



HEART DISEASE DIAGNOSTIC ANALYSIS

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Problem Statement

- Health is real wealth in the pandemic time we all realized the brute effects of covid-19 on all irrespective of any status. You are required to analyze this health and medical data for better future preparation.
- Do ETL: Extract- Transform and Load data from the heart disease diagnostic database You can perform EDA through python. The database extracts various information such as Heart disease rates, Heart disease by gender, by age. You can even compare attributes of the data set to extract necessary information.
- Make the necessary dashboard with the best you can extract from the data. Use various visualization and features and make the best dashboard Find key metrics and factors and show the meaningful relationships between attributes. Do your own research and come up with your findings.

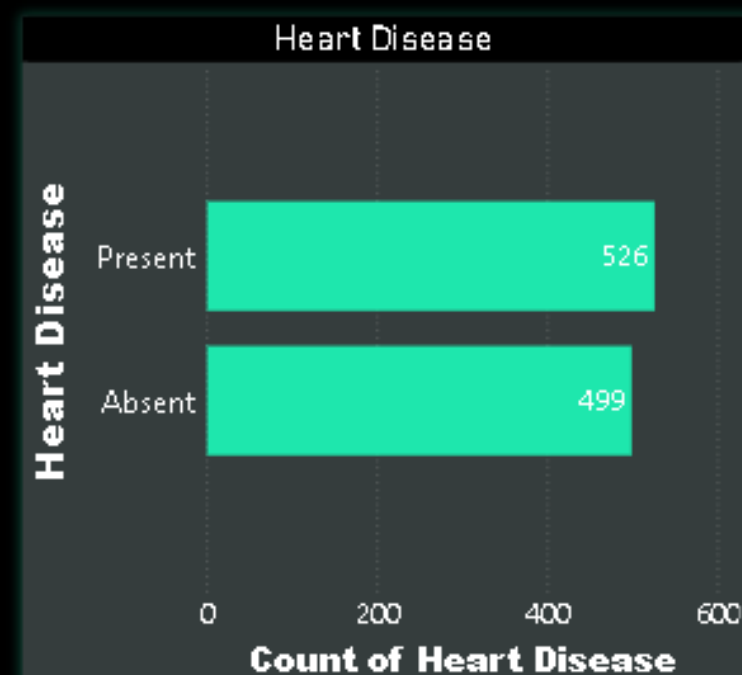


HEART DISEASE

DIAGNOSTIC
ANALYSIS

Dashboard

Heart Disease Diagnostic Analysis Dashboard



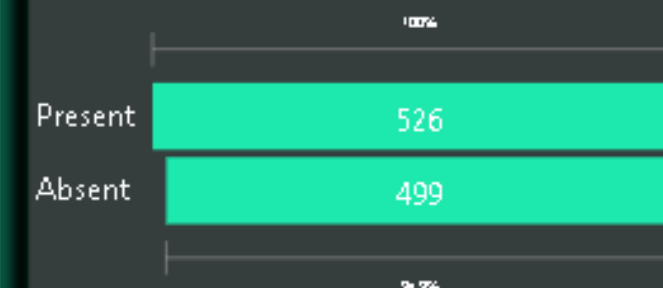
Gender

- ☐ Female
- ☐ Male

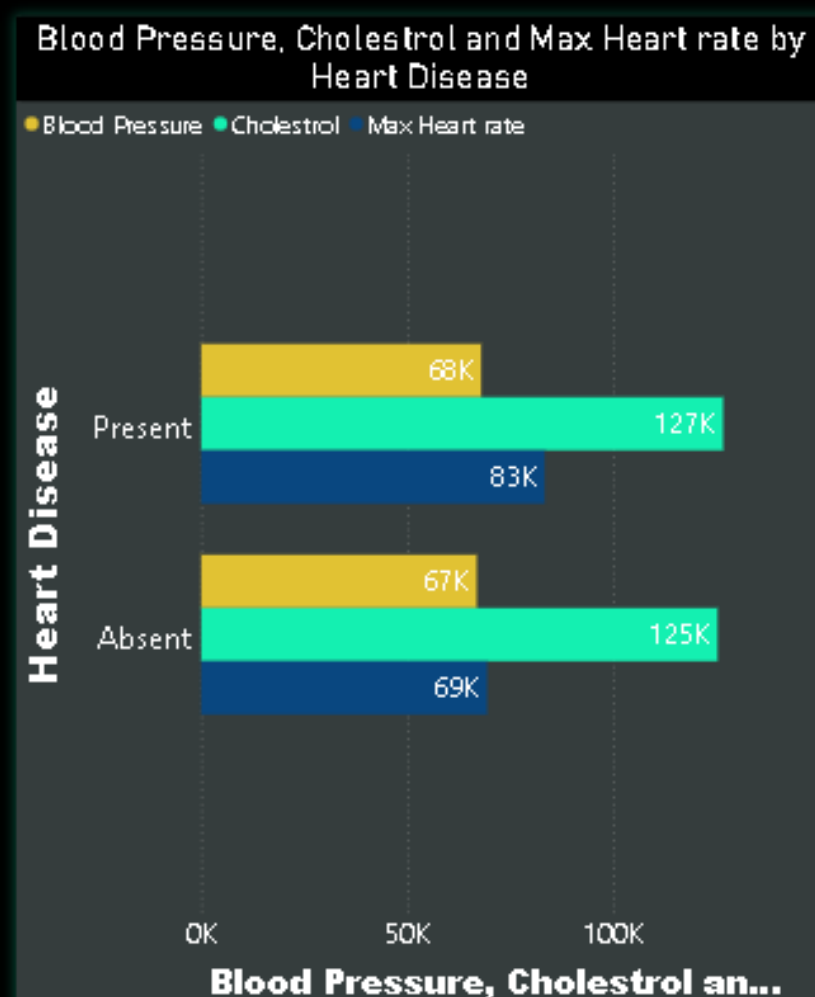
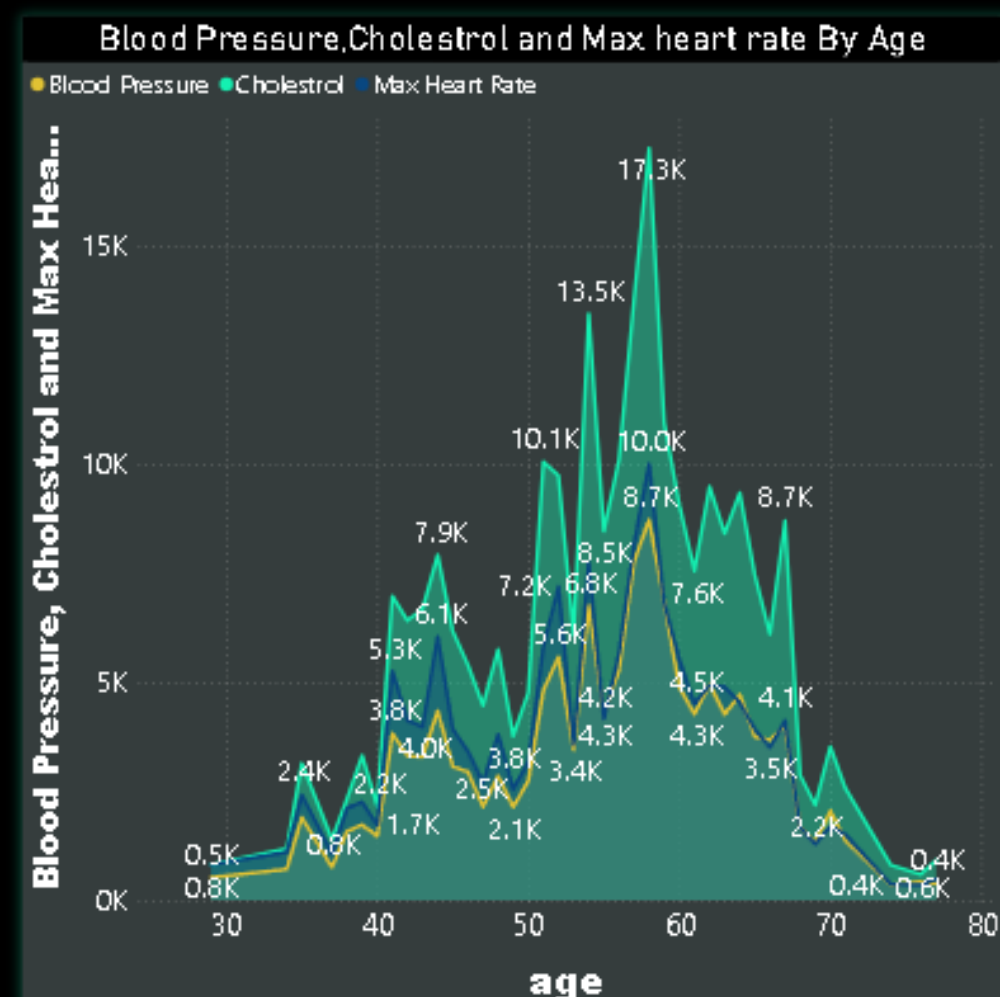
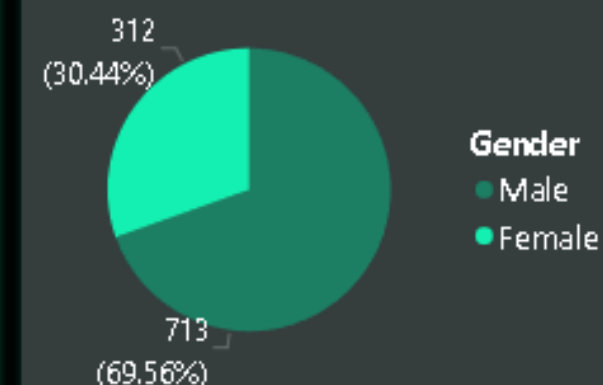
Heart Disease

