CrossMark

BJPsych Advances (2021), vol. 27, 201–203 doi: 10.1192/bja.2021.14

CLINICAL REFLECTION

Mental vaccines: can resilience and adaptation of vulnerable individuals and populations be enhanced before disasters and crises?*

Uriel Halbreich

SUMMARY

The worldwide stress that is a consequence of the COVID-19 pandemic illuminates the need for mental preventive actions. Such 'mental vaccines' should be interdisciplinary and culturally sensitive. They should enhance resilience and adaptation of communities as well as vulnerable individuals.

KEYWORDS

Stress; resilience; adaptation; mental disorders; vaccines.

The COVID-19 pandemic follows a succession of pandemics and other crises, both natural and man-made. Natural disasters are a repeated component of existence in various regions of the world. It is quite predictable that they will continue to affect large populations in vulnerable areas. The question is not 'if', but 'when'. The pandemic demonstrates that the question is not 'where', it is everywhere, it is global. Man-made disasters have erupted throughout history. As with infections, globalisation and technological advances may spread their locations and amplify their magnitude.

One of the positive consequences of the COVID-19 pandemic is the accelerated development of efficient and safe vaccines against the fulminant virus. It may also be positive for the future that policy makers realise that the pandemic-induced psychological, social and economic consequences might be even more severe than the immediate viral impact. In the USA as well as in other countries, the pandemic has exposed great economic strain, associated with social unrest. Violent protests have emphasised racial and social inequities, cumulative discrimination and frustrations linked to immigration, economic inequities and political insensitivities.

Regrettably, the likelihood of further near-future cycles of crisis and unrest is quite high. In many communities, people's constant suffering and chronic cumulating stress will continue to be compounded by repeated cycles of acute traumatic events. Frustration, pessimism and actual suffering may be mounting, they affect mostly the weaker strata of the populace and, if continued, they may lead to even greater stress. These pessimistic socio-political processes are beyond the powers of mental health professionals but their impact on the mental health and well-being of vulnerable civilian groups and individuals can and should be minimised.

Therefore, it is imperative to identify vulnerable populations and, within them, vulnerable individuals. Preventive measures should be developed at both levels to enhance adaptation and prevent trauma to all. Social actions should strengthen populations at risk and 'mental vaccines' should be administered to vulnerable individuals within their cultural environments.

Current diagnostic and management approaches

The diagnostic criteria for trauma and stressor-related disorders are delineated in DSM-5 (appi.org) and ICD-11 (icd.who.int/en), culminating in the commonly diagnosed post-traumatic stress disorder (PTSD). The emphasis in the descriptive criteria is on a past exposure to an identifiable actual or threatening stressor – a traumatic event – and the presence of a minimum number of clinically significant emotional, cognitive and behavioural symptoms.

Chronic and acute stress may also be important risk factors for other types of mental disorder, especially anxiety, depression (e.g. Yang 2015) and psychoses (e.g. Holzman 2013).

Behavioural and pharmacological treatments are aimed at the symptomatic improvement of impairments and rehabilitation of the 'victim-patients' (Shalev 2019). Attempts at early post-trauma interventions to prevent development of symptoms have been promoted as 'preventive'.

A paradigm shift is needed, from post-trauma treatment of victims (which is certainly needed, if

Uriel Halbreich, MD, is Professor of Psychiatry and Director of Bio-Behavioral Research at Jacobs School of Medicine and Biomedical Sciences, University of Buffalo, State University of New York (SUNY-AB), USA. He is the Founding Chair of the World Psychiatric Association Section on Interdisciplinary Collaboration. He was the Founding President of the International Association of Women's Mental Health and is a past President of the International Society of Psychoneuroendocrinology.
Correspondence Uriel Halbreich. Email: uhalbreich@gmail.com

First received 8 Sep 2020
Final revision 4 Feb 2021
Accepted 5 Feb 2021

Copyright and usage
© The Author(s), 2021. Published by Cambridge University Press on behalf of The Royal College of Psychiatrists

*An earlier version of these ideas was presented at the World Federation for Mental Health–World Psychiatric Association (WFMH–WPA) International Congress on Crises and Disasters: Psychosocial Consequences, 6–9 March 2013, Athens, Greece.

https://doi.org/10.1192/bja.2021.14 Published online by Cambridge University Press

post-traumatic stress symptoms occur) to focused pre-trauma preventive interventions. There is a need to enhance the resilience of vulnerable people before they become trauma patients. Conceptually and operationally, there is a need to develop situation-specific and culturally sensitive 'mental vaccination'. For instance, where people suffer from repeated floods or overcrowded urban congestion (Alam 2020) a preventive approach should focus on these situations and local perceptions of them. If somatisation is prevalent, that should be the target of prevention.

