DATA VISUALISATION ON GLOBAL HEALTH STATISTICS

PROBLEM STATEMENT :

Analyzing Global Health Statistics for Gender-Based Anomalies and Nation-Specific Insights.

DESCRIPTION :

The global health landscape reveals disparities in disease prevalence and treatment access across genders and nations. This analysis aims to identify anomalies in disease occurrences based on gender and conduct a nation-specific evaluation to determine the most prevalent disease category and the most sought-after treatment type. Gender-based disparities often arise due to biological, social, and economic factors, influencing disease susceptibility and healthcare-seeking behaviors. Nation-specific trends, on the other hand, are shaped by demographic, environmental, and healthcare infrastructure factors.

By leveraging global health statistics, this study will explore patterns in disease categories such as cardiovascular conditions, infectious diseases, cancers, and mental health disorders. Gender-based anomalies, such as higher breast cancer rates in women or increased heart disease prevalence in men, will be highlighted. Similarly, the analysis will identify the most common disease category within each nation and the predominant treatment type, including preventive care, pharmaceuticals, or surgical interventions.

SOLUTION :

The solution to analyzing global health disparities begins with examining gender-based differences in Disability-Adjusted Life Years (DALYs), visualized through bar plots that highlight disparities in

disease burden. The analysis continues with a detailed view of the top disease categories by total DALYs, identifying key contributors to global health challenges. A line plot of DALY trends reveals temporal shifts in disease burdens, while a box plot distribution of DALYs showcases variability across categories and regions. A pie chart of total DALYs by disease category further illustrates the proportional impact of each condition.

To delve deeper, the analysis focuses on the health status of specific nations, guided by user-selected parameters of nation and gender. For instance, exploring India reveals significant insights into treatment preferences and disease prevalence among males. Here, the most prominent disease category is Autoimmune, with surgery as the most sought-after treatment type. Conversely, Neurological diseases are the least prominent, and medication is the least sought treatment option. These findings are supported by graphs depicting treatment preferences across disease categories, trends in neurological treatments, and incidence rate trends for various diseases in males in India.

The solution emphasizes actionable insights for public health policy. To address the high burden of autoimmune diseases among males in India, healthcare facilities must prioritize treatment and management of these conditions. Investment in improving surgical techniques and associated research and development (R&D) is crucial. Simultaneously, awareness and accessibility to effective neurological disease management strategies, particularly medications, must be improved. By integrating these findings into healthcare planning, nations can better allocate resources, reduce disease burdens, and enhance the overall health and well-being of their populations.

YOUTUBE LINK URL :

▶ **Global Health Analysis Data Visualization**

CONCLUSION :

1. Gender Disparities in DALYs:
   Analysis reveals significant differences in the burden of diseases between males and females. While certain conditions, such as cardiovascular diseases and injuries, disproportionately impact males, others like autoimmune disorders and reproductive health issues weigh heavily on females. These disparities underline the need for gender-sensitive health care policies and tailored interventions.
2. Top Disease Categories by DALYs:
   The top disease categories contributing to DALYs emphasize areas demanding immediate attention. Conditions like cardiovascular diseases, respiratory illnesses, and infectious diseases dominate globally, indicating the critical need for focused health policies and interventions. These categories serve as benchmarks for prioritizing healthcare investments and public health campaigns.
3. Correlation Analysis of Gender-Specific Metrics:
   Examining gender-specific metrics such as prevalence, incidence, and mortality reveals interconnected factors driving disease burdens. For instance, higher prevalence rates often correlate with increased mortality, highlighting gaps in timely diagnosis and treatment. Such analyses provide a roadmap for resource allocation, ensuring strategies target the most vulnerable populations effectively.
4. Comprehensive Visualizations:
   The use of visual tools such as bar plots, line graphs, and pie charts enhances understanding of health trends and distributions. These visualizations simplify complex data, enabling stakeholders to identify patterns, disparities, and emerging challenges. They support data-driven decision-making, empowering policymakers to craft informed strategies for improving global health outcomes.

   By addressing these insights, nations can design equitable, efficient, and impactful healthcare systems that respond to diverse population needs.