- ☐ Absent
- ☐ Present

Chest Pain Experienced

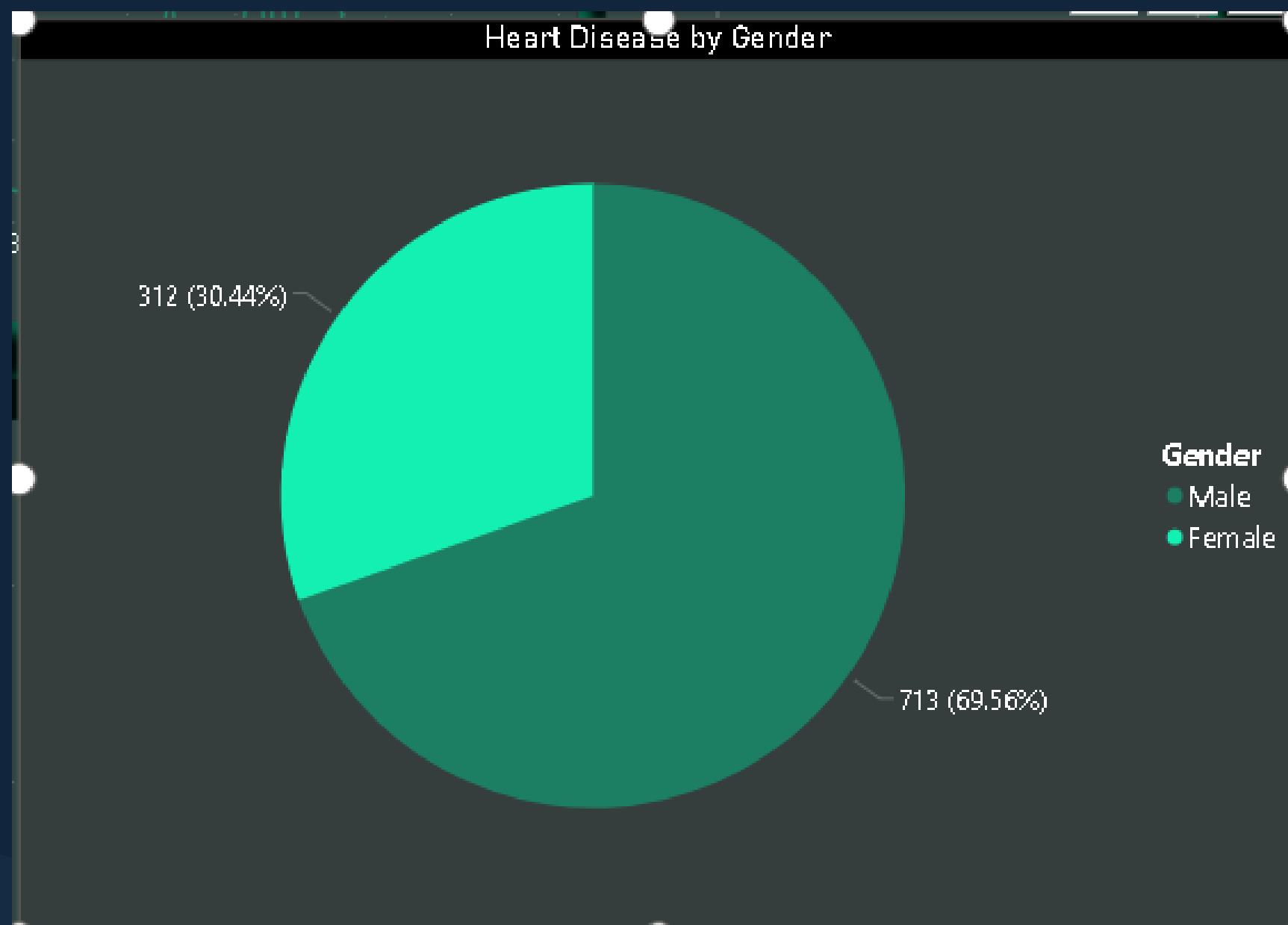


Heart Disease by Gender





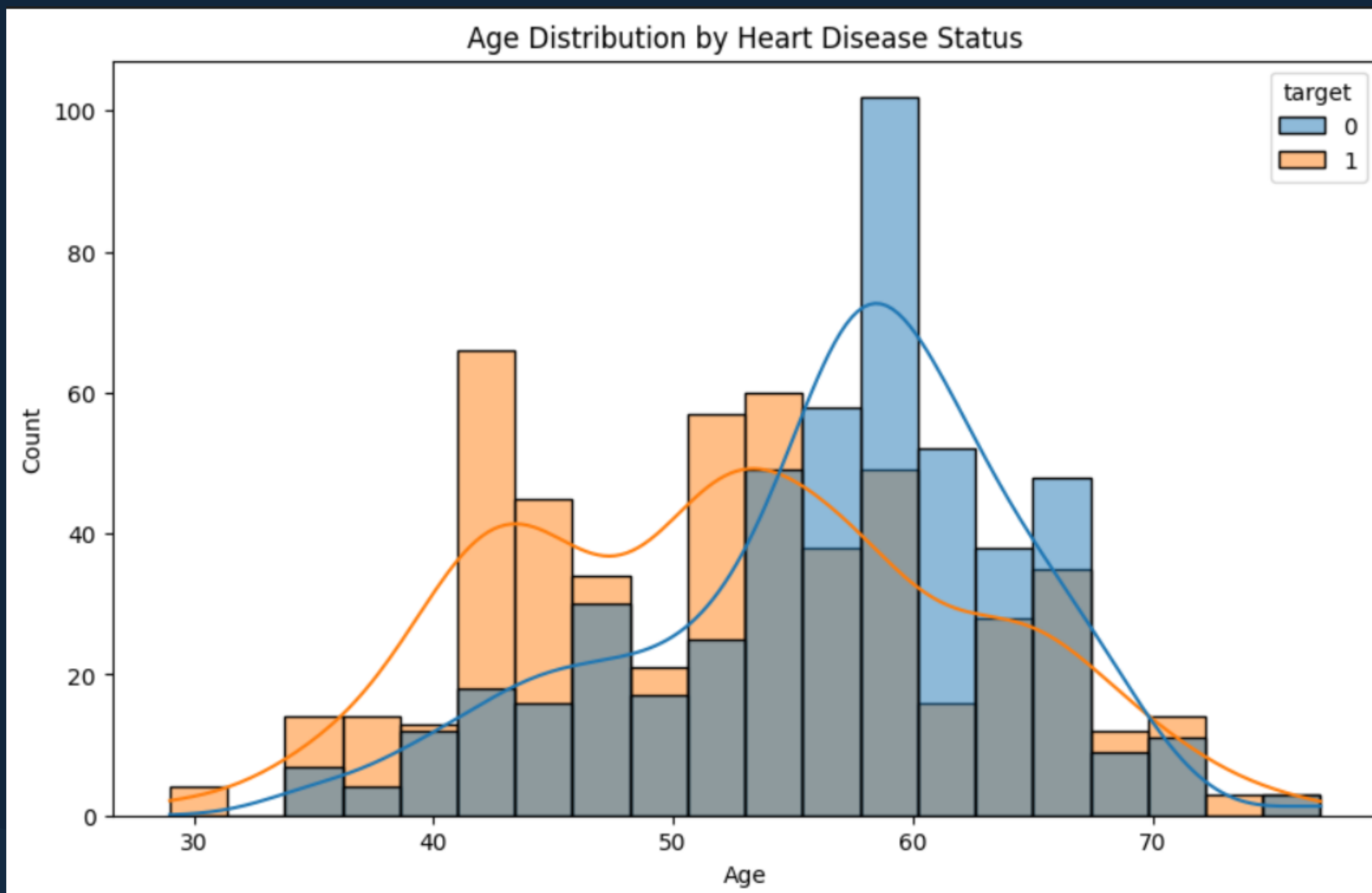
Percentage of People having Heart Disease



The data reveals a striking contrast in the prevalence of heart disease between genders. With 69.56% of males affected compared to 30.44% of females, it's evident that males are disproportionately impacted by this health issue. This significant gap underscores the need for targeted interventions and awareness campaigns to address the specific risks and challenges faced by men in managing heart health.



