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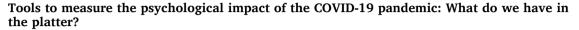
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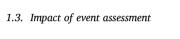
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Letter to the Editor





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.

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 preexisting 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 (beforeafter studies).
- The longitudinal outcome can be better assessed if standardized scales are applied over time to better understand the impact of the pandemic.

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

Assessment Focus	Scale Name	Factors	Authors	Language Available	Psychometric Properties tested empirically
		Danger			Internal structure
		Socio-economic			Internal consistency
	COVID-19 Stress Scale (CSS)	consequences Xenophobia	Taylor et al., 2020	English	Convergent validity
Stress	GOVID 19 bites belie (Gbb)	Contamination Traumatic stress	Taylor et al., 2020	Eligion	Discriminant validity
		Compulsive checking			
	Perceived Stress Scale modified for	Stress (unifactorial)	Pedrozo-Pupo et al., 2020	Spanish	Internal consistency
	COVID-19 (PSS-10-C)		Costantini and Mazzotti, 2020 ^a	English Italian ^a	Criteria validity Internal consistency
	COVID-19 Peritraumatic Distress Index (CPDI)	Peritraumatic Distress (unidimensional)	Oiu et al., 2020 ^b	Chinese ^b	Convergent validity
			Jahanshahi et al., 2020 ^c	Iranian ^c	Discriminant validity
			Petrozzi et al., 2020 ^d	Spanish ^d	Criteria validity
Distress		Anxiety and fear		English ^d	Predictive validity Content validity
1811688		Alixiety and lear			Semantic validity
	COVID-19 related psychological distress in healthy public (CORPD)	Suspicion	Feng et al., 2020	Chinese	Internal structure
				Cimiese	Internal consistency
					Criteria validity
	Anxiety of COVID Scale (CAS)	Anxiety (unifactorial)	Lee et al., 2020 ^a Lee, Mathis, et al., 2020 ^b	English ^{a,b}	Response process validi Content validity
				0	Internal structure
					Internal consistency
Anxiety			Evren et al., 2020 ^c	Turkish ^c	Convergent validity
					Criteria validity Predictive validity
		Fear of social interaction		Hindi	Content validity
	COVID-19 Anxiety Scale				Semantic validity
		Illness anxiety	Chandu et al., 2020		Internal structure
					Internal consistency Criteria validity
					Predictive validity
			Ahorsu et al., 2020 ^a ; Reznik et al., 2020 ^b ;	Proto-Iranian ^a	Content validity
			Amir et al., 2020 ^c ; Pakpour et al., 2020 ^c	Russian ^b	Semantic validity
Fear	Fear of COVID-19 Scale (FC-19S)	Fear (unifactorial)	Tzur Bitan et al., 2020 ^d	Hebrew ^{c,d} Vietnamese ^e	Response process valida Internal structure
			Nguyen et al., 2020 ^e Satici et al., 2020 ^f	Turkish ^{f,g}	Internal consistency
				Bengali ^h	Criteria validity
			Haktanir et al., 2020 ^g ; Sakib et al., 2020 ^h	Arabic ⁱ	Functional difference
			Alyami et al., 2020 ^I Soraci et al., 2020 ^j	Italian ^j	validity
Obsession	Obsession with COVID-19 Scale (OCS)	Obsession (unifactorial)	Lee et al., 2020 ^a Ashraf et al., 2020 ^b	English ^a	Content validity
					Internal structure
					Internal consistency Criteria validity
3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5				Urdu ^b	Convergent validity
					Predictive validity
		A			Invariance validity
		Attitudes towards responses			Invariance validity Content validity
A seller di	Attitudes Towards the Response to	Attitudes towards responses plans Attitudes towards activities	has Abblacia et al. 2000	Austria	-
Attitude	Attitudes Towards the Response to COVID-19 Pandemic	plans Attitudes towards activities plans	ben Abdelaziz et al., 2020	Arabic	Content validity
Attitude	*	plans Attitudes towards activities plans Attitudes towards crisis	ben Abdelaziz et al., 2020	Arabic	•
Attitude	*	plans Attitudes towards activities plans Attitudes towards crisis communication plans	ben Abdelaziz et al., 2020	Arabic	Content validity Semantic validity
Attitude	*	plans Attitudes towards activities plans Attitudes towards crisis	ben Abdelaziz et al., 2020	Arabic	Content validity
	COVID-19 Pandemic	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors	,		Content validity Semantic validity Content validity Internal structure Internal consistency
	*	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors	ben Abdelaziz et al., 2020 Arpaci et al., 2020	Arabic Turkish	Content validity Semantic validity Content validity Internal structure Internal consistency Convergent validity
