

The Global Socioeconomic Impact of Mental Health

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Raphael Louis, ORCID ID: <https://orcid.org/0000-0002-5574-3245>

H.E. Hon. Sir. HDr., Lab / Research Safety Officer (RSO), FAAVM Advancing DNA Research for Mental Illness, Prevention and Treatment Project, FAAVM Canada

Email: faavm.ncpc@gmail.com

Abstract

This paper outlines the arguments and counterarguments within the scientific communities on the issue of common genetic factors discovered in mental disorders. The main objective of the research is to analyse the relationship between genetics and mental health. The relevance of this study by FAAVM Canada, (North America), is to help recognize that major mental health disorders share certain genetic defects. These findings may also point to apply better multidisciplinary scientific research methodologies to diagnose and treat these conditions. However, genetic factors can increase the risks of mental health issues, or make us more vulnerable to developing them, by reducing the brain's ability to deal with or compensate for traumas and other cognitive disruptions. This research empirically confirms and theoretically proves that the results can be useful for vaccine and pharmaceutical drug development.

Across the European Union (EU) region, approximately 165 million people are affected annually by mental illnesses, for the most part, anxiety, mood, and substance abuse disorders.

On average, over 50% of the general population in middle-income and high-income countries will experience at least one mental illness at some point in their lives. That being said, mental illnesses are by no means limited to a minority group of predisposed persons but are a major public health challenge. These scientific attributes are in fact mandatory diagnostic criteria that exert considerable socio-economic repercussions not only for those affected but also for their families, communities, social, and employment related environments. In the first year of the Coronavirus (COVID-19) global pandemic, global frequency of anxiety and depression increased by an immense 25%, according to a scientific summary released by the World Health Organization (WHO). Mental illnesses and substance abuse disorders account for over 10.4% of the global burden of mental health diseases, owing to demographic changes and prolonged life expectancy, and were the leading cause of years lived with disability among all disease groups.

Keywords: socioeconomics, mental health, public health, scientific research, health, and wellbeing.

JEL Classification: I0, I14.

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Introduction

Mental health disorders exacerbate an enormous disease burden on societies globally. Depression by itself affects approximately 350 million people across the world and is the leading cause of mental disability worldwide. Despite its considerable socio-economic impact, mental illnesses continue to be driven into the gloom by stigma. The mental health issue is becoming ever more urgent in light of the forced migration and humanitarian conflict

we are seeing in many countries of the world. A two-day series of events, co-hosted by the World Bank and the World Health Organization during the World Bank-International Monetary Fund Spring Meetings, aims to move mental health from the margins to the mainstream of the global development agenda. The events to engage finance ministers, multilateral and bilateral organizations, the business community, technology innovators, and civil society will emphasize the urgent investments needed in mental health services, and the expected returns in terms of health, social and economic benefits. In 2010, mental and substance use disorders constituted 10.4% of the global burden of disease and were the leading cause of years lived with disability among all disease groups. Results show that the investment needed to scale up effective treatment coverage for common mental disorders is substantial: The NPV of all investments in the 36 large countries examined over the period 2016-2030 amounts to US\$141 billion, with US\$91 billion going towards treatment of depression and US\$50 billion going toward treatment of anxiety disorders.

(Source: The World Bank Group ~ Out of the Shadows: Making Mental Health a Global Priority - April 13-14, 2016).

Literature Review

This paper demonstrates that globally, the majority of those who require mental health care support have inadequate access to high-quality mental health services and treatments. Mental illness stigma, medical resource shortages, inefficient service delivery models, lack of scientific research capability for improvement, and public health policy change contribute to the current mental health crisis worldwide. Health systems in low and middle-income countries addressing mental health gap can further identify challenges and priority areas for future scientific research. Common mental illnesses are accountable for the largest proportion of the global burden of curable disease; yet there is strong evidence that these mental disorders, as well as severe mental illnesses, can be properly and successfully treated utilising evidence-based interventions, delivered by trained social health workers and mental health professionals in primary healthcare systems.

