

HIT-750 (DATA ANALYTICS)

Team-3:

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Global Trends in Mental Health Disorders

Overview of the topic :

- **Prevalence of Mental Disorders**
 - Approximately **1 in every 8 people** worldwide live with a mental disorder, highlighting the widespread impact of these conditions [2].
- **Mental Health and Society**
 - Mental health is a **crucial aspect of overall well-being**, influencing people's ability to work, maintain relationships, and engage with their communities [1].
- **Burden of Untreated Mental Illnesses**
 - Despite the existence of **effective prevention and treatment options**, a **large proportion of affected individuals do not receive proper care** due to barriers such as stigma, lack of resources, and poor-quality treatment [1,2]
- **Nature of Mental Disorders**
 - Mental disorders involve **significant disturbances in thinking, emotional regulation, and behavior**, affecting an individual's daily functioning [2].
- **The Need for Reliable Data**
 - **Comprehensive data collection** is crucial to understanding mental health trends, identifying risk factors, and improving access to effective treatments [1].
- **Variety of Mental Health Conditions**
 - There are **numerous types of mental disorders**, including depression, anxiety, schizophrenia, and bipolar disorder, each with varying degrees of severity and impact [2].

- **Gender Disparities in Mental Health**
 - Studies estimate that **1 in 3 women and 1 in 5 men** will experience major depression at some point in their lives [1].
- **Public Perception and Stigma**
 - Many individuals feel **uncomfortable discussing their mental health symptoms**, which can lead to underreporting and misrepresentation of the true prevalence of mental illnesses [1].

Importance of the Topic :

Mental health disorders are a significant public health concern worldwide, affecting individuals' well-being, productivity, and societal engagement. Understanding global trends in these disorders is crucial for developing effective prevention and treatment strategies, allocating resources appropriately, and reducing the stigma associated with mental health issues. The increasing prevalence of mental health conditions necessitates a comprehensive analysis to inform policy-making and healthcare practices.

Summary of Online Resources to find dataset :

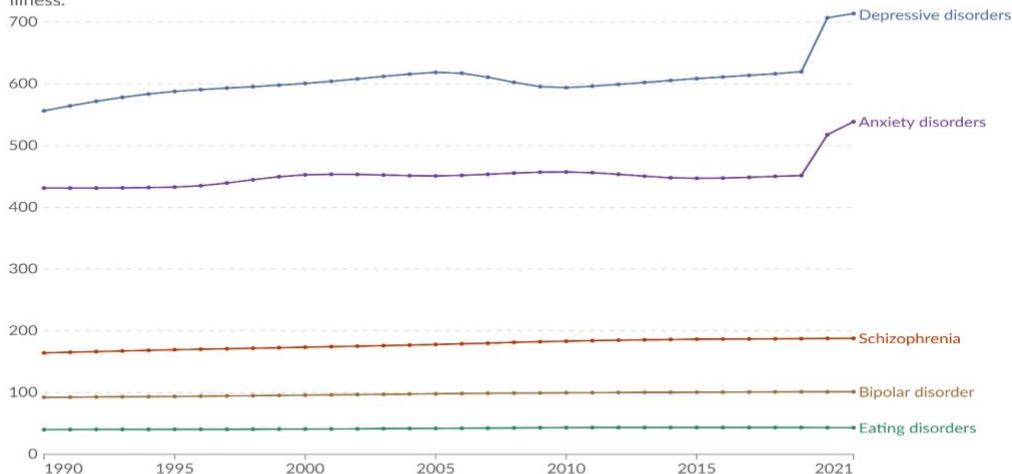
Our World in Data: Mental Health [1]

- This resource offers a detailed look at mental health disorders worldwide, providing statistics on how many people are affected and the different conditions they experience.
- It explores the burden of mental illnesses, showing how they impact individuals, families, and society as a whole.
- The site also discusses treatment options and whether people have access to the care they need.
- Another key focus is on public attitudes toward mental health, emphasizing the need to break the stigma and encourage open conversations.

Burden of disease from each category of mental illness, World, 1990 to 2021

Our World in Data

Estimated number of disability-adjusted life years (DALYs)¹ per 100,000 people, broken down by category of mental illness.



