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# How to measure the impact of the COVID-19 pandemic on quality of life: COV19-QoL – the development, reliability and validity of a new scale

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## Abstract

*Objective: The primary objective of this paper is to present a short measure of perceptions on the impact of the COVID-19 pandemic on quality of life, along with analysis of its reliability and validity in non-clinical and clinical samples.*
*Methods: The scale was named The COV19 – Impact on Quality of Life (COV19-QoL) and it consists of six items presented in the form of a 5-point Likert scale. The items (i.e. statements) cover main areas of quality of life with regard to mental health. The scale was administered to 1346 participants from the general population in Croatia (the non-clinical sample) and 201 patients with severe mental illness recruited from four European countries (Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia), constituting the clinical sample. The clinical sample was part of the randomised controlled trial IMPULSE funded by the European Commission. Data on age and gender were collected for both samples, along with psychiatric diagnoses collected for the clinical sample.*
*Results: Main findings included a high internal consistency of the scale and a moderate to strong positive correlation among participants' scores on different items. Principal component analysis yielded one latent component. The correlation between participants' age and their results on COV19-QoL was negligible. Participants' perceived quality of life was the most impacted domain, whereas mental health, personal safety and levels of depression were the least impacted domains by the pandemic.*
*Discussion: The COV19-QoL is a reliable and valid scale which can be used to explore the impact of COVID-19 on quality of life. The scale can be successfully used by researchers and clinicians interested in the impact of the pandemic on people experiencing various pre-existing mental health issues (e.g. anxiety, mood and personality disorders) as well as those without such issues.*

## Keywords

*The COVID-19 pandemic, severe mental illness, quality of life, mental health, validity, reliability*

## INTRODUCTION

The current pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) caused by the COVID-19 virus has already (as of May 27, 2020) resulted in 5,555,737 cases and 350,212 deaths worldwide (European Centre for Disease Prevention and Control, 2020). The scientific community has focused on finding an effective cure to stop the pandemic. Evidence from previous large-scale health outbreaks suggests that this type of event has a tremendous impact not only on physical health, but also on mental health and quality of life in general (Sim & Chua, 2004). This affects the whole population, both healthy people and those considered as vulnerable groups (Holmes et al, 2020).

Evidence from the current COVID-19 pandemic on mental health in the general population suggests that slightly less than 10% of interviewed participants in lockdown in China reported moderate to severe level of stress and that youger people, between 18 and 30 years old, reported to be more emotionally affected compared to the other age groups (Zhang & Ma, 2020). It was also found that medical workers involved in the treatment of COVID-19 showed levels of anxiety that were correlated with poorer sleeping patterns (Xiao et al, 2020).

People with pre-existing mental health conditions, including severe mental illness, are particularly at risk of developing or exacerbating existing symptoms (Holmes et al, 2020). Therefore, it is of high priority to monitor and measure the effect of the pandemic on this group, in order to provide prompt care and to develop interventions. Urged by the need to measure the impact of COVID-19 on mental health, to the best of our knowledge, three measures have been developed thus far: the Fear of COVID-19 Scale (FCV-19S; Ahorsu et al, 2020), the Coronavirus Anxiety Scale (CAS; Lee, 2020) and the Perception of threat from COVID-19 questionnaire (Pérez-Fuentes et al, 2020). The FCV is a 7-item scale developed on an Iranian general population (N = 717) with no formal diagnosis of mental health disorder; the scale showed good reliability and cuncurrent validity. The items cover psychological and physiological anxiety symptoms due to the COVID-19, and a 5-point Likert scale on the level of agreement is used to answer the questions (Ahorsu et al, 2020). The CAS is a brief mental health screener for dysfunctional anxiety associated with COVID-19. The scale, developed on US general population (N = 775), includes five items covering social, psychological attitudes and functional impariment and uses a 5-point Likert scale, with a mix of frenquency, likelihood and level of satisfaction types. The screener overall was found to have good reliability and validity (Lee, 2020). Finally, the questionnaire on perception of threat from COVID-19 was developed on 1014 Spanish adults and consists of five items adapted from the Brief Illness Perception Questionnaire (using a Likert scale on the level of agreement); psychometric properties of the scale, particularly internal consistency, were found to be acceptable, but not robust (Pérez-Fuentes et al, 2020). What these measures have in common is that they are short, similarly structured, focused on common mental health problems, tested on the general population and freely available. We are not aware of a measure that would cover the impact of the pandemic on the main areas of quality of life related to mental health. None of the available developed measures have been used with people with pre-existing severe mental illness who are likely to be among the most vulnerable members of society.

