

Mental health and COVID-19 pandemic: Social determinants, vulnerability factors and mitigation strategies.

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Abstract.

The COVID-19 pandemic has drawn attention to the importance of recognizing social determinants and their impact on mental health disorders. This article synthesizes main findings from recent and relevant peer reviewed studies and supranational organizations publications regarding social determinants, vulnerable groups and mitigations measures to address this issue. In order to face this challenge, it is crucial to call for an integration across disciplines, professionals in private and public services. An explicit mental health budget and research funding is imperative for a holistic approach. Not only there is no health without mental health, but consequently there is no education, no sustainable development, no gender equality and no social justice. All articles *must* contain an abstract. The abstract text should be formatted using 9 point Cambria and indented 16 mm from the left and the right margin. Leave 1 line of 9 pt. Cambria space after the abstract before you begin with the keywords. Leave 1 line 9 pt. space after the keywords before the main text of your article, starting on the same page as the abstract. The abstract should give readers concise information about the content of the article and indicate the problem, the method used, the main results obtained and conclusions drawn. The abstract should be complete in itself; no tables, figures, references or displayed mathematical expressions should be included. It should be about 200-350 words in a single paragraph.

Keywords. Mental Health, COVID-19, Social determinants, Vulnerability and mitigation.

1. Introduction

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Mental health disorders are an increasingly common issue for different cultures over the world in the 21st century. The COVID-19 pandemic created a scenario which cast a light on the complexity of mental health social determinants. The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2019 ranked depression and anxiety disorders as the two most disabling mental disorders worldwide¹.

The study Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic² estimated a substantial increase in the prevalence and burden of major depressive disorder and anxiety disorders as a result of the COVID-19 pandemic.

Acknowledging that the relationship between any risk factor and psychiatric disorders is complicated by the gene-environment interaction profile of the individual, the present article focused only on the environmental aspects of this process in order to better understand the global mental health burden relationship to an increased social inequality.

The global extent and local effects of COVID-19 mental health burden remains unknown due to the lack of regional studies in some areas including South America. Not only has mental health become one of the main causes of disabilities and mortality in the Americas, but also the lack of specialized professionals and regional studies has deepened the prognosis uncertainty³.

A systematic review on common mental disorders and poverty in low- and middle-income countries found that over 70% reported positive associations between a variety of poverty measures and common mental disorders⁴.

International agencies have a vast number of publications in this field focusing on the social determinants of mental health and strategies to

prevent and promote mental health in middle- and low-income countries. WHO defines mental health as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community”⁵.

According to the WHO Mental Health Social Determinants publication the risk areas are related to ⁶

- 1.) Life-course (ie, conditions in which people are born, grow, live, work, and age);
- 2.) Parents, families and households (ie, parenting behaviours/attitudes; material conditions);
- 3.) Community (ie, community based participation, violence crime, attributes of the natural and built environment);
- 4.) Local services (ie, early years care and education provision, social services and sanitation);
- 5.) Country level factors (ie, governance, social protection policies, human rights).

All items above are categories presented by WHO to emphasize its importance when tackling mental health issues. In conjunction with vulnerability groups these points are a guideline to governments, institutions and professionals that deal with people in their daily lives.

The overall burden of disease is assessed using the disability-adjusted life year (DALY). This concept is based on a combination between years lost due to premature mortality (YLLs) and years lost due to disability (YDLs). According to PAHO the main aspects that lead to a third of YDLs are: mental, substance use and specific neural diseases.⁷

In consonance with PAHO findings, UNESCO studies⁸ supported that COVID-19 pandemic might be the historically most severe disruption to global education, estimating 1.6 billion learners to be fully or partially out of school in 2020, in over 190 countries. At the peak of school closures in early April 2020, over 90% of the world’s school-aged learners were estimated to be affected. Therefore, in April 2020, over 1.1 billion school learners were affected by the pandemic with country wide school-closures affecting 117 countries.

