Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

Tools to measure the psychological impact of the COVID-19 pandemic: What do we have in the platter?

The unprecedented impact of the COVID-19 pandemic has called for measures to address the global crisis, which is of utmost importance to psychiatry. As mental health professionals we are part of the frontline health team to provide psychological aid to those affected during this pandemic (Joseph et al., 2020a; Tandon, 2020). Empirical tools such as validated scales and questionnaires are essential for management of mental health issues, and, such tools would aid mental health professionals to deal with psychological impact of the current pandemic and also during the post-pandemic era. Here the authors have attempted to present a brief review on the importance and advantages of using empirically valid tools to address mental health issues related to COVID-19, and also, have presented a variety of such tools in in Table 1.

1. Relevance of structured scales to measure the psychological impact of the COVID-19 pandemic

With the unfolding of the COVID-19 pandemic, there is a an ascent in psychological issues amongst people globally. People are finding it difficult to cope with the fear of contracting coronavirus, loss of loved ones, economic and occupational burden and other psychosocial issues, an, also are in a state of uncertainty about the future. It is therefore, essential for mental health professionals to correctly measure the burden of psychological and psychosocial problems in the community to provide timely psychological first-aid to those in need (Das et al., 2020). Structured and validated tools will be crucial in this aspect to comprehensively address the following areas:

1.1. Screening

For early detection of psychiatric manifestations and distinguishing normal reactions to stresses from mental disorders. Commonly used and already existing screening scales during COVID-19 are Depression, Anxiety, and Stress Scale (DASS), Patient Health Questionnaire (PHQ), Impact of Event Scale Revised (IES-R), Maslach Burnout Inventory (MBI) etc.

1.2. Diagnosis and severity assessment

For those who are already suffering from pre-existing psychiatric illness or those who have developed diagnosable psychiatric illness during the pandemic, should be assessed using already existing diagnostic and prognostic scales like Hamilton Anxiety Scale (HAMA), Hamilton Depression Scale (HAMD), Addiction Severity Index (ASI) etc.

1.3. Impact of event assessment

Assessment of the impact of the novel coronavirus pandemic would be important to understand the functional outcome in those who may not have developed any psychiatric symptoms but continued to suffer poor quality of life because of the pandemic – such as refugees, migrant workers etc. WHO Quality of Life scale (WHO-QoL), Wellness scales can be useful in such a context.

1.4. Symptoms and outcome monitoring

Those who have developed symptoms or have worsening of pre-existing illness should be monitored longitudinally for assessment of illness course and also to measure the outcome. For example, longitudinal assessment of PTSD symptoms in frontline healthcare workers would be important to understand the effect of psychological trauma in their quality of lives.

1.5. COVID-19 specific scales

With the emergence of increased research work related to the COVID-19 pandemic, several tools have been recently validated and are helpful not only to study the psychological impact of the pandemic but, may also play a role in assessment and management of patients on a normal basis.

Advantages of using structured scales:

- It would help in objective assessment with minimum observer bias and standardized cut-off scores.
- Scores can be compared across various countries (e.g. developed vs developing) and various subgroups of populations (male vs females; frontline healthcare workers vs non-frontline healthcare worker) and help to guide mental health professionals to understand who are at higher risk of psychosocial issues.
- It would definitely help in policy making process in terms of understanding who are at-risk and also, to guide in where the funds be allocated and how rapid mental health related actions should be taken, as the crisis phase evolves over time
- Scales can also help understand the effectiveness of measures/interventions provided in the community in the form of relief (before-after studies).
- The longitudinal outcome can be better assessed if standardized scales are applied over time to better understand the impact of the pandemic.

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Table 1
Scales to measure psychological impact of and attitudes towards COVID-19.