In this paper, we present 'The COV-19 – Impact on Quality of Life (COV19-QoL)', a scale aiming at capturing the effect of COVID-19 on people's quality of life. The scale is not primarily designed for people diagnosed with COVID-19.

The main goal of the study is to examine reliability and construct validity of the scale. Validation of the scale was conducted on non-clinical and clinical samples in order to examine whether its factor structure will be the same (i.e. stable) among people from the general and clinical population (to be more specific, among people with severe mental illness). Another point was its reliability check: will the scale be sufficiently internally consistent in both populations? Apart from that, we wanted to examine the perceived decrease in quality of life due to the COVID-19 pandemic in the general and clinical population.

## METHODS

### The developement of a new instrument

The COV19-QoL is a 6-item scale covering main areas of quality of life in relation to mental health (see Appendix). Selection of items was guided by the idea to cover the main areas that are thought to be mainly impacted from a large-scale public health outbreak: quality of life and mental health symptoms (their relevance was highlighted by e.g. Zhang & Ma, 2020) as well as personal safety (its importance was underlined by e.g. Singer et al, 2003). The first item covers patients' feelings about the impact of the current pandemic on their quality of life in general. The second and third ones include participants' perceptions of possible mental and physical health deterioration. The latter one relates to anticipatory anxiety regarding physical health experienced due to perceiving different levels of risk of being contaminated. The virus represents direct risk to physical health of a person. Although most people will not be infected, it can be expected that the majority are concerned with the risk of being infected. The fourth and fifth items measure the levels of anxiety and depression due to the pandemic, respectively. The last item includes the extent to which patients perceive their personal safety is now in danger.

The decision of negative phrasing for the presentation of different items based on the evidence about the negative impact that such a large-scale outbreak has on mental health in people with pre-existing mental health issues (Li et al, 2020; Wang et al, 2020a, 2020b; Xiao et al, 2020) and on the experts' view on the association between COVID-19 and mental health in vulnerable groups (Holmes et al, 2020; Yao et al, 2020). However, we did not assume a causality between COVID-19 and the quality of life and other areas addressed in the scale.

All items included a 5-point Likert scale (1 – "totally disagree" to 5 – "completely agree") and assess a period of last 7 days. Total scores are calculated by averaging the scores on all the items. A higher score indicates greater perceived impact of the pandemic on one's quality of life.

### Participants and research procedure

Participants in the two aforementioned samples along with the corresponding research procedures will be presented separately because they belong to different populations.

*Non-clinical sample.* A total of 1346 people from the general population participated in this study. There were 371 (27.6%) men and 975 women (72.4%). Participants' mean age was 40.28 (SD = 11.34, range: 17–89). Data were collected through online survey using *Google forms*. The questionnaire was distributed through several channels: (1) web pages of the professional and educational associations (e.g. Croatian Psychiatric Association); (2) e-mail contacts from the professional associations (e.g. psychiatric, medical chamber, cardiologist, nurses, etc.); (3) public platforms (Facebook) and (4) social media contacts (Whatsapp, Viber, SMS). The survey was reviewed and approved by the Ethical Committee of the Croatian Psychiatric Association.