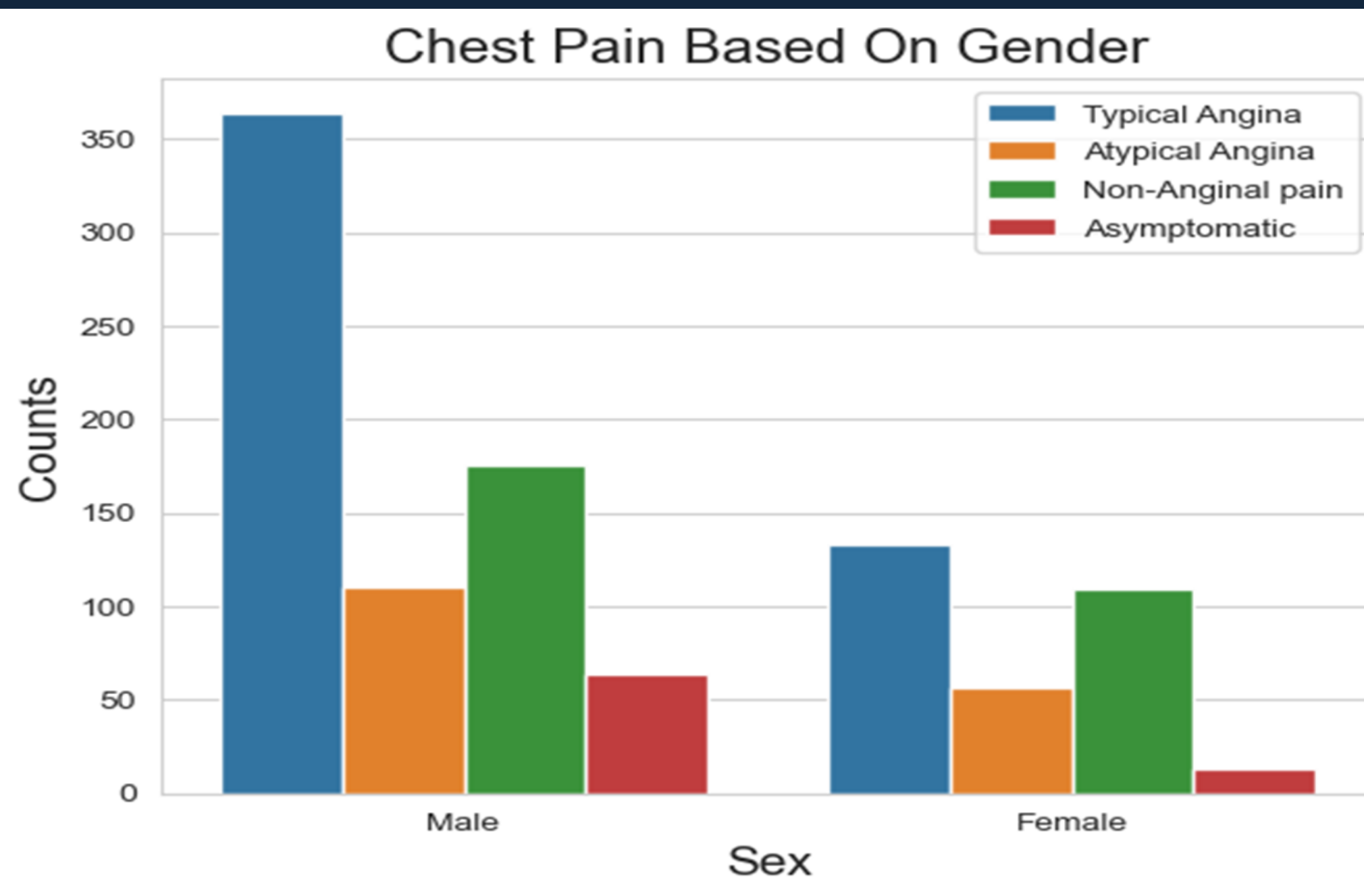
Which age category people affected by Heart Disease mostly ?



The data shows a significant increase in heart disease prevalence among individuals aged 45 to 55. This age range may represent a critical period where lifestyle factors and age-related physiological changes converge, exacerbating cardiovascular risk. The findings highlight the importance of targeted interventions and early screenings to manage and mitigate risk factors during this pivotal decade. Understanding and addressing these specific drivers of heart disease can help develop more effective health strategies and policies aimed at reducing its impact on middle-aged populations.