Data source: IHME, Global Burden of Disease (2024)

OurWorldinData.org/mental-health | CC BY

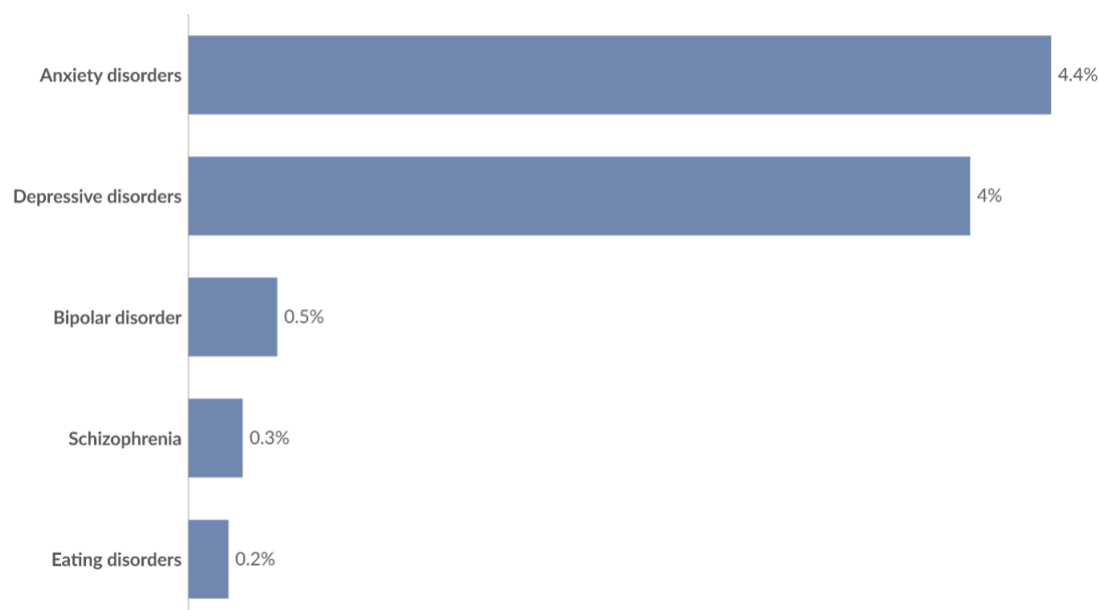
1. Disability-adjusted life years: Disability-adjusted life years (DALYs) measure the total burden of disease – both from years of life lost due to premature death and years lived with a disability. One DALY equals one year of healthy life. [Learn more about how the burden of disease is measured in our article.](#)

Fig 1 : Line chart for the distribution of Mental Disorders

Mental illnesses prevalence, World, 2021

Our World in Data

The estimated share of people with each mental illness in a given year, whether or not they were diagnosed, based on representative surveys, medical data and statistical modeling.



Data source: IHME, Global Burden of Disease (2024)

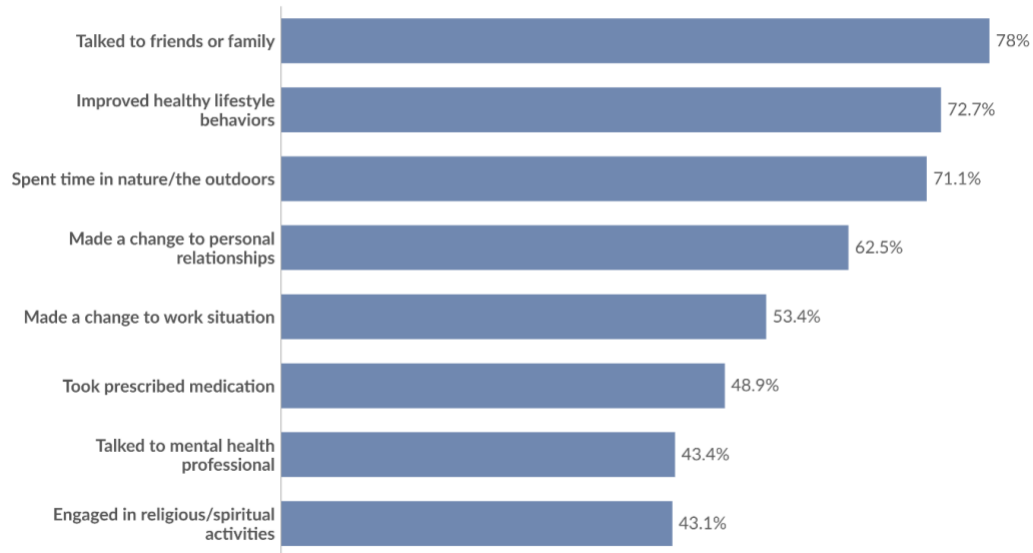
OurWorldinData.org/mental-health | CC BY

Fig 2: Bar graph for the distribution of Mental disorders

How do people deal with anxiety or depression? World, 2020



Respondents who reported that they 'felt so anxious or depressed that they could not continue their regular daily activities as they normally would for two weeks or longer' were asked whether they ever did each of the following to make themselves feel better.