Prevention also remains of paramount importance to properly address, reduce, and eliminate the global mental health gap and offset the socio-economic burden locally, regionally, and globally. Scientific evidence-based research to practice and implementation studies are required to sustain government policies and optimize service delivery programs and institutions. Key vital areas are also identified for focused consideration to implement adequate accessibility to high-quality mental health services.

Developing and implementing prevention programs can be highly effective to decrease the incidence of mental disorders by establishing sustainable scale up of public healthcare systems. One of the most critical challenges in reducing the mental health treatment gap is the soaring shortage and lack of trained mental health workers in healthcare service delivery systems worldwide. Capacity-building must focus not only on clinicians but also on researchers. This paper is a milestone in mental health research and awareness. It brings acceptance and more in-depth understanding of various mental illnesses affecting humanity. This publication also serves as a reference material for doctoral student, social workers, professors, scientific researchers, medical scholars, governments, mental health institutions, and mental health professionals.

Discussion

In accordance with data from 2010, the global direct and indirect socio-economic costs of mental illnesses were calculated at US\$2.5 trillion. Most significantly, the indirect costs (US\$1.7 trillion) are much elevated than the direct costs (US\$0.8 trillion), which contrasts with other key disease groups, such as cardiovascular illnesses and cancer. For the European Union (EU), a region with sophisticated developed healthcare systems, the direct and indirect costs were estimated at €798 billion. Both direct and indirect value of mental illnesses are expected to double by 2030. It should also be noted that these assessments did not include costs associated with mental illnesses from outside the healthcare system, such as legal costs caused by drug abuse.



Figure 1. The human brain

Source: www.canva.com.

Genetic experimental tests for schizophrenia could instigate both risks and rewards. Little is known about the hopes and expectations of young adults at clinical high-risk for psychosis regarding genetic testing for schizophrenia, in spite of the fact that these youth could be among those highly impacted by such tests. *Counselling* and *psychotherapy* sessions could also invite individuals to explore how receiving genetic risk information might impact their mental well-being, as early evidence recommends that some psychological factors help individuals cope, whereas others may heighten distress linked to genetic test results.

In the European Union (EU), about 165 million people are affected each year by mental illnesses, mostly anxiety, mood, and substance abuse disorders. Generally speaking, more than 50% of the general population in modest and high-income countries will experience at least one mental illness at some point in time, in their lives. Mental illnesses are therefore by no means limited to a specific group of genetically predisposed individuals but are a major public health challenge with significant consequences for society. They are related to severe distress and cognitive impairment, these features are in fact mandatory scientific diagnostic criteria, that can have significant consequences not only for those affected but also for their families, their social, their spiritual, and work-related environments.

In the year 2010 alone, mental and substance abuse disorders comprised 10.4% of the global burden of mental health disease and were the leading cause of years lived with mental health disability among all disease groups. Furthermore, considering demographic changes, and longer demographic life expectancy, the long-term burden of mental illnesses is even expected to expand.

Up to this point, genetic research studies of treatment response in schizophrenia, bipolar disorder, and major depression have provided results with limited clinical advantage. A gene \times environment interplay has been suggested as a cognitive factor influencing not only pathophysiology but also the treatment response. Therefore, epigenetics has surfaced as a major field of scientific research to study the treatment of these mental disorders. Although few studies in each mental disorder have evaluated the potential of DNA methylation as biomarkers of treatment response.

These socioeconomic repercussions are not limited to patients and their environment; they also affect the whole public health infrastructure, particularly through economic expenditures. An efficient assessment of these costs is complex and, owing to fragmental data, difficult to undertake. Moreover, scientific studies on socioeconomic costs may vary considerably due to insufficiencies or inadequate in the definitions of disorders; regional populations or medical samples studied; origins of costs and service utilization; analytical framework; and

inadequate cost categories due to lack of data and definitions. However, improved epidemiological and sophisticated economic methodologies and scientific models together with more reliable epidemiological data during the past two decades now allow the systemic accumulation of comprehensive and increasingly reliable data that give us a better insight regarding the magnitude of the socio-economic impact of mental illnesses on humanity.