São Paulo's megacity adult population had prevalence of mental issues at higher rates than other places with anxiety disorders affecting almost 20% of its population. A positive correlation was established between anxiety and social determinants including urbanization, exposure to crime-related traumatic events, exposure over early years of the life course to urban environment, or urbanicity, migration status and neighborhood social deprivation level.⁹ Ten years later and facing COVID-19 pandemic it is to be expected to have a even higher of São Paulo's population suffering from anxiety.

Unfortunately, Brazil's population suffered from more than 600.000 confirmed deaths from COVID-19 and lack of reliable data regarding COVID-19 cases from government's records, so researchers must address the issue by themselves. In order to investigate the mental health burden, researchers are conducting studies to gather information about

our population's current situation. However, its continental dimension, inequality, groups vulnerability, thus having almost 215 million citizens in a diverse cultural, socio economic and historical context point out to the difficulties of generalization within different regions.

According to WHO Mental Health and Development report vulnerability means that certain groups have an elevated risk of developing mental disorders due to societal factors and the environment. Differing from countries and local regions, vulnerable groups usually share common challenges related to their social and economic status, social supports, and living conditions¹⁰.

2. Methods

2.1 Overview

The present article synthesizes recent literature about Covid-19 and mental health issues from a social determinants perspective using peer reviewed articles from online databases, WHO and UNESCO documents. The categories presented in the results section of each article were analyzed based on WHO Mental Health Social Determinants.

2.2 Data sources

This review used peer reviewed articles from electronic databases Scielo, Scopus Preview, the WHO COVID-19 literature database and Google Scholar databases in order to better understand the mental health burden during COVID-19 pandemic from March 2020 to March 2022. The literature research encompassed the following keywords: mental health, social determinants and Covid-19.

The baseline for analysis was WHO Mental Health Social Determinants. In order to display results in an organized fashion a timetable was created to organize data in order to also comprehend mitigation strategies for group vulnerability aspects.

3. Results

Out of 49 articles obtained, 21 remained following title and abstract screening. The main findings were organized based on WHO social determinants of health. In addition, a combination of concepts frequently mentioned were presented bellow in order to better understand the main literature evidence.

- 1.) Life-course (ie, conditions in which people are born, grow, live, work, and age);

Vulnerability factors: Women, younger people, ethnic minorities, LGBT and immigrants suffer from a higher rate of mental disorders.

Mitigation strategies: Strengthen protection services, including remote services for violence prevention; Understand the relationships between the lack of public services, transportation, employment and violence.

2.) Parents, families and households (parenting behaviours/attitudes; material conditions);

Vulnerability factors: Older adults, people with existing mental health issues and those with multimorbidities might be particularly affected by isolation.

Mitigation strategies: Focus on direct intervention and support groups for parenting. Improve social connection and community based programs to occupy public spaces; Provide guidance, promote health practices and include parents and caregivers in school's communities; Map local initiatives that offer education, legal support, health care, and register in governmental programs.

3.) Community (community based participation, violence crime, attributes of the natural and built environment);

Vulnerability factors: Socially excluded groups, including prisoners, the homeless, and refugees, might require a tailored response.

Mitigation strategies: Assess the effectiveness of arts-based and life-skills based interventions and other income generating activities, Target specific at-risk population to better understand outbreak dynamics and the appropriateness of response strategies at the community level, Promote local interventions to avoid high mobility of dwellers due to unequal distribution of services.

4.) Local services (early years care and education provision, social services and sanitation);

Vulnerability factors: Front-line health-care workers might be affected by fears of contamination, moral injury, disruption of normal supportive structures, work stress, and retention issues.

Mitigation strategies: Design bespoke approaches for population-level interventions targeted at the prevention and treatment of discrimination and prejudice; Understand the facilitators and barriers for activities that promote good mental health, such as exercise; Support safe return to schools, feeding programmes, transportation, mitigate unemployment, promote health services and provide income support.

5.) Country level factors (governance, social protection policies, human rights);

Vulnerability factors: Poverty, inequality, corruption, lack of social protection policies and respect for human rights.

