

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Enhanced impact of psoriasis severity on the treatment demands of patients during the COVID-19 pandemic: A cross-sectional study based on a national psoriasis registry in China
<b>AUTHORS</b>	Yang, Zhihui; Jin, Yu; Wang, Mingyue; Li, Ruo Yu; Li, Wenqing; Li, Hang

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Popescu, Codruta Universitatea de Medicina si Farmacie Iuliu Hatieganu
<b>REVIEW RETURNED</b>	03-Nov-2023

<b>GENERAL COMMENTS</b>	<p>I would like to thank you for giving me this opportunity to evaluate this scientific paper, who analyze the impact of psoriasis severity on treatment demand during Covid-19 pandemic in China. This manuscript reports new findings and is theoretically based on the current literature.</p> <ul style="list-style-type: none"> <li>- This study was well designed, executed, and presented and is based on a very big sample of patients</li> <li>- The conclusion is consistent with the evidence presented</li> <li>- The discussion is relevant</li> </ul> <p>Regarding references, I think that in the background and discussion the authors should include more papers about psoriasis and Covid pandemic. The study highlighted that the main demands of the patients were rapid healing of skin lesions and improving mental health. How was "improving mental health" operationalize? The study does not include a measure for mental health or depression or any psychological variable so at what question exactly the patients has answered?</p>
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<b>REVIEWER</b>	El-Kalioby, Mona Kasr Al-Ainy Hospital
<b>REVIEW RETURNED</b>	06-Nov-2023

<b>GENERAL COMMENTS</b>	The manuscript is comprehensive and well-written. Methods and results are presented clearly.
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Dr. Codruta Popescu, Universitatea de Medicina si Farmacie Iuliu Hatieganu

Comments to the Author:

I would like to thank you for giving me this opportunity to evaluate this scientific paper, who analyze the impact of psoriasis severity on treatment demand during Covid-19 pandemic in China. This manuscript reports new findings and is theoretically based on the current literature.

- This study was well designed, executed, and presented and is based on a very big sample of patients
- The conclusion is consistent with the evidence presented
- The discussion is relevant

**Response:** We thank the Reviewer for reviewing our manuscript and are grateful for all the positive remarks as well as constructive comments to improve our manuscript.

1. Regarding references, I think that in the background and discussion the authors should include more papers about psoriasis and Covid pandemic.

**Response to Comment #1:** We thank the reviewer for the comments. In this revision, we have cited more references about psoriasis and COVID-19 pandemic in the Introduction (Line 49 of the manuscript, the new Ref No. 11; Lines 57–68, new Ref No. 21–25, 27–30, Line 74, new Ref No. 32) and Discussion (Lines 276–281, new Ref No. 21, 22; Lines 286–290, new Ref No. 28, 35–36). Languages describing the major findings and insights of these newly added references have been added to the Introduction and Discussion section, as shown below:

Lines 46–49: *“Poor appearances, together with comorbidities, significantly impair patients’ daily functioning and cause significant psychological distress,<sup>4</sup> which can result in depression, suicidal ideation, and substance abuse,<sup>5–8</sup> causing high social burdens, especially during the recurrent coronavirus disease 2019 (COVID-19) pandemics.<sup>9–11”</sup>*

Lines 57–68: *“Furthermore, since healthcare access (e.g. emerged telemedicine),<sup>16–19</sup> as well as the clinicians’ treatment considerations to control psoriasis, have all changed during the recurrent COVID-19 pandemics,<sup>20</sup> patients’ mental health condition, their perception of psoriasis and further treatment demands may altered accordingly.<sup>21–23</sup> From the treatment-decision aspect, the initiation of biologics for psoriasis decreased sharply during the COVID-19 pandemic, possibly due to the poor access to healthcare for patients and the lack of evidence on the relationship between COVID-19 infection and biological therapy at the beginning of the pandemic.<sup>24–25</sup> From a healthcare-seeking behavior perspective, patients with psoriasis tended to cancel or defer their appointments, lose adherence to treatment, and require prolonged prescription or treatment-change during the COVID-19 pandemic.<sup>9–26–28</sup> All the above changes may be associated with deterioration of psoriasis and further symptoms of anxiety and depression,<sup>11–22–29–30</sup> although the association is complex and undetermined.<sup>10–27”</sup>*

Lines 71–74: *“Patients may perceive their psoriasis lesions as more acceptable because they are less worried about skin lesion appearances due to restricted social activities, and are more fearful of COVID-19 when receiving immunosuppressive treatment for psoriasis.<sup>32”</sup>*

Lines 276–281: “On the other hand, the restrictions in traveling and difficulties in accessing medical resources may exacerbate psoriasis and enhance treatment demands.<sup>22</sup> Although the pandemic lockdowns reduced the impact of psoriasis on socializing, the pandemic and self-isolations themselves could exert psychological impacts on patients with psoriasis, such as health anxiety and low mood,<sup>10 21</sup> creating a vicious circle of worsening mental health and deteriorated psoriasis.”

Lines 286–290: “In addition, increasing evidence in recent years has shown that immunosuppressive treatment for psoriasis, including biologics, does not increase the risk of COVID-19 infection or the related complications, reinforcing the necessity of more intensive therapy during the pandemic.<sup>28 35 36</sup>”

2. The study highlighted that the main demands of the patients were rapid healing of skin lesions and improving mental health. How was “improving mental health” operationalize? The study does not include a measure for mental health or depression or any psychological variable so at what question exactly the patients has answered?

**Response to comment #2:** As the reviewer commented here, unfortunately, we did not collect information on mental illness using recognized scales such as Generalized Anxiety Disorder-2, Patient Health Questionnaire-2 and Short Form-12 Health Survey. Instead, the variable on “improving mental health” was asked as a binary variable in our face-to-face interview, along with other variables on “healing skin lesions quickly”, “reducing social discrimination”, “working and socializing normally”, etc. We acknowledge this as a major limitation of our study and have further highlighted the need to quantitatively explore patients’ mental health conditions and the degree of each treatment demand in further efforts in the revised manuscript.

Lines 108–114: “The study outcomes were patients’ treatment demands, which were all collected through “yes-or-no” questions face-to-face interview. The two primary treatment demands contained healing skin lesions quickly and improving mental health. The questionnaire also asked about other demands, including reducing social discrimination, working and socializing normally, relieving itchy feelings, relieving painful or burning feelings, and reducing the side effects of treatment and disease relapses. All the aforementioned treatment demands were treated as binary variables.”

Lines 339–344: “Second, the demand for improving mental health was collected as a binary variable, while the psychological or psychiatric condition was not systematically assessed using specialized scales, such as Generalized Anxiety Disorder-2, Patient Health Questionnaire-2 and Short Form-12 Health Survey.<sup>11 22 46</sup> Further studies are warranted to quantitatively investigate patients’ mental health condition and the degree of each treatment demand using specialized scales.”

*Reviewer: 2*

Dr. Mona El-Kalioby , Kasr Al-Ainy Hospital

Comments to the Author:

The manuscript is comprehensive and well-written.

Methods and results are presented clearly.

**Response:** We thank all the reviewers and particularly appreciate the positive remarks on our manuscript.

#### VERSION 2 – REVIEW

<b>REVIEWER</b>	Popescu, Codruta Universitatea de Medicina si Farmacie Iuliu Hatieganu
<b>REVIEW RETURNED</b>	07-Jan-2024
<b>GENERAL COMMENTS</b>	The authors answered to all my comments, the manuscript is ready to be published in the present form.