**Mental Health Diagnosis Analysis: Dashboard Insights Report**

**1. Abstract**

Mental health is a critical aspect of overall well-being, yet understanding and improving treatment outcomes remain complex challenges. This project leverages a synthetic dataset of 500 records representing mental health diagnoses, treatments, and outcomes to explore trends and patterns using Tableau. The dataset includes patient demographics, symptom severity, medication types, therapy methods, and progress metrics, enabling a comprehensive analysis of key factors influencing mental health treatment.

The dashboard visualizes critical insights, such as the distribution of diagnoses across gender and age groups, the relationship between therapy types and treatment progress, and correlations between physical activity, mood, and stress levels. It highlights the effectiveness of Cognitive Behavioral Therapy (CBT) and SSRIs in achieving higher progress rates while uncovering gender-specific prescribing trends. Seasonal variations in treatment initiation and emotional state distributions further enrich the analysis.

By integrating interactive visualizations and key metrics, the project aims to support mental health professionals and policymakers in developing targeted interventions, tailoring treatments, and addressing gender and demographic disparities. This work underscores the potential of data-driven approaches in advancing mental health research and improving patient care.

**2. Introduction**

Mental health remains a significant global concern, requiring targeted interventions informed by data. This report focuses on analyzing a synthetic mental health dataset of 500 records, comprising various dimensions such as age, gender, diagnosis, treatment progress, and emotional states.

Tableau was used to create interactive visualizations to explore relationships and trends across these variables with the goal of uncovering actionable insights that can inform mental health treatment strategies and policymaking.

**3. Key Dashboard Insights**

**Key Metrics**

The summary section presents average values for several important measures:

• Average Age: 38.71 years

• Average Physical Activity: 5.22 hours per week

• Average Stress Level: 7.54 (on a scale of 1–10)

• Average Sleep Quality: 6.47 (on a scale of 1–10)

**3.1 Diagnoses by Age and Gender**

The dashboard highlights that individuals aged 31–40 have the highest diagnosis counts, followed by the 41–50 age group. Gender distribution shows similar diagnosis rates, with minor variations in specific age brackets.

**3.2 Treatment Progress by Therapy Type and Diagnosis**

Cognitive Behavioral Therapy (CBT) consistently shows higher average treatment progress scores across all major diagnoses, including Generalized Anxiety and Major Depressive Disorder. Dialectical Behavior Therapy (DBT) also demonstrates effectiveness but at slightly lower progress rates.

**3.3 Mood Rating and Medication Analysis**

Patients on SSRIs and Mood Stabilizers report higher mood ratings compared to other medications. This suggests their relative effectiveness in improving emotional well-being during treatment.

**3.4 Gender-Specific Medication Patterns**

Analysis reveals slight gender-specific trends in medication prescriptions. For example, males are prescribed antipsychotics and SSRIs more frequently, while females are more commonly prescribed benzodiazepines and anxiolytics.

**3.5 Emotional State Distribution**

Anxious and stressed states dominate the emotional state distribution, followed by neutral and happy states. This indicates a need for targeted interventions for anxiety and stress management.

**3.6 Treatment Start Date Trends**

The dashboard reveals seasonal peaks in treatment initiation, particularly in early March 2024. Such trends may indicate external factors, such as seasonal affective disorders or post-holiday stress.

**3.7 Therapy Type Distribution**

CBT is the most commonly administered therapy, followed by Dialectical Behavioral Therapy (DBT) and mindfulness-based approaches.

**4. Recommendations**

1. Expand the availability of Cognitive Behavioral Therapy (CBT) given its proven effectiveness.  
2. Develop programs to address anxiety and stress, particularly for high-risk groups.  
3. Investigate the causes of seasonal trends in treatment initiation and implement proactive measures.  
4. Tailor medication prescriptions based on gender-specific needs and responses.  
5. Increase awareness and accessibility of mindfulness-based therapies.

**5. Conclusion**

The dashboard analysis provides critical insights into mental health treatment trends and outcomes. By leveraging data visualization, this report highlights key areas for improving patient care, including therapy effectiveness, medication patterns, and stress management. These findings can guide mental health professionals and policymakers in enhancing treatment strategies.