Mitigation strategies: Understand the psychological (eg, coping), physiological (eg, sleep and nutrition), and structural (eg, work rotas and daily routines) factors that protect or adversely affect mental health in this population; Improve monitoring and increase the offer of social programs and affirmative policies for vulnerable populations; Design approaches for population-level interventions targeted at the prevention and treatment of mental health symptoms and community based programs for vulnerable groups; Improve monitoring and reporting of the rates of

poverty; determine the efficacy of mechanistically based digital and non-digital financial aid interventions and evaluate optimal model(s) of implementation.

Substantial increase in the prevalence burden of major depressive disorder and anxiety disorders as a result of COVID-19 pandemic has been reported¹². Aid programmes aimed at improving population mental health are clearly needed widely and measurement of clinical diagnoses will be needed to plan service provision. Human mobility and daily SARS-CoV-2 infection rate were significantly associated with the change in major depressive disorder and anxiety disorder prevalence. For both disorders younger age groups were affected more than older age groups.

The Response to Educational Disruption Study conducted by UNESCO and IEA collected questionnaire data over 11 countries. The results showed that both teachers and students were negatively affected from the changed arrangements during COVID-19 disruption. Not only most schools around the world had focused on students' well-being, but also the following aspects were investigated regarding educational challenges: teachers increased workload together with changed and potentially stressful working environments; altered modes and methods of teaching and difficulty to provide lower achieving vulnerable students with the support they required¹³.

On the subject of students' well-being, the report also assessed pupils' main concerns, referring to feeling more worried than usual about their friends and family getting sick, feeling anxious about the changes in their schooling and missing their usual contact with their classmates and decreasing engagement. However, it is important to point out the potential differential impacts of students' well-being and learning associated with aspects of relative student disadvantage.¹⁴

There is evidence that associated low-income and mental health disorders with a higher prevalence in women. Besides gender, inequality, weak social support and stressful experiences are also correlated to a higher risk.¹⁵ Both WHO and PAHO support mental health policies prioritizing the funding of community-based mental health services instead of specialized neuropsychiatric hospitals.

4. Discussion

In this study, social determinants were analyzed in order to understand the prevalence of the main aspects that influences mental health living in a covid-19 pandemic. Not only it contributed to synthesizing evidence presented in recent studies, but also to focus on psychosocial community based care assistance.

This accumulated knowledge supports the raising the importance of a multidisciplinary approach in the mental health field. For more than thirty years, Brazil's psychiatric reform movement and psychosocial care have been using a hybrid model including multidisciplinary health care teams

and community based assistance as the main policy in its Universal Health System¹⁶. This hybrid model is a reference worldwide and research presented so far reinforce the importance of having this holistic approach to face the mental health burden.

Acknowledging that COVID-19 pandemic transformed the status quo, the lack of time to gather global data and conduct longitudinal studies forced governments to act based on preliminary results. However, mental health was already a trend topic in the research community and evidence concerning social determinants is available from international agencies and might be generalized to nowadays reality with caution¹⁷.

Immediate and long-term actions are required to cope with mental health burden. Governments, NGO, society and international agencies must join forces in order to comprehend the complex nature of human behaviour, physiology, cognition and societal changes. Biological, cognitive and sociocultural factors are interconnected and responsible for the drastic change in wellness, urbanity relationship with mental health is one aspect that should be further studied¹⁸.

South America's lack of reliable data about mental health effects of Covid-19 pandemic by the governments must be addressed and research funding agencies must be prioritized to establish a high level coordination group to ensure systematic studies. International collaboration to provide a global perspective will be beneficial¹⁹.

Understanding the psychological (eg, coping), physiological (eg, sleep and nutrition), and structural (eg, work rotas and daily routines) factors that protect or adversely affect mental health in global and local population is mandatory. Design approaches for population-level interventions targeted at the prevention and treatment of mental health symptoms are more effective when different variables are included²⁰.

5. Conclusion

Mental health is a multi-dimensional overlapping of factors such as class, education, age, income, sexual orientation, ethnicity, and geography. The COVID-19 pandemic created a scenario which cast a light on the complexity of mental health social determinants and vulnerable groups.