In the context of stress and trauma, mental vaccination entails enhancement of resilience of vulnerable populations and individuals before they are faced with a potentially stressful event.

For the purposes of mental vaccination, stress is operationally defined as a whole brain–body process. Cognitive mechanisms in the brain interpret situations or events as distressing or positively challenging. Adaptation is key to the individual's handling of stress, and it is centrally coordinated by the brain (McEwen 2007). Maladaptation may result in failure of integration and maintenance of balance (homeostasis) among multiple systems. Stress may be manifested as a pletora of diversified central nervous system as well as peripheral physical symptoms and disorders (Halbreich 2021a, 2021b).

Therefore, solution-oriented investigation and management of stress-related disorders should be interdisciplinary, encompassing experts and procedures to address the multiple diverse systems that might be involved. A concerted effort integrating disciplines within and beyond conventional medicine is needed (Halbreich 2019). Focus on a single parameter may provide knowledge on only a very narrow aspect of the complex underlying processes and ensuing symptoms. Interventions to restore balance among the multiple biological and sociocultural processes are of importance.

Clinically, the concept of resilience should be operationalised.

Resilience is healthy adaptation

The American Psychological Association (2012) defines resilience as 'the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress – such as family and relationship problems, serious health problems, or workplace and financial stressors'. An ancient Talmudic fable describes effective resilience as follows: 'In the face of a tempest the cypress tree flexibly bends and then it bounces back, whereas the sturdy oak stands tall and breaks'.

There is a need to address why some people crumble under stress and develop (or regress to) PTSD in response to the same event that toughens others (Southwick 2012). This is a key issue to be operationalised. Identification of vulnerable people, those with low resilience, is a first step in the development of preventive interventions, to enhance resilience and adaptational skills and prevent individuals from becoming trauma patients.

These individuals live in communities that may be threatened by predictable disasters and crises. From a social point of view, organised psychiatric establishments and associations should be involved as active players in promoting what I believe are universal values that may have an impact on resilience:

- the pursuit of opportunities for individual happiness (Halbreich 2018)
- individual safety
- proactive financial optimism
- freedom of expression
- the active affirmative tolerance of diversity.

Indeed, the perception and expression of these values depend on local context and culture. For instance, financial optimism for a poor farmer in Bangladesh means keeping his ox in working condition, whereas for an American employee it is the investment of her retirement funds.

The reality is that mental health professionals can only contribute to advocacy and promotion of general humanistic values. Actions and actual changes are in the hands of politicians and decision-makers. Mental health professionals should and could actively develop and implement operational enhancement of individual and community resilience. This might be viewed as large-scale 'cognitive–behavioural prevention' – CBP.

The aim of CBP is to build up attitudes and skills to create:

- active self-esteem and individual dignity
- a sense of control over individual and community destiny
- focused, goal-oriented actions
- assertiveness (as opposed to a defensive, 'bunker' or victim mentality)
- proactive social support in the immediate environment, and a positive group attitude
- claiming responsibility for one's actions and inactions.

The cognitive resilience-building is enhanced by the structuring of culturally sensitive and environmentally adapted mechanisms for economic and financial control and preparedness for potential adversities. For instance, when a village economy is mostly based on home weaving, CBP would start with organising the women of the village for a combined socioeconomic support and marketing (this is already being done by local merchants in

BJPsych Advances (2021), vol. 27, 201–203 doi: 10.1192/bja.2021.14
https://doi.org/10.1192/bja.2021.14 Published online by Cambridge University Press

some Southeast Asian locations for enhancement of their own supply chains and profits). An example of a public health approach is 'micro health insurance' (Dror 2008), a community-based insurance system determined and controlled by locals for the locals. This programme, actively implemented in India and several low- and middle-income countries by a former United Nations executive, is a lesson that people-centred progress requires experts from many disciplines as consultants, but leadership should be by local people who know best what is 'good for them', but also know when and how to seek advice from outside experts.

