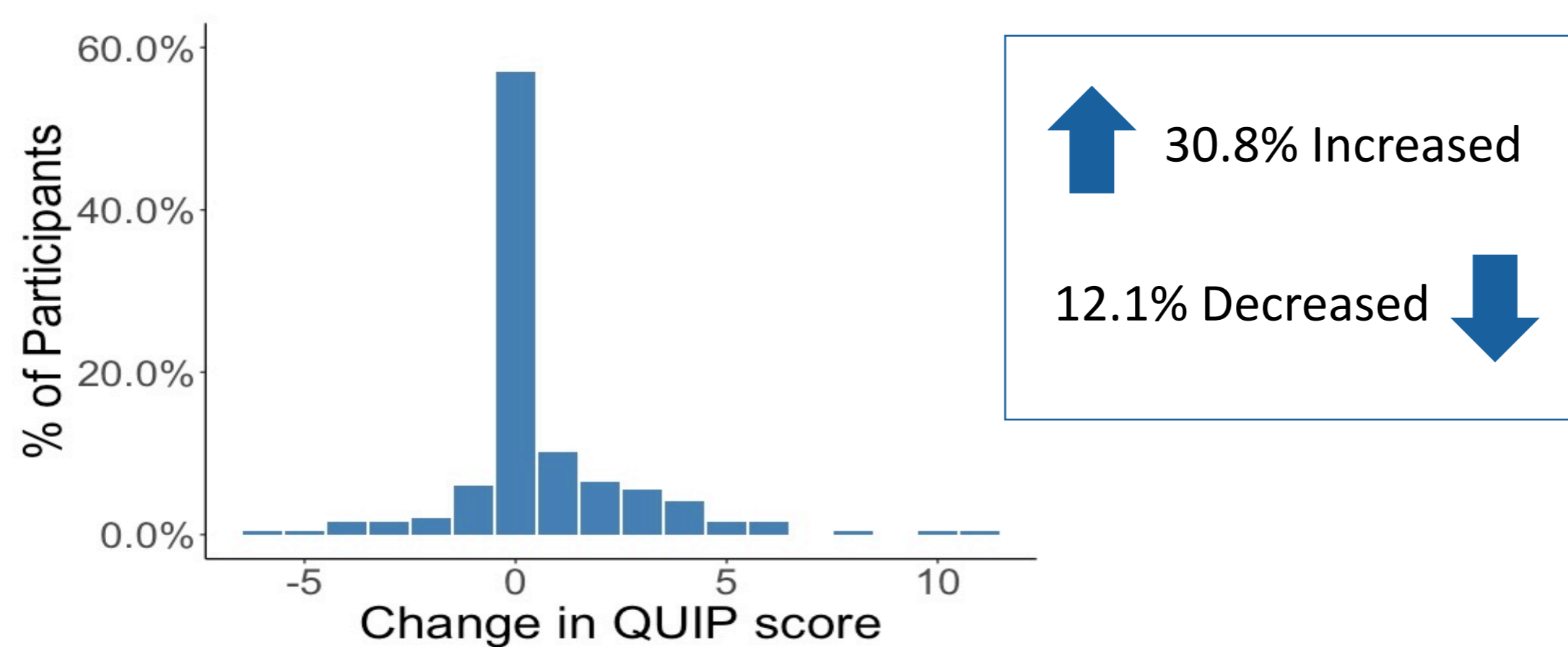
There were also open questions asking PwP about their experiences of anxiety and ICBs during the pandemic.

Predictions

- The large changes to everyday life due to COVID-19 will cause changes in ICBs.
- Anxiety (and other factors) may contribute to these changes.

3 Results

Overall, PwP QUIP scores **significantly increased** since COVID-19 ($Z = 0.293, p < .001$) and there was an increase in ICB prevalence.



Results from a thematic analysis on the answers to the open questions were consistent with these results.

ICB	Before	Since
At least one	37.37%	44.95%
Multiple	10.60%	12.63%
Pathological Gambling	2.02%	2.53%
Hypersexuality	20.71%	23.23%
Compulsive Buying	15.15%	14.14%
Binge eating	12.63%	20.71%

PwP showed a significant increase in anxiety (37.7 vs 40.2) ($Z = .352, p < .001$)

- Modelling (CLMs) was used to examine the influence of anxiety, impulsivity and apathy on ICBs.
- CLMs revealed that when modelled with 'Before' QUIP scores, state anxiety ($p = .017$), impulsivity ($p = .017$) and apathy ($p = .034$) were significant predictors of 'Since' QUIP scores.
- These models were all significantly better fit ($p = .016, .016$ and $.034$) of the data than a model containing only 'Before' QUIP scores as a predictor.
- Impulsivity was the strongest predictor overall.

4 Discussion + Conclusions

COVID-19 has led to an increase in ICBs in PwP.

- Anxiety also increased in PwP during COVID-19
- ICBs and changes in ICBs were associated with anxiety, impulsivity and apathy – these are possible targets for interventions to reduce ICBs.
- Changes in ICBs and anxiety varied considerably across participants during COVID-19 – individualised reassessments of PwP needs are important going forward.
- ICBs may increase in PwP during times of stress/adverse life events – ICBs should be monitored more closely during these times.

References

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⁵ Voon, V., Sohr, M., Lang, A. E., Potenza, M. N., Siderowf, A. D., Whetteckey, J., ... & Stacy, M. (2011). Impulse control disorders in Parkinson disease: a multicenter case-control study. *Annals of neurology*, 69(6), 986-996.