Target specific at-risk populations to better understand outbreak dynamics and the appropriateness of response strategies at the community level contribute to mitigate vulnerable settings. Moreover, to promote equity, health systems must support strengthening effective leadership for mental health and providing comprehensive, integrated and responsive mental health and social care services in community-based settings²¹.

Focus on interdisciplinary policies involving education, health care, social service, culture, sports, and local research to gather data to better understand different realities is the most effective manner to cope with mental health burden.

Therefore, previous mental health reports from supranational organizations and global studies are improving our knowledge and may be a helpful tool to address the gap in regions where there is a lack of reliable data.

6. Acknowledgements

The author declares no competing interests.

7. References

[1] GBD. Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*.

[2] COVID-19 Mental Disorders Collaborators. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. *Lancet* 2021; published online Oct 8.

[3] Lund C, Breen A, Flisher A, Kakuma R, Corrigall J, Joska J, et al. Poverty and common mental disorders in low and middle income countries: A systematic review. *Social Science & Medicine*. 2010;71:517-28.

[4] Kola L, Kohrt BA, Hanlon C, et al. COVID-19 mental health impact and responses in low-income and middle-income countries: reimagining global mental health. *Lancet Psychiatry*. 2021; 8: 535-550.

[5] World Health Organization and Calouste Gulbenkian Foundation. Social determinants of mental health. Geneva, World Health Organization, 2014.

[6] Ibid.

[7] Pan American Health Organization. The Burden of Mental Disorders in the Region of the Americas, 2018. Washington, D.C.: PAHO; 2018.

[8] UNESCO. Education: from disruption to recovery. UNESCO, 2021.

[9] Andrade LH, Wang Y-P, Andreoni S, Silveira CM, Alexandrino-Silva C, Siu ER, et al. Mental Disorders in Megacities: Findings from the São Paulo Megacity Mental Health Survey, Brazil, 2012.

[10] Mental Health and Development report. WHO, 2010.

[10] UNESCO. Education: from disruption to recovery. UNESCO, 2021.

[11] UNESCO. The Response to Educational Disruption Study (REDS). UNESCO, 2021.

[12] GBD. Disease and Injury Incidence and

Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*.

[13] Cristobal Abarca Brown, Felipe Szabzon, Lenora Bruhn, Daniela Ravelli Cabrini, Elisangela Miranda, Jacqueline Gnoatto, Paula de Vries Albertin, Geilson Lima Santana & Laura Helena Andrade (2022) (Re) thinking urban mental health from the periphery of São Paulo in times of the COVID-19 pandemic, *International Review of Psychiatry*.

[14] Holmes EA, O'Connor RC, Perry VH, et al. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry* 2020; 7: 547–60.

[15] UNESCO. *The Response to Educational Disruption Study (REDS)*. 2021.

[16] Lancetti A. *Saúde Mental e Saúde da Família*. In: Lancetti A. *Saúde Loucura*. 2 ed. São Paulo: Hucitec; 2001.

[17] Prince, M. et al. Global Mental Health 1. No health without mental health. In *The Lancet, Global Mental Health* [Internet]. *The Lancet* 2007 Sep 8; 370(9590):859877.

[18] Krabbendam, L., Van Vugt, M., Conus, P., Söderström, O., Abrahamyan Empson, L., Van Os, J., & Fett, A. (2021). Understanding urbanicity: How interdisciplinary methods help to unravel the effects of the city on mental health. *Psychological Medicine*, 51(7), 1099-1110. doi:10.1017/S0033291720000355

[19] Maxime Taquet, Emily A Holmes, Paul J Harrison (2021). Depression and anxiety disorders during the COVID-19 pandemic: knowns and unknowns. *The Lancet*. Volume 398, issue 10312, p.1665 -1666, November, 06, 2021. Published: October 08, 2021.

[20] UNICEF. *Impact of COVID-19 on Children and Families in Latin America and the Caribbean*. July, 2021.

[21] World Health Organization. *Comprehensive mental health action plan 2013-2020* [Internet]. Geneva: WHO; 2013.