Data source: Wellcome Global Monitor (2021)

OurWorldinData.org/mental-health | CC BY

Fig 3: Distribution pattern for overcoming Anxiety or Depression

World Health Organization: Mental Disorders Fact Sheet [2]

- The WHO fact sheet defines mental disorders, explaining what they are and how they are categorized.
- It shares key statistics, including the striking fact that 1 in 8 people worldwide live with a mental health condition.
- The report highlights that effective prevention and treatment options are available, though they are not always accessible.
- A major issue it raises is the gap in mental health care, as many people do not get the support they need due to limited resources or stigma.

Scholarly Research Papers

1. Changing Trends in the Global Burden of Mental Disorders (1990–2019) (Wu et al., 2023) [03]

- This study tracks how mental health disorders have evolved over the past three decades. While the rate of mental disorders has slightly declined, the number of cases continues to rise, largely due to population growth.

- It finds that mental health issues peak in early adulthood and gradually decline with age.
- Looking ahead, even if incidence rates stabilize, the total number of affected individuals will keep increasing, stressing the need for better mental health policies and support systems.

2. The Impact of COVID-19 on Depression and Anxiety Worldwide (2020) (*COVID-19 Mental Disorders Collaborators, 2021*) [04]

- This research reveals how the COVID-19 pandemic triggered a sharp rise in mental health issues, with over 53 million new cases of depression and 76 million cases of anxiety reported globally.
- Women and younger individuals were hit the hardest, with social isolation, financial stress, and health concerns worsening mental well-being.
- The study underscores the urgent need for stronger mental health services, as the pandemic exposed and amplified existing gaps in care.
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Dataset Overview :

Origin and Authors

- The dataset titled "Global Trends in Mental Health Disorder" is available on Kaggle
- Saloni Dattani, Lucas Rodés-Guirao, Hannah Ritchie and Max Roser (2023) - "Mental Health" Published online at OurWorldinData.org. Retrieved from: 'https://ourworldindata.org/mental-health' [Original Online Resource]

Contents of the Dataset [05]

The dataset provides global statistics on various mental health disorders across different countries and years. It includes the following columns:

- **Entity** – The country or region being analyzed.
- **Code** – The standardized country code.
- **Year** – The year of data collection.
- **Schizophrenia (%)** – The percentage of the population diagnosed with schizophrenia.
- **Bipolar Disorder (%)** – The percentage of individuals with bipolar disorder.
- **Eating Disorders (%)** – The prevalence of eating disorders.
- **Anxiety Disorders (%)** – The percentage of people experiencing anxiety disorders.
- **Drug Use Disorders (%)** – The proportion of the population with substance abuse disorders.

- **Depression (%)** – The prevalence of depression in the population.
- **Alcohol Use Disorders (%)** – The percentage of individuals affected by alcohol-related disorders.

Relevance to the Topic

This dataset is crucial for analyzing **global trends in mental health disorders**, as it provides:

- **Chronological Data**– Helping track changes in mental health prevalence over time.
- **Geographical Comparisons** – Allowing insights into how mental health issues vary across different regions.
- **Multiple Disorders** – Covering a range of mental health conditions to examine patterns and co-occurrence.
- **Policy and Intervention Insights** – Supporting decision-making for governments and health organizations to improve mental health care