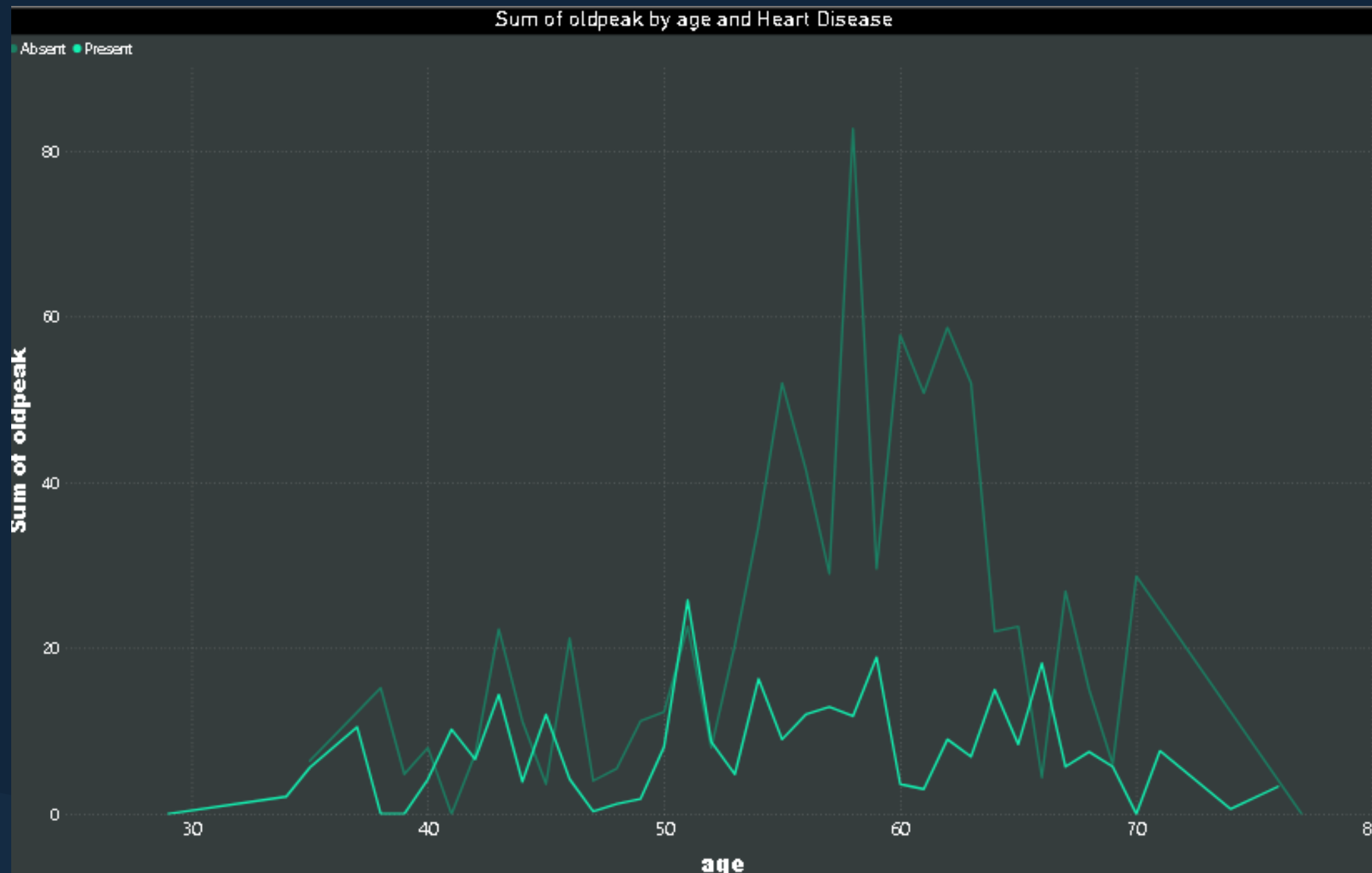


Chest Pain based on Gender



The data reveals that a higher number of men experience typical angina as their form of chest pain. Typical angina, characterized by discomfort typically triggered by physical exertion or stress and relieved by rest, is often linked to underlying coronary artery disease. This pattern may suggest that men are either more susceptible to or more likely to report this specific type of chest pain, possibly due to physiological differences, lifestyle factors, or health-seeking behaviors between genders. The prevalence of typical angina in men underscores the need for focused public health initiatives that promote early cardiovascular risk assessment and intervention, particularly in male populations. Addressing these factors early could help reduce the incidence and impact of coronary heart disease in men.

