

Dear Editor,

We would like to thank the reviewer for his report. We have responded point by point in the text below. Please let us know if we can improve the manuscript further.

Major comments

Abstract— “a psychiatric diagnosis may be an independent contributor to the risk of COVID-19”, – what psychiatric diagnosis? The diagnosis can be a contributor? You mean risk of long COVID-19? Sorry for confused.

Thank you for this question. It is accepted that a psychiatric diagnosis prior to the COVID-19 pandemic contributes to the risk of contracting COVID-19 infection and that COVID-19 infection is a at-risk condition for psychiatric outcomes. This is the bidirectional link studied by Taquet et al (among others). Here, at the beginning of the abstract, we don't yet talk about long COVID, but only describe the background to our subject.

To be more clearer, we replaced the following sentence: “a psychiatric diagnosis may be an independent contributor to the risk of COVID-19” with: “A psychiatric history (i.e. depression) may be an independent contributor to the risk of COVID-19 diagnosis”

Methods—Study registration “Patients where mainly self-referred or referred by general practitioners or colleagues. Patients had either a RT-PCR-proven SARS-CoV-2 diagnosis or a CT-proven SARS-CoV-2 diagnosis secondarily confirmed by serology.” **Population** “Patients had either an olfactory complaint for over 6 weeks and a molecular-proven SARS-CoV-2 diagnosis or a CT-proven SARS-CoV-2 diagnosis secondarily confirmed by serology. ” Are these two parts repetitive with a careful ask?

We agreed with your remark and replaced the following sentences: “**Methods—Study registration** “Patients where mainly self-referred or referred by general practitioners or colleagues. Patients had either a RT-PCR-proven SARS-CoV-2 diagnosis or a CT-proven SARS-CoV-2 diagnosis secondarily confirmed by serology.” **Population** “Patients had either an olfactory complaint for over 6 weeks and a molecular-proven SARS-CoV-2 diagnosis or a CT-proven SARS-CoV-2 diagnosis secondarily confirmed by serology. ” with: “**Methods—Study registration** Patients were mainly self-referred or referred by general practitioners or colleagues.” **Population** “Patients had either an olfactory complaint for over 6 weeks and a molecular-proven SARS-CoV-2 diagnosis or a CT-proven SARS-CoV-2 diagnosis secondarily confirmed by serology. ”

“Patients without persistent olfactory disorders were recruited at the university infectiology department during the same period.” Is the degree and symptom intensity of COVID-19 infection basically the same between the two groups?

The degree and severity of symptoms were not assessed, but all patients in the control group were recruited after hospitalization in an infectious diseases department. We only collected the presence or absence and duration of symptoms related to COVID-19 infection.

“Patients had olfactory complaint for over 6 weeks”. The time of infection with COVID-19 is consistent with the time of olfactory complaint? Mention whether other factors affecting the olfactory system have been ruled out.

The persistence of symptoms may be longer than the duration of the infection (proven by PCR, for example), but they are assumed to be consecutive due to their nature and chronology of onset. We added in the method section the following sentence: “Other pathologies that could affect the olfactory system were excluded by recording medical history and nasofibroscope results: olfaction disorder, ENT cancer, head radiotherapy history and post viral (before the pandemic) olfactive history”.

Result—The average age of the subjects in the two groups was 40.5 ± 12.9 and 61.2 ± 12.2 years. Is age the baseline of the two groups in statistics? Or trying to explain the influence of age on olfactory complaint and psychiatric diagnosis?

The average age of the control group was higher than that of the long COVID group. This is mainly due to the context in which the patients in the control group were recruited, after hospitalization in the infectiology department. The average age of patients in the Long COVID group (anosmia) was around 40, which is consistent with the fact that the higher the age, the lower the risk of developing this condition (Subramanian A *et al.*, 2022).

We did not expect to show the moderating effect of age on the variables studied, due to our limited sample.

We added in the limitation section the following sentence: “Patients in both groups also differ in age, which limits comparability between them.”

Due to the files downloaded from the website, the manuscript I saw may have different formats from what you uploaded. Please check that the format of Form 1 complies with the requirements of the magazine. Perhaps the positive results can be represented by figures such as the percentage of previous psychological history between the two groups.

Thank you for your remark. We added a figure to represent main results.

“subjective olfactory impairment (qualitative and quantitative dysosmia), the visual analogue scale (VAS) for the subjective assessment of olfactory recovery (ranging from 0% to 100%)”
Maybe these data could be used for statistics or discussions to enrich the article?

The sniffin test was used to distinguish between olfactory loss and recovery. The EVA is less widely used for such discrimination, and we have chosen not to incorporate these data here and to remove the related sentences. They could be the subject of a specific study later.

Discussion—“Our results suggests that psychiatric history and certain psychological conditions such as stressful events were more common in patients with persistent olfactory complaints, despite the fact that subjects without persistent anosmia were significantly older, thus more likely, in terms of lifespan, to have a psychiatric history or to have been exposed to trauma/stressors.”

“Our” to “our”? I didn't see the influence of age in the results. I advise the author to be cautious about the influence of life span. The sample size of this experiment is small. participates were recruited in different facilities. Whether the age is a variable to be controlled rather than an influence factor? When discussing age, you may need a lot of data to explain.

We replaced “out” with “our”. Thank you for your vigilance.

As we agreed with your remark, we removed the following sentences: “despite the fact that subjects without persistent anosmia were significantly older, thus more likely, in terms of lifespan, to have a psychiatric history or to have been exposed to trauma/stressors.” to be clearer.

“Moreover, in a large systematic review, Rogers *et al.*, (2020) emphasize the possibility of depression, anxiety, PTSD, and other neuropsychiatric syndromes after COVID-19 and, once infected, people with pre-existing mental disorders are at high risk of experiencing persistent symptoms of COVID.” There is no statistical significance in the data of PTSD in the author's study. It is suggested to discuss why the results are different.

We added in the discussion section the following sentence: “in our study, we failed to demonstrate that PTSD was a risk factor for developing persistent anosmia, but we did not explore the risk of developing PTSD after COVID infection.”

In the limitations section, we explained that the small sample size probably explained the lack of power and prevented us from finding significance in certain associations. This probably also applies to PTSD.

If there are relevant requirements for submission, it is suggested to write a part about authors' contributions.

This is done.

Please check the grammar mistakes in the article.

This is done.