Assessment Focus	Scale Name	Factors	Authors	Language Available	Psychometric Properties tested empirically
Stress	COVID-19 Stress Scale (CSS)	Danger Socio-economic consequences Xenophobia Contamination Traumatic stress Compulsive checking	Taylor et al., 2020	English	Internal structure Internal consistency Convergent validity Discriminant validity
	Perceived Stress Scale modified for COVID-19 (PSS-10-C)	Stress (unifactorial)	Pedrozo-Pupo et al., 2020	Spanish English	Internal consistency Criteria validity
Distress	COVID-19 Peritraumatic Distress Index (CPDI)	Peritraumatic Distress (unidimensional)	Costantini and Mazzotti, 2020[a] Qiu et al., 2020[b] Jahanshahi et al., 2020[c] Petrozzi et al., 2020[d]	Italian[a] Chinese[b] Iranian[c] Spanish[d] English[d]	Internal consistency Convergent validity Discriminant validity Criteria validity Predictive validity
	COVID-19 related psychological distress in healthy public (CORPD)	Anxiety and fear Suspicion	Feng et al., 2020	Chinese	Content validity Semantic validity Internal structure Internal consistency Criteria validity Response process validity
Anxiety	Anxiety of COVID Scale (CAS)	Anxiety (unifactorial)	Lee et al., 2020[a] Lee, Mathis, et al., 2020[b] Evren et al., 2020[c]	English[a,b] Turkish[c]	Content validity Internal structure Internal consistency Convergent validity Criteria validity Predictive validity
	COVID-19 Anxiety Scale	Fear of social interaction Illness anxiety	Chandu et al., 2020	Hindi	Content validity Semantic validity Internal structure Internal consistency Criteria validity Predictive validity
Fear	Fear of COVID-19 Scale (FC-19S)	Fear (unifactorial)	Ahorsu et al., 2020[a]; Reznik et al., 2020[b]; Amir et al., 2020[c]; Pakpour et al., 2020[c] Tzur Bitan et al., 2020[d] Nguyen et al., 2020[e] Satici et al., 2020[f] Haktanir et al., 2020[g]; Sakib et al., 2020[h] Alyami et al., 2020[I] Soraci et al., 2020[j] Lee et al., 2020[a]	Proto-Iranian[a] Russian[b] Hebrew[c,d] Vietnamese[e] Turkish[f,g] Bengali[h] Arabic[i] Italian[j] English[a]	Content validity Semantic validity Response process validity Internal structure Internal consistency Criteria validity Functional difference validity Content validity Internal structure Internal consistency Criteria validity Convergent validity Predictive validity Invariance validity
Obsession	Obsession with COVID-19 Scale (OCS)	Obsession (unifactorial)	Ashraf et al., 2020[b]	Urdu[b]	
Attitude	Attitudes Towards the Response to COVID-19 Pandemic	Attitudes towards responses plans Attitudes towards activities plans Attitudes towards crisis communication plans	ben Abdelaziz et al., 2020	Arabic	Content validity Semantic validity
Phobia	COVID-19 Phobia Scale (C19P-S)	Psychological factors Psycho-somatic factors Economics factors Social factors	Arpaci et al., 2020	Turkish	Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity
Perception	Perceived vulnerability to COVID-19	Perceived infectiousness Germ aversion	González-Olmo et al., 2020	Spanish	Content validity Internal consistency Criteria validity
	Brief Illness Perception Questionnaire to COVID-19	Illness perception (unifactorial)	Pérez-Fuentes et al., 2020	Spanish	Content validity Internal structure Internal consistency Invariance validity
Information	Knowledge About COVID-19	Knowledge (unifactorial)	Liang et al., 2020	Chinese	Content validity
	Knowledge, Attitudes and Practices (KAP) towards COVID-19	Knowledge Attitude Practice	Zhong et al., 2020 Azlan et al., 2020 Al-Hanawi et al., 2020	Chinese/ English Malay Arabic/English English	Criteria validity Predictive validity

(*continued on next page*)

Table 1 (*continued*)

Assessment Focus	Scale Name	Factors	Authors	Language Available	Psychometric Properties tested empirically
			Maheshwari et al., 2020; Haque et al., 2020		
Function	Post-COVID-19 Functional Status (PCFS) Scale	Functional status (unidimensional)	Klok et al., 2020	English	Content validity

2. Future directions

Promptness of international medical bodies and global health researchers has led to the rapid growth of evidence-based mental health literature. With new scales rapidly developed and validated in various language, different ethnic groups and various sub-groups of populations has given us better hope to battle against the mental illness pandemic following the COVID-19 outbreak. Further researches are needed with a focus to the various far-reaching aspects of the current pandemic including the development of new scales for example to assess emotional issues in children during school closure (Joseph et al., 2020b); and hence, to generate better and more generalizable evidence for future preparedness. Also, important is development of scales which are culturally and linguistically valid based on the areas where tools are going to be applied.

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Declaration of Competing Interest

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