	COVID-19 Pandemic	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors	,		Content validity Semantic validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity
	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S)	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors	,		Content validity Semantic validity Content validity Internal structure Internal consistency Convergent validity
	COVID-19 Pandemic	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors	,		Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Content validity Internal consistency
² hobia	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness	Arpaci et al., 2020	Turkish	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Internal consistency Content validity Internal consistency Criteria validity
Attitude Phobia Perception	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness Germ aversion	Arpaci et al., 2020 González-Olmo et al., 2020	Turkish Spanish	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Content validity Internal consistency
² hobia	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-19	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness	Arpaci et al., 2020	Turkish	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Internal consistency Criteria validity Content validity Content validity Content validity
'hobia	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-19 Brief Illness Perception Questionnaire to COVID-19	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness Germ aversion Illness perception (unifactorial)	Arpaci et al., 2020 González-Olmo et al., 2020 Pérez-Fuentes et al., 2020	Turkish Spanish Spanish	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Internal consistency Criteria validity Internal consistency Criteria validity Internal structure Internal consistency Invariance validity
'hobia	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-19 Brief Illness Perception	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness Germ aversion Illness perception	Arpaci et al., 2020 González-Olmo et al., 2020	Turkish Spanish Spanish Chinese	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Content validity Internal consistency Criteria validity Internal structure Internal consistency
Phobia Perception	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-19 Brief Illness Perception Questionnaire to COVID-19 Knowledge About COVID-19	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness Germ aversion Illness perception (unifactorial)	Arpaci et al., 2020 González-Olmo et al., 2020 Pérez-Fuentes et al., 2020	Turkish Spanish Spanish	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Internal consistency Criteria validity Internal consistency Criteria validity Internal structure Internal consistency Invariance validity
² hobia	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-19 Brief Illness Perception Questionnaire to COVID-19 Knowledge About COVID-19 Knowledge, Attitudes and Practices	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness Germ aversion Illness perception (unifactorial) Knowledge (unifactorial)	Arpaci et al., 2020 González-Olmo et al., 2020 Pérez-Fuentes et al., 2020 Liang et al., 2020	Turkish Spanish Spanish Chinese Chinese/	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Content validity Internal consistency Criteria validity Internal structure Internal consistency Invariance validity Content validity
Phobia Perception	COVID-19 Pandemic COVID-19 Phobia Scale (C19P-S) Perceived vulnerability to COVID-19 Brief Illness Perception Questionnaire to COVID-19 Knowledge About COVID-19	plans Attitudes towards activities plans Attitudes towards crisis communication plans Psychological factors Psycho-somatic factors Economics factors Social factors Perceived infectiousness Germ aversion Illness perception (unifactorial) Knowledge (unifactorial) Knowledge	Arpaci et al., 2020 González-Olmo et al., 2020 Pérez-Fuentes et al., 2020 Liang et al., 2020 Zhong et al., 2020	Turkish Spanish Spanish Chinese Chinese/ English	Content validity Content validity Internal structure Internal consistency Convergent validity Discriminant validity Criteria validity Content validity Internal consistency Criteria validity Internal structure Internal consistency Invariance validity Content validity

Table 1 (continued)

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

The authors report no declarations of interest.

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