Differential impact of COVID-related lockdown on mental health in Germany

The World Health Organization declared COVID-19 outbreak a global pandemic on March 11, 2020. Following the rapid and uncontrollable course of the pandemic, many governments decided to massively restrict public and private life to prevent further spread of the virus. Especially the measures to enforce “physical distancing” during the "lockdown" can be seen as a global macro-stressor affecting a major part of mankind in an unprecedented manner.

Lockdown can have manifold psychosocial consequences, including unemployment and precarious economic situations, marital and familial discord, and domestic violence. Subsequent psychological responses, such as feelings of loneliness, anger or preoccupation about the future, are likely. This was picked up by mass media as well as experts\(^1\), warning the public about possible negative effects of the lockdown on mental health.

While many speculations and hypothetical considerations arose, there is a paucity of empirical real-world data. Initial ad-hoc studies have been conducted quickly, reporting high incidence of negative mental health outcomes, such as depression and anxiety\(^2\).\(^3\).\(^4\). Thereby, reports inferred detrimental consequences for the mental state of the general population.

However, those studies have several shortcomings. Most of them applied cross-sectional designs, which may capture very transient symptoms rather than long-lasting fluctuations in mental states, and do not allow comparison with pre-lockdown measures. Also, the questionnaires that were used are often only screening tools rather than in-depth assessment instruments. In contrast, more meaningful insights can be gathered from longitudinal studies built on continuous, detailed assessments of mental health before and during the lockdown.

We present here extensive data on behavioral and mental health changes in relation to the lockdown of public life in Germany. We capitalize on a population-based, prospective, longitudinal cohort study termed LORA (Longitudinal Resilience Assessment\(^5\)), conducted in the Rhine-Main region since 2017. Its main aim is investigating resilience – i.e., the ability to maintain mental health despite difficult life circumstances – in initially healthy adults (assessed by the Mini International Neuropsychiatric Interview\(^6\)). After an extensive baseline evaluation, major life events, micro-stressors in the form of daily hassles, and mental health problems among COVID-19 survivors in Wuhan are significantly more common than in the general population of the Hubei province. Risk factors for more severe mental health problems include retesting positive for SARS-CoV-2, living alone, female gender, comorbid chronic physical diseases, and low education and income levels. Clinicians and policy makers should be aware of the risk of mental health sequelae in COVID-19 survivors and implement appropriate preventive and treatment measures.

Qi Mei\(^1\), Fei Wang\(^2\), Amy Bryant\(^3\), Li Wei\(^2\), Xianglin Yuan\(^1\), Jian Li\(^4\)
\(^1\)Tongji Hospital, Huazhong University of Science and Technology; Wuhan, Hubei, China; \(^2\)Wuhan No. 1 Hospital, Huazhong University of Science and Technology; Wuhan, Hubei, China; \(^3\)Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy; Idaho State University, Meridian, ID, USA; \(^4\)Institute of Experimental Immunology, University Clinic of Rheinische Friedrich-Wilhelms-University, Bonn, Germany

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The overall reduced amount of daily hassles and increase of mental health scores is, at first sight, counterintuitive. However, our analyses revealed subpopulations differentially affected by the pandemic. For Groups 1 and 2, the lockdown measures resulted in reduced mundane stress-inducing factors, such as less commuting or reduced workload. Thus, these groups experienced a short-term reduction of micro-stressors. However, in our sample of initially mentally healthy participants, we identified a susceptible group, whose mental health deteriorated over the course of the assessment. The existence of this “vulnerable group” may explain the rise in mental disorders seen in some cross-sectional studies: while the majority of people cope well with the consequences of the pandemic (at least if the economic impact is buffered against), a subgroup of individuals is susceptible to adversities and develops mental health problems.

Vulnerability towards such lockdown effects might be higher in people already suffering from psychiatric disorders, or in elderly populations with impoverished social networks. Indeed, Group 1 of our study had significantly younger participants than the other two (F(1,520) = 4.0, p=0.02). Further, it is likely that socioeconomic challenges and risk factors such as unemployment or poverty, less powerful in Germany than in many other countries, will have later negative influences.

Our results indicate that unspecific, general interventions may not be the optimal response to lockdown measures. Resources should rather be allocated to early identification and support of particularly vulnerable individuals in times of crisis. Future studies should quantify risk and especially protective factors playing a role in coping with the stressors of the current pandemic, followed by tailored interventions targeting the identified factors in susceptible individuals to prevent the manifestation of mental disorders.

In sum, we refute the undifferentiated view that lockdown per se has a negative effect on mental health. Rather, it affects a vulnerable group of individuals, while the vast majority of people remain healthy or even improve their mental well-being, as everyday stressors are reduced.

Kira F. Ahrens1, Rebecca J. Neumann1, Bianca Kollmann2,3, Michael M. Plichta1, Klaus Lieb2,3, Oliver Tüscher2,3, Andreas Reif1

1Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, University Hospital Frankfurt, Frankfurt, Germany; 2Department of Psychiatry and Psychotherapy, University Medical Center Mainz, Mainz, Germany; 3Leibniz Institute for Resilience Research, Mainz, Germany

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