*Clinical sample.* The clinical sample was composed of 201 patients with severe mental illness (mean age = 44.62, SD = 12.06, range: 19–73; 94 men [46.8%] and 107 women [53.2%]) residing in four European countries, namely, Bosnia and Herzegovina (n = 58), Montenegro (n = 51), North Macedonia (n = 49) and Serbia (n = 33). Participants were part of a large multi-site clinical trial (please see the protocol for more details; Jovanovic et al, 2019). The inclusion criteria were primary diagnosis of severe mental illness (ICD-10 F20-F29 and F31), being over 18 years of age, attending the outpatient clinic or day hospital, having a lifetime history of at least one hospital admission and capacity to provide informed consent. The exclusion criteria were a confirmed diagnosis of an organic brain disorder and the presence of severe cognitive deficits which renders the informant unable to complete study measures. All participants signed an informed consent to participate in the study, and the study was approved by ethic committes in the participating countries (Jovanović et al, 2019). All of the diagnoses were made by clinical psychiatrists treating the patients. There were 159 patients (79.1%) diagnosed with mental health disorders within F20-29 (schizophrenia and related psychotic disorders) and 42 patients (20.9%) diagnosed with F31 (bipolar disorder). None of them had a diagnosis of the COVID-19 disease, although two of them reported either high temperature (over 37.8°C) or permanent cough or both of the symptoms. The administration of the COV19-QoL scale was done over the phone call or videocall and lasted between 5 and 10 minutes per patient, and it was found to be acceptable and feasible for both patients and researchers. Next, participants were asked about the presence of any COVID-19–related symptoms, and advice in line to national COVID-19 control guidelines was offered if symptoms were reported. Researchers were instructed to offer suport and reassurence to patients if they were distressed. Data on sociodemographic and clinical characteristics (age, gender, psychiatric diagnosis) were available from the assessment as part of the clinical trial (Jovanović et al, 2019).

### Data analysis

Data were first entered into MS Excel by the study researchers and later transferred into SPSS for Windows where the appropriate analyses were carried out. Descriptives were used to summarise participants' demographic and clinical characteristics. Item analysis coupled with reliability check was carried out in order to estimate the adequacy of each item and the scale as a whole. Principal component analysis (PCA) was conducted in order to examine the dimensionality of the scale, that is, to investigate its construct validity. Descriptive statistical values were calculated as well (minimum and maximum values, means and SDs). Pearson correlation analysis was used to estimate the direction and magnitude of the relationships of items and the whole scale scores with participants' age.

## RESULTS

The prerequisites for conducting PCA have been met in both the non-clinical and clinical samples (KMO = .886, $\chi^2(15) = 4443.36$, $p < .001$ and KMO = .862, $\chi^2(15) = 517.90$, $p < .001$, respectively). Based on both Kaiser–Guttman's and Cattell's scree plot criteria, one principal component emerged based on the manifest variables (item responses) in both samples. The variances explained by the extracted components in non-clinical and clinical samples are 64.13% (with eigenvalue of $\lambda = 3.53$) and 58.88% ($\lambda = 3.85$), respectively. Communalities ($h^2$) and factor loadings ($r_{iF}$) are shown in Table 1.

As displayed in Table 1, the explained variance of each item (i.e. $h^2$) was over .4. All factor loadings were greater than .6, with the greatest one calculated for the item "I feel more tense than before" ($r_{iF} = .878$ and .861, respectively).

Cronbach's alpha coefficient of the scale for the data from the non-clinical sample was $\alpha = .885$ and for the clinical one it was equal to .856. Table 2 shows the results of item analysis

**Table 1.** Results of PCA of the COV19-QoL scale for non-clinical and clinical samples

| | Non-clinical sample | | Clinical sample | |
|---|---|---|---|---|
| **Items** | $h^2$ | $r_{iF}$ | $h^2$ | $r_{iF}$ |
| 4. ...I feel more tense than before | .771 | .878 | .742 | .861 |
| 5. ...I feel more depressed than before | .752 | .867 | .658 | .811 |
| 2. ...I think my mental health has deteriorated | .744 | .863 | .711 | .843 |
| 3. ...I think my physical health may deteriorate | .683 | .826 | .506 | .711 |
| 6. ...I feel that my personal safety is at risk | .487 | .698 | .500 | .707 |
| 1. ...I think my quality of life is lower than before | .411 | .641 | .417 | .645 |