Preliminary Data Visualization

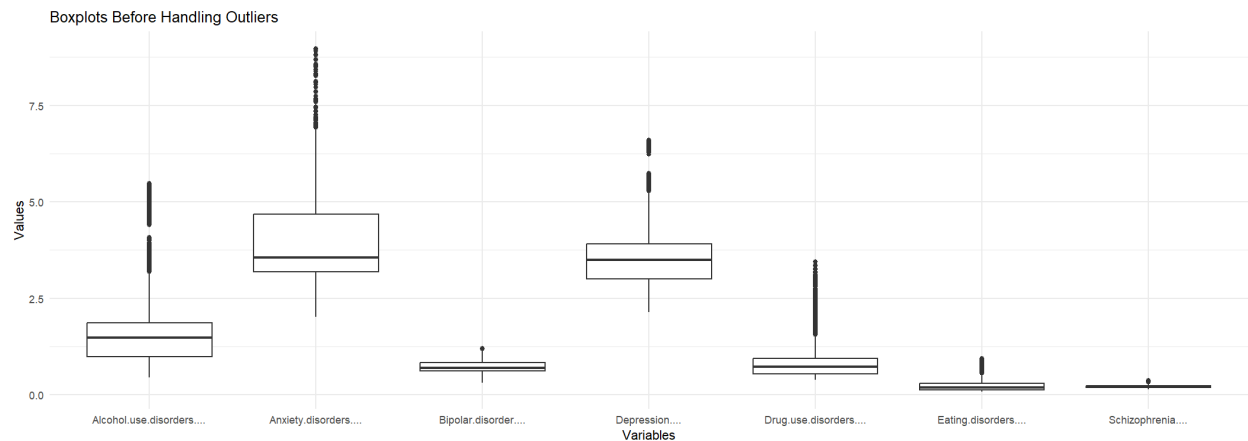


Fig 4: Boxplots before handling Outliers

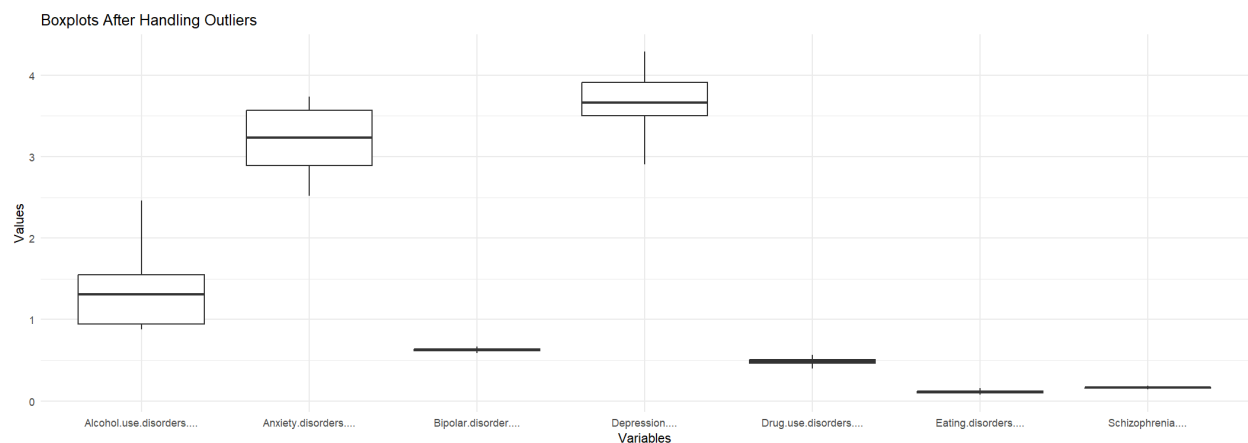


Fig 5: Boxplots after handling Outliers

REFERENCES :

Reference from Online Resources :

01. Dattani, S., Rodés-Guirao, L., Ritchie, H., & Roser, M. (2023, June 20). *Mental health. Our World in Data.*
<https://ourworldindata.org/mental-health>
02. World Health Organization: WHO. (2022, June 8). *Mental disorders.*
<https://www.who.int/news-room/fact-sheets/detail/mental-disorders>

Reference from Research papers :

03. COVID-19 Mental Disorders Collaborators, & Santomauro, D. (2021). Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. In *The Lancet* (Vol. 398).
[https://doi.org/10.1016/S0140-6736\(21\)02143-7](https://doi.org/10.1016/S0140-6736(21)02143-7)
04. Wu, Y., Wang, L., Tao, M., Cao, H., Yuan, H., Ye, M., Chen, X., Wang, K., & Zhu, C. (2023). Changing trends in the global burden of mental disorders from 1990 to 2019 and predicted levels in 25 years. *Epidemiology and Psychiatric Sciences*, 32.
<https://doi.org/10.1017/s2045796023000756>

Reference for Dataset :

05. *Global Trends in Mental health Disorder.* (2022, December 14). Kaggle. <https://www.kaggle.com/datasets/thedevastator/uncover-global-trends-in-mental-health-disorder>