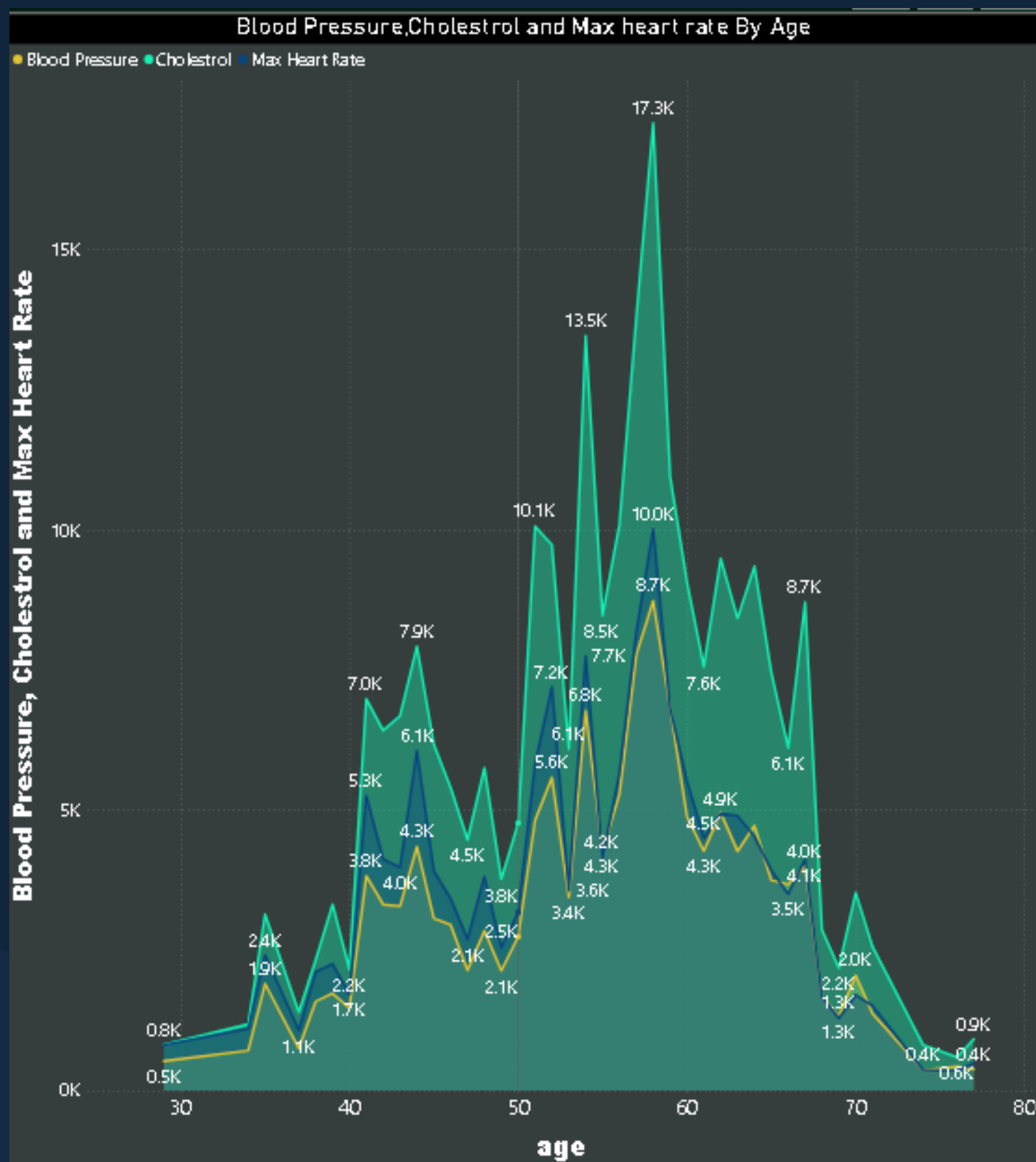
Presence of oldpeak by Gender



- Data indicates that individuals aged 50–60 have a nearly equal presence and absence of ST depression (oldpeak) during exercise, suggesting a balanced cardiovascular response in this age group.
- In contrast, those aged 55–75 show fewer instances of oldpeak and a higher rate of its absence, possibly reflecting diminished exercise-induced cardiac stress or reduced exercise intensity with increasing age.
- These findings highlight the need for age-specific exercise guidelines and cardiovascular screening protocols to better prevent and manage heart disease in different age demographics, optimizing cardiovascular health across the lifespan.