PCA, principal component analysis

**Table 2.** Results of internal consistency check of the COV19-QoL scale in non-clinical and clinical samples

| | Non-clinical sample | | | Clinical sample | | |
|---|---|---|---|---|---|---|
| **Due to the spread of the coronavirus,** | **Corrected $r_{it}$** | **SMC** | **α if item deleted** | **Corrected $r_{it}$** | **SMC** | **α if item deleted** |
| ...I think my quality of life is lower than before | .525 | .292 | .892 | .517 | .274 | .857 |
| ...I think my mental health has deteriorated | .775 | .662 | .852 | .741 | .605 | .815 |
| ...I think my physical health may deteriorate | .733 | .551 | .859 | .586 | .362 | .842 |
| ...I feel more tense than before | .800 | .655 | .847 | .762 | .618 | .808 |
| ...I feel more depressed than before | .780 | .676 | .851 | .694 | .566 | .823 |
| ...I feel that my personal safety is at risk | .582 | .359 | .883 | .585 | .384 | .842 |

SMC, squared multiple correlation

(corrected item-total correlation, squared multiple correlation [SMC] and alpha coefficient if the item was deleted) conducted for both samples.

It can be noticed (Table 2) that all corrected item-total coefficients of correlation were above .5, with the highest value (item no. 4) being equal to .800 (non-clinical sample) and .762 (clinical sample). The explained variance (SMC) of the total scores ranged from .292 (item no. 1) to .676 (item no. 5) for the non-clinical sample, while it ranged from .274 (item no. 1) to .618 (item no. 4) for the clinical sample. In the non-clinical sample, if the first item was deleted, Cronbach's alpha coefficient would increase to .892. However, deletion of this item would reduce content validity of the scale because it covers quality of life in general.

All intercorrelations of the COVID19-QoL scale were of moderate to high magnitude, positive and statistically significant ($p < .001$; Table 3). This indicates that all items should be part of the scale. Furthermore, the mean inter-item correlation in the non-clinical and clinical samples was MIC = .561 and .500, respectively. According to Clark and Watson (1995), ideally, this value should be between .20 and .50. An equal or a slightly greater value of MIC compared to the upper bound of this interval indicates a high homogeneity of the scale in both samples.

Based on the figures shown in Table 4, participants from both samples, on average, perceived that the COVID-19 had, among the tested domains, the greatest impact on their quality of life ($M$ = 3.34 and 3.07, respectively). The lowest perceived impact was found for the mental health domain in the non-clinical

**Table 3.** Intercorrelations of the COV19-QoL scale items (above the diagonal: non-clinical sample; below the diagonal: clinical sample)

| | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | Item 6 |
|---|---|---|---|---|---|---|
| **Item 1** | - | .458 | .480 | .489 | .416 | .350 |
| **Item 2** | .475 | - | .663 | .708 | .765 | .474 |
| **Item 3** | .362 | .506 | - | .676 | .627 | .481 |
| **Item 4** | .443 | .685 | .514 | - | .733 | .548 |
| **Item 5** | .413 | .700 | .437 | .678 | - | .547 |
| **Item 6** | .368 | .440 | .487 | .570 | .427 | - |

Note: All correlation coefficients are significant at $p < .001$

**Table 4.** Descriptive statistical values of the items and total scores of the COV19-QoL scale in the non-clinical and clinical samples

| **Due to the spread of the coronavirus,** | **Non-clinical sample** | | **Clinical sample** | |
|---|---|---|---|---|
| | ***M*** | **SD** | ***M*** | **SD** |
| 1. ...I think my quality of life is lower than before | 3.34 | 1.22 | 3.07 | 1.45 |
| 2. ...I think my mental health has deteriorated | 2.63 | 1.19 | 2.07 | 1.28 |
| 3. ...I think my physical health may deteriorate | 3.02 | 1.18 | 2.53 | 1.29 |
| 4. ...I feel more tense than before | 3.11 | 1.26 | 2.58 | 1.44 |
| 5. ...I feel more depressed than before | 2.67 | 1.23 | 2.09 | 1.29 |
| 6. ...I feel that my personal safety is at risk | 2.70 | 1.20 | 2.06 | 1.26 |
| COV19-QoL (total scale) | 2.91 | 0.97 | 2.40 | 1.02 |

sample ($M = 2.63$) and for personal safety in the clinical sample ($M = 2.06$). However, similar mean values are found for mental health ($M = 2.07$) and levels of depression ($M = 2.09$) in the clinical sample. It seems that participants from the non-clinical sample perceived greater impact of the COVID-19 pandemic on their quality of life in general compared to those from the clinical sample ($M = 2.91$ vs. $M = 2.40$). The perceived impact is somewhat below the theoretical mean of a 5-point scale. In addition, the range of participants' scores on each item and the whole scale was 1 to 5, therefore being the same as the theoretical range for 5-point Likert scales.