Figure 2. Hospital emergency patient and doctor

Source: www.canva.com.

While most people believe that prescribed medication, visits to a family doctor, therapy sessions, hospitalization, and institutionalization is a true socio-economic burden of mental health diseases, in reality the burden of disease and mental disorders in particular, extend far beyond these direct diagnostic and medical treatment costs. It is widely known that mental illnesses cause unprecedented untold human sufferings. Research studies estimate that at least 10% of the world's population is critically affected, of which, 20% of children and adolescents suffer from some type of mental illness. In fact, mental disorders account for 30% of non-infectious disease burden worldwide and 10% of overall disease burden, including death and disability.

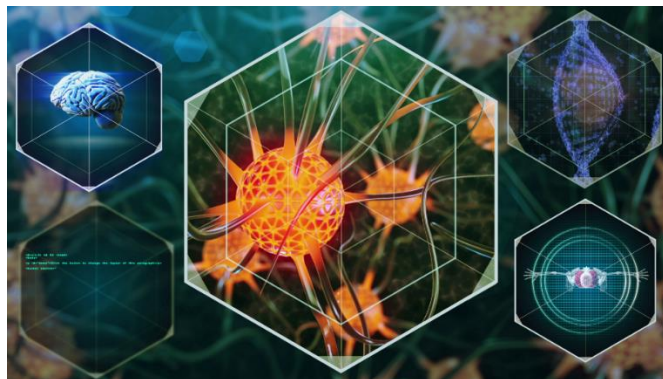


Figure 3. Brain and DNA structures

Source: www.canva.com.

Suicide, sometimes a way for people to escape pain or suffering, is frequently caused by mental illnesses, and can also carry a gigantic toll on humanity. For example, In India, it has overhauled significant complications from pregnancy, pre-natal and post-natal stages, as the leading cause of death among women aged 15 to 49. It is also well known that anxiety and depression are two of the most leading and most frequent mental illness, responding well to several types of treatments. If we accept that we have a responsibility to alleviate premature death and human suffering when it is

within our power to do so, a powerful argument can be made that adequate mental health treatment should be considered a basic and fundamental human right and a moral imperative of paramount importance.

Untreated mental disorders exacerbate a high toll and is responsible for 13% of the total global socioeconomic burden of mental health disease. Unipolar depressive disorder, another name for major depressive disorder, a mental health condition that affects mental and physical health, is the third leading cause of disease burden, accounting for 4.3% of the global burden of disease. The evaluation for low- and middle-income countries (MICs), defined as economies with a gross national income (GNI) per capita between \$1,036 and \$12,535, are 3.2% and 5.1%, proportionately.

Current forecasts indicate that by 2030 depression will be the leading cause of mental disease burden globally. When only the disability component is taken into consideration in the assessment of the burden of disease, mental health disorders account for 25.3% and 33.5% of all years lived with a mental health disability in low- and middle-income countries, correspondingly. Depression is one of the priority conditions covered by The World Health Organization (WHO's) Mental Health Gap Action Programme (mhGAP). Depression is one of the most frequent and familiar mental illness worldwide, with an approximated 3.8% of the population affected, including 5.0% among adults and 5.7% among adults over the age of 60. Generally speaking, 280 million people in the world experience or suffer from depression. Depression is different from usual mood variations and short-lived cognitive responses to challenges in everyday life. Especially when perennial, and with moderate or severe potency, depression may become a critical mental health condition. It can cause the concerned person to cognitively suffer greatly and function inadequately at work, in the community, at school and in the family.

Psychiatric diseases law down a colossal cognitive and socioeconomic burden on affected individuals, their caregivers, their families, and the health care system. Although scientific evidence exists for a robust genetic component to many of these conditions, devoted efforts to identify DNA sequence-based causes have not been notably productive, and not many pharmacologic treatment options are clinically accessible. In recent times, scientific experimental technologies have considerably advanced, enabling more in-depth studies of the epigenome and its role in maintenance of normal genomic functions, as well as disease etiopathogenesis.