If we accept that the resilience of communities and individuals requires adequate adaptation to stressful situations and conditions, and that adaptation may be enhanced by adequate preparedness, then preparedness for future crises and prevention of traumatic consequences should involve proactive pre-crisis enhancement of resilience, which I would call 'mental vaccines'. A proposed working definition of mental vaccines would be: 'targeted actions to enhance resilient adaptational skills and capabilities'.

To use the analogy of the COVID-19 pandemic, the equivalent of the 'virus' here is the stressful situation. The 'infectious diseases experts' are mental health, public health and cognitive–behavioural experts, the 'SARS virus biochemists' are the local mental health professionals and 'the shots in the arms' are adaptations of cognitive–behavioural therapy (CBT) concepts and procedures to change local situations, perceptions and behaviours.

Tests for identifying individuals with low resilience should be further developed. They should be inexpensive, easily administered collected (e.g. using mobile phones or saliva samples) and provide for almost-immediate local results. Meanwhile, clinicians' awareness will hopefully be enhanced by several articles in this issue (Halbreich 2021a, 2021b; Kaye-Kauderer 2021).

Funding is a cornerstone for global development of mental vaccines as well as for dissemination and local implementations.

To conclude

A paradigm shift is needed – from post-trauma treatment of victims (which, of course, will remain necessary for some) to focused preventive interventions and enhanced resilience of vulnerable people before they become victim-patients. There is a need to develop culturally sensitive specific 'mental vaccines', which would be targeted actions to enhance resilient, adaptational skills and capabilities.

Funding

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

Declaration of interest

None.

References

Alam F, Hossain R, Ahmed HU, et al (2020) Stressors and mental health in Bangladesh: current situation and future hopes. *BJPsych International* [Epub ahead of print] 10 Dec. Available from: https://doi.org/10.1192/bji.2020.57.

American Psychological Association (2012) *Building Your Resilience*. APA (https://www.apa.org/topics/resilience. [Cited 10 Aug 2020]).

Dror D (2008) Micro health insurance: the quest for a balance between different interests of healthcare providers, clients and insurers. *Health Action*, **28**(5): 10–2.

Halbreich U (2018) Pursuit of happiness, prosperity and health (P-HPH). *International Journal of Social Psychiatry*, **64**: 307–8.

Halbreich U, Schulze T, Botbol M, et al (2019) Partnerships for interdisciplinary collaborative global well-being. *Asia-Pacific Psychiatry*, **11**(2): e12366.

Halbreich U (2021a) Stress-related physical and mental disorders. *BJPsych Advances*, **27**, this issue.

Halbreich U (2021b) Stress: a global multidimensional common denominator. *BJPsych Advances*, **27**: this issue.

Holzman CW, Trotman HD, Goulding SM, et al (2013) Stress and neurodevelopmental processes in emergence of psychosis. *Neuroscience*, **249**: 172–91.

Kaye-Kauderer H, Feingold JH, Feder A, et al (2021) Resilience in the age of COVID-19. *BJPsych Advances*, **27**, this issue.

McEwen B (2007) Physiology and neurobiology of stress and adaptation: central role of the brain. *Physiological Reviews*, **87**: 873–904.

Shalev A, Gevonden M, Ratanatharathorn A, et al (2019) Estimating the risk of PTSD in recent trauma survivors: results of the International Consortium to Predict PTSD (ICPP). *World Psychiatry*, **18**: 77–87.

Southwick S, Charney D (2012) *Resilience: The Science of Mastering Life's Greatest Challenges*. Cambridge University Press.

Yang L, Zhao Y, Wang Y, et al (2015) The effect of psychological stress on depression. *Current Neuropharmacology*, **13**: 494–504.

https://doi.org/10.1192/bja.2021.14 Published online by Cambridge University Press