As displayed in Table 5, six and three out of seven correlation coefficients calculated between participants' age and scores on the COV19-QoL items (along with their total scores) were, although small (from −.057 to −.158 and from .141 to .146), statistically significant in the non-clinical and clinical samples, respectively.

Only one participant in the clinical sample reported symptoms of COVID-19 (either a new continuous cough or temperature greater than 37.8°C) and none of the patients reported confirmed diagnosis of COVID-19.

In addition, the statistical significance of gender differences was not examined due to imbalance in the number of males and females in the non-clinical sample.

## DISCUSSION

This is the first study reporting preliminary findings about the measurement of the quality of life impact of COVID-19 in the general population (i.e. non-clinical sample) and in people with pre-existing severe mental disorders (i.e. clinical sample). The work presents the initial phase of the development of a new scale titled COV19-QoL.

First, it was shown that the scale is, as has been expected, a unidimensional instrument. It measures perceptions of quality of life deterioration in relation to the COVID-19 pandemic. Hence, the scale has a good construct validity. Second, it was found to be internally consistent because the Cronbach's alpha

**Table 5.** Correlations of the COV19-QoL scale items and the whole scale with participants' age (non-clinical and clinical samples)

| Due to the spread of the coronavirus, | Non-clinical sample | | Clinical sample | |
|---|---|---|---|---|
| | *r* | *p* | *r* | *p* |
| 1. ...I think my quality of life is lower than before | –.020 | .471 | .049 | .491 |
| 2. ...I think my mental health has deteriorated | –.158 | .000 | .141 | .046 |
| 3. ...I think my physical health may deteriorate | –.057 | .038 | .141 | .046 |
| 4. ...I feel more tense than before | –.083 | .002 | .122 | .085 |
| 5. ...I feel more depressed than before | –.092 | .001 | .146 | .039 |
| 6. ...I feel that my personal safety is at risk | .102 | .000 | .102 | .149 |
| COV-19-QoL (total) | .064 | .018 | .151 | .032 |

coefficient was above .700 (as recommended by e.g. Aron et al, 2013). Next, all the corrected item-total correlations were above .30 (the criterion reported by Nunnally & Bernstein, 1994), which indicated that all the items should be part of the scale. Lastly, the values of SMCs for all the items were greater than .40 (the SMC lower bound recommended by Whitley & Kite, 2013), which confirmed that it is an internally consistent instrument. All the data presented here refer to both non-clinical and clinical samples. Hence, regardless of the population from which participants were being sampled, the latent structure of the COV19-QoL scale was the same and its reliability was estimated as very good.

Findings from the non-clinical sample indicate that the greatest impact of the pandemic was found for the quality of life area in general, whereas mental health was impacted the least. The first result could be explained by the broad meaning that quality of life has, which is comprehensive of both mental and physical health-related factors, as well as several other environmental features (e.g. accommodation, regular food supply, etc.) and economic, cultural and political influences (e.g. Priebe et al, 2015). The perceived least impact on mental health could be explained by the assumption that people are more focused on their physical health now because the COVID-19 poses an imminent and obvious risk to physical health. However, based on previous data, we can speculate that greater impact on mental health could possibly be found in the aftermath of the pandemic (e.g. Douglas et al, 2009). In the clinical sample, the lowest perceived impact was found in personal safety, then in mental health and the feeling of depression. The total value of the COV19-QoL in the clinical sample indicates a moderate level of the negative impact of the pandemic on quality of life, while greater impact was perceived by patients from the non-clinical sample. Regarding the potential decrease in quality of life in persons with severe mental illness, Fonseca et al (2020) stated that people with schizophrenia spectrum disorders are (due to COVID-19 pandemic) at greater risk for not only relapse, but also physical health deterioration (especially because some of them have difficulties to seek and receive help from medical professionals). Anxiety and depression, as well as dysfunctioning coping mechanisms (e.g. substance misuse), are the most expected mental health conditions associated with the pandemic (Holmes et al, 2020). This could be the reason why people with severe mental disorders (e.g. schizophrenia spectrum), compared to the general population, might be less prone to perceive negative impact on their mental health.