Although there are known, effective treatments for mental disorders, more than 75% of people in low- and middle-income countries do not have access to adequate treatment. Socioeconomic gaps to effective care and mental health treatment include a lack of resources, lack of trained health-care providers and social stigma associated with mental illnesses. In countries of all income levels, people who experience depression are often not properly diagnosed, and others who do not have the disorder are too often misdiagnosed and prescribed antidepressants. Vulnerability to a humanitarian emergency is a potent risk factor for mental health challenges. Social structures, healthcare systems, and existing formal and informal provisions for the care of persons affected with severe, pre-existing, mental illnesses are disrupted. Surveys among people affected by humanitarian conflicts have found predominance rates of 17% and 15% for depression and Post-Traumatic Stress Disorder (PTSD).



Figure 4. Scientists analyzing the brain structure

Source: www.canva.com.

The systemic gap between the need for effective treatment for mental illnesses and its provision is far-reaching all over the world. For example, between 76% and 85% of people with severe mental illnesses receive no adequate treatment for their mental health problem in low- and middle-income countries; the comparable range for high-income countries is also high, between 35% and 50%. The numbers are staggering. For the time being, nearly 1 billion people live with a mental illness and in low-income countries, more than 75% of people with the mental disorder do not receive adequate treatment. Annually, close to 3 million people die due to substance abuse. Every 40 seconds, a person dies by suicide. About 50% of mental health disorders start by the age of 14.

It is appraised that over 160 million people need humanitarian assistance due to conflicts, natural and environmental disasters, and other human emergencies. The rates of mental illnesses can increase considerably during such humanitarian crises. 1 in 5 people affected by conflict is assessed to have a mental health condition. According to the World Health Organization (WHO), the COVID-19 pandemic has disrupted or, in some instances, stagnated vital mental health services in 93% of countries globally, while the demand for mental health services and treatments are increasing. Given the chronic nature of the disease, this translates into a significant socio-economic impact worldwide.

Using the assessed prevalence of depression and anxiety in various regions of the world, a new analysis of treatment expenditures and outcomes over the period of 2016-2030 has been carried out for 36 modest, middle, and high-income countries that between them account for 80% of the global burden of common mental illnesses. A modest improvement of 5% in both the capability to work and productivity at work was articulated in because of treatment and was subsequently mapped to the conventional rates of labor-force participation and Gross Domestic Product (GDP) per worker in each of the 36 assessed countries. The key outcomes of the diagnosis were year-by-year assessments of the total costs of adequate treatment, such as the healthcare investment, increased healthy life years gained because of treatment, enhanced levels of productivity, and the inherent value associated with better health and better quality of life.

Conclusion

The objective of FAAVM Canada Advancing DNA Research for Mental Illness Prevention and Treatment project is to discover variations in four genetic regions and examine the DNA of people who have mental illnesses. Some mental disorders affect how calcium moves through the brain, which could lead to creating treatments for these disorders. Genetic testing can be used to predict or diagnose mental disorders. Genetics are passed down during reproduction, specifically when the egg and the sperm meet and form a zygote. An embryo is created, and it will receive DNA from both parents, which help define the characteristics and traits of the child.

Genetic factors include epigenetic regulation, how a person reacts to an environmental factor. Epigenetic study of heritable changes in gene expression (active versus inactive genes). Epigenetics helps determine if a mental disorder will develop. Another cause of mental disorders are genetic polymorphisms when a change in our DNA occurs. When a change in a certain polymorphism and an environmental factor can lead to a mental disorder. Factors that can cause mental disorders that are related to genetics which constitutes chemical imbalances in the brain.

Pharmacogenetic testing in Canada is readily accessible and available, however, substantially variable in terms of systemic ordering procedures, delivery of results, turnaround times, expenditures, and “gene|allele” content. Therefore, it is vitally important for psychiatrists and other professional health-care service providers to better understand the recognizable identifiable differences between the available scientific tests to ensure relevant selection and sustainable implementation within their practice.

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