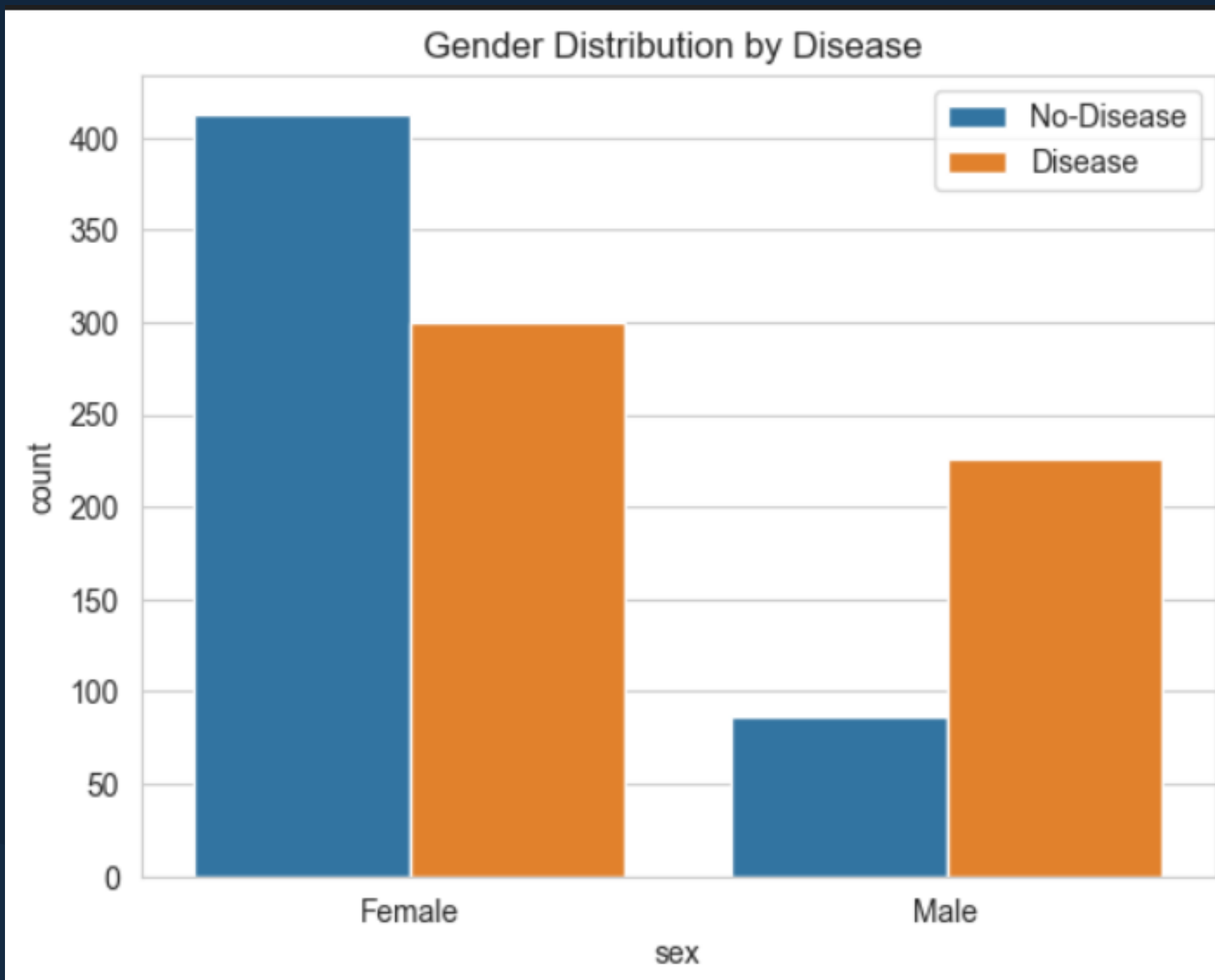


Which age group of people have diseases?



- The graph demonstrates variations in cholesterol levels, blood pressure (BP), and maximum heart rate by age, highlighting the diversity in cardiovascular risk factors across different age groups.
- Notably, these risk factors are particularly prominent in the 50-60 age group, suggesting a peak in the incidence of these conditions within this demographic.
- This data underscores the importance of targeted health interventions for individuals aged 50-60, focusing on managing cholesterol, maintaining optimal blood pressure, and improving cardiovascular fitness to mitigate the heightened risk of heart disease.

Distribution of Disease by Gender



- The graph displays the distribution of disease prevalence by gender, illustrating notable differences in how diseases affect men and women.
- It may reveal higher incidence rates of certain conditions in one gender over the other, prompting an investigation into gender-specific risk factors or disparities in health outcomes.
- These findings stress the need for gender-sensitive health strategies and interventions that consider physiological and sociocultural factors influencing health.
- Developing tailored healthcare approaches based on such data can improve disease prevention, diagnosis, and treatment, ensuring that both men and women receive optimal care suited to their unique health needs.



Conclusion



From the overall population, Males having heart disease (69.56%) and Females having heart disease (30.44%).



It seems people having Non-Anginal chest pain have a higher chance of heart disease



We can see that a higher number of men are suffering from Typical Angina type of Chest Pain



Males have high number of Fasting Blood Sugar over 120



Higher Cholestrol Level and Higher Blood Pressure Levelcauses Chances Of Heart Disease

Thank You