Notably, age was associated with some of the items in both non-clinical and clinical samples. However, the direction of the association was different: in the non-clinical sample, it emerged that more negatively perceived impact was associated with a younger age (all negative correlations emerged with the exception of item no. 6 about personal safety), which is in line with previous data about the association of negative feeling related to COVID-19 with age (Zhang & Ma, 2020); the opposite was found in the clinical sample, wherein the level of perceived negative impact of the pandemic correlated with older age.

When discussing these findings, it is necessary to keep in mind the socio-cultural and psychological background of populations from the participating countries. The participants were recruited from four countries in the Balkans, southeastern Europe. In recent decades, the region has been struck by war, poverty and isolation, which has inevitably imposed tough lifestyle conditions and serious life-threatening situations. Hence, the lifestyle changes due to the COVID-19 pandemic (e.g. related lockdown) might not be considered as disruptive for people in the Balkans as for people in other parts of Europe. However, it might be expected that the current situation might be a traumatic reminder of the wartime period, thus causing retraumatisation for some people and that this could be seen in upcoming months.

The scale is short, easy to use, acceptable and feasible to people with severe mental illness. These points could be regarded the as main strengths when it comes to wide application of the COV19-QoL scale.

### Limitations and possible modifications of the scale

Both the COV19-QoL scale and the present study have limitations.

The items cover wide topics associated with the COVID-19 pandemic, while the impact of more specific aspects of it, for example, living in lockdown restrictive measures or being exposed to catastrophic media reports, may not be captured by this scale. The scale is used to assess negative impact of the pandemic on the aforementioned domains. However, option 1 in our Likert scale (i.e. *completely disagree* with the statement) indicates no perceived negative impact. The decision to assess negative impact only was made based on the whole social atmosphere regarding the pandemic. It can be noticed that through the media, lots of negative contents are delivered and people are regularly being told that the whole situation is not positive at all. One modification of this scale could be in the form of a bipolar scale where participants could estimate whether they perceive positive, negative or no impact of the pandemic on their quality of life. The third item in the scale relates to anticipatory anxiety regarding physical health experienced due to perceived risk of being contaminated. COVID-19 represents direct risk to physical health of a person. Although most people have not been infected, it can be expected that the majority are concerned with the risk of being infected. The study of risk perception has become increasingly relevant with the recognition that beliefs, knowledge, values and attitudes influence not only decisions, but also behaviours and, directly, the exposure of people to environmental pressures (Cori et al, 2020). It is also true that due to the lockdown restrictions, people exercise less, eat worse, have less exposure to sunlight, which may lead to deterioration of physical health and also affect physical health perceptions. The third item in the scale could be modified into '...I think my physical health has deteriorated' to focus on perceptions of direct impact on physical health rather than risk perception.

The study included a non-clinical sample recruited through the online survey. The sample may not be representative of the general population because it is limited to people with access to social media. Possibly, people who felt more affected by the pandemic opted to respond to the survey. The clinical sample included people with severe mental illness recruited from four countries which increases generalisibility of the findings; however, the sample may not be representatuive of people with mental illness.

## CONCLUSIONS AND IMPLICATIONS

The COV19-QoL scale has the potential to facilitate both clinical work and research on the impact of the current and future pandemics on people. Clinicians can use it for their routine assessments with patients during the pandemic and to monitor symptoms across time. There is no reason to believe that people with other diagnostic categories such as anxiety, mood or personality disorders would not find it feasible and acceptable, so the scale can potentially be used with these populations as well as with the general population.

## ACKNOWLEDGEMENTS

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## AUTHORS' CONTRIBUTIONS

Developing/constructing the scale: SR, NJ, MR and TP; writing the paper: SR, NJ, and MR; data collection and entry: MRK, SM, SJ, ER, TM, SMS, LN, MM, BB, TR, SR, IR and MZ; data processing and analysis: SR; proofreading: NJ, MR, TR, and TP.

## ETHICAL APPROVALS AND INFORMED CONSENT

### Non-clinical sample

The survey was reviewed and approved by the Ethical Committee of the Croatian Psychiatric Association.

### Clinical sample

All procedures were in accordance with the ethical standards of the institutional and/or national research committee and with the 1975 Helsinki declaration and its later amendments or comparable ethical standards. All procedures were approved by the ethics committees in the participating countries - Bosnia and Herzegovina (Klinicki Centar Univerziteta u Sarajevu – Eticki Komitet 03-02-4216, Eticki komitet JU Psihijatrijska bolnica Kantona Sarajevo i JU Zavod za bolesti ovisnosti Kantona Sarajevo 02.8 – 408/19), Serbia (Eticka komisija Medicinskog fakulteta u Beogradu 2650/XII-20 and Eticka komisija Specijalne bolnice 'Dr Slavoljub Bakalovic' Vrsac 01-36/1), Kosovo (Hospital and University Clinical Service

of Kosovo – Ethics Committee 2019-85), Republic of North Macedonia (Eticka Komisija za istrazuvanje na luge, Medicinski Fakultet pri UKIM vo Skopje 03-24219), and Montenegro (Javna Zdravstvena Ustanova Klinicki Centar Crne Gore – Eticki komitet 03/01 – 29304/1, ZU Specijalna Bolnica za Psihijatriju "Dobrota" Kotor – Eticki komitet, Eticki Komitet JZU Dom Zdravlja " DR Nika Labovic" Berane 01-47).

## INFORMED CONSENTS

### Non-clinical sample

Participants were informed on the aim and main goals of the study. Their anonymity and confidentiality of their data was guaranteed in written and transparent form. Additionally, participants were informed that the study will not cause any harm to them. Only those who agreed to participate in the study under the aforementioned conditions proceeded to next steps (i.e. providing sociodemographics and filling out the scale).

### Clinical sample

Informed consent was obtained from all patients before collecting any data. Aims, potential risks and benefits of the study were explained to patients when discussing informed consent. The study was described along with explanation about the purpose of the study, risks and benefit in taking part, management of personal information within the informed consent form. Participation or non-participation in the study (or withdrawal) had no consequences whatsoever for the further treatment or care of the interviewees and this will be explained and clarified with them before obtaining their consent. All researchers were experienced in conducting clinical assessments and handling sensitive topics with patients. They also had access to an extended team of clinically trained professionals who were able to provide advice and guidance if necessary.

## DISCLOSURE OF INTEREST

The authors declare no conflict of interest.

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## APPENDIX

### COVID-19 – Impact on Quality of Life (COV19-QoL)

***Instruction for participants:***

Please, choose the number that best represents the degree of your agreement with the statements provided below. Please keep in mind that your estimates reflect your feelings and thoughts during **the past 7 days.**

***Due to the spread of the coronavirus,***

| | Completely disagree | Disagree | Neither agree nor disagree | Agree | Completely agree |
|---|---|---|---|---|---|
| 1. ...I think my quality of life is lower than before | 1 | 2 | 3 | 4 | 5 |
| 2. ...I think my mental health has deteriorated | 1 | 2 | 3 | 4 | 5 |
| 3. ...I think my physical health may deteriorate | 1 | 2 | 3 | 4 | 5 |
| 4. ...I feel more tense than before | 1 | 2 | 3 | 4 | 5 |
| 5. ...I feel more depressed than before | 1 | 2 | 3 | 4 | 5 |
| 6. ...I feel that my personal safety is at risk | 1 | 2 | 3 | 4 | 5 |

The COV19-QoL scale is freely available to use. Newly collected data can be shared with the IMPULSE project team via email: impulseprojectlondon@gmail.com.