

HEART ATTACKS IN YOUNGSTERS

A presentation on SQL queries used for
analyzing heart attack data in YOUNGSTERS

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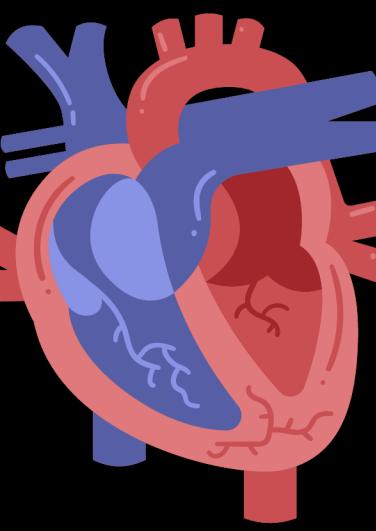
PROJECT OVERVIEW

This project focuses on analyzing the major causes of heart attack in youngsters using SQL to derive meaningful insights . it includes the factors that are affecting the human body like sleeping hours, consumption of alcohol, lack of physical activities and many more.

- High cholesterol and hypertension are major risk factors.
- Patients above 50 years old have a higher occurrence rate.
- Lifestyle and medical history play a crucial role in heart health.

This SQL project analyses the lifestyle of a youngsters using below table. It aims to uncover the major causes of heart attack in youngsters using SQL to derive meaningful insights

Age	Gender	Region	Urban/Rural	SES	Smoking Status	Alcohol Consumption	Diet Type	Physical Activity Level	Screen Time (hrs/day)	Sleep Duration (hrs/day)	Family History of Disease
30	Male	East	Urban	Middle	Never	Regularly	Non-Vegetarian	Sedentary	3	8	No
24	Female	East	Urban	Low	Occasionally	Occasionally	Non-Vegetarian	Sedentary	15	9	No
24	Female	North	Urban	Low	Occasionally	Occasionally	Vegan	High	15	3	Yes
27	Male	East	Urban	Middle	Occasionally	Never	Vegetarian	Sedentary	6	7	No
21	Female	West	Rural	Low	Occasionally	Occasionally	Vegetarian	Moderate	4	9	Yes
20	Male	West	Rural	Middle	Never	Never	Non-Vegetarian	High	2	5	Yes
29	Male	East	Rural	High	Regularly	Never	Non-Vegetarian	Moderate	8	10	Yes
32	Female	North	Urban	Low	Never	Occasionally	Non-Vegetarian	Sedentary	13	4	No
19	Female	West	Rural	Middle	Occasionally	Occasionally	Non-Vegetarian	Sedentary	3	9	Yes
35	Male	West	Urban	High	Occasionally	Never	Non-Vegetarian	Sedentary	12	9	Yes
24	Female	West	Urban	Low	Never	Occasionally	Vegetarian	High	0	4	Yes
24	Male	North...	Rural	Low	Never	Never	Vegetarian	Sedentary	8	7	No
22	Male	West	Rural	High	Never	Occasionally	Vegetarian	Sedentary	10	8	No
31	Male	Central	Urban	High	Never	Regularly	Non-Vegetarian	Sedentary	5	7	No
24	Female	Central	Rural	Low	Never	Never	Vegetarian	Sedentary	8	3	Yes
23	Male	West	Urban	Middle	Never	Regularly	Vegetarian	Sedentary	0	10	Yes
24	Female	North	Rural	Middle	Occasionally	Occasionally	Vegetarian	Sedentary	2	6	Yes
25	Male	East	Rural	Middle	Never	Never	Vegetarian	Sedentary	7	3	No
29	Female	North	Urban	Low	Regularly	Never	Vegetarian	Moderate	9	7	Yes
23	Female	West	Rural	Middle	Occasionally	Never	Vegetarian	Sedentary	5	9	No
27	Other	South	Urban	High	Never	Never	Non-Vegetarian	Moderate	6	4	No
20	Female	North	Urban	Low	Never	Occasionally	Vegetarian	Sedentary	15	4	Yes



HOW SLEEPING HOURS AFFECT HUMAN BODY CAUSING HEART ATTACK

```
SELECT
    `Sleep Duration (hrs/day)`, COUNT(*) AS heart_attack_cases
FROM
    heart_attack
WHERE
    age < 30
GROUP BY `Sleep Duration (hrs/day)`;
```

- Sleep plays a crucial role in maintaining heart health, and both insufficient and excessive sleep can increase the risk of heart attacks.
- Sleeping 6-7 hours per night is associated with the lowest risk of heart attack and stroke.

Sleep Duration (hrs/day)	heart_attack_cases
9	749
3	819
7	836
5	840
10	858
4	830
8	861

Result 82 ×

AVERAGE CHOLESTEROL LEVEL THAT CAUSES HEART ATTACK

```
SELECT  
    AVG(`Cholesterol Levels (mg/dL)`) AS average_cholesterol  
FROM  
    heart_attack  
WHERE  
    age < 30;
```



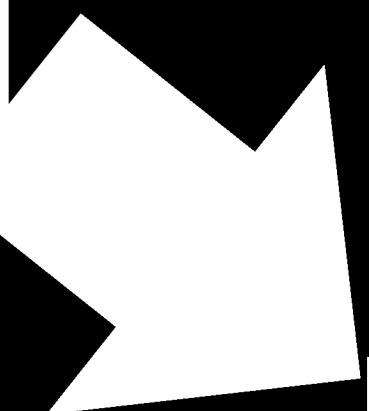
- This query calculates the average cholesterol level of individuals in the heart_attack_dataset table who are younger than 30 years old.
- Cholesterol levels are just one factor in heart attack risk. Other factors like smoking, high blood pressure, diabetes, and family history also play significant roles.
- The result is labeled as Average_Cholesterol.

	average_cholesterol
▶	200.6277

SMALLEST AGE OF THE PERSON TO DIE OF HEART ATTACK

```
SELECT  
    Age, Gender, COUNT(*) AS Cases  
FROM  
    heart_attack  
WHERE  
    Age < 30  
GROUP BY Age , Gender  
ORDER BY age  
limit 1;
```

The query identifies the youngest age in the dataset for individuals under 30 who have had heart attacks and counts the number of cases for that age. The result will show the minimum age and the corresponding number of heart attack cases.



	Age	Gender	Cases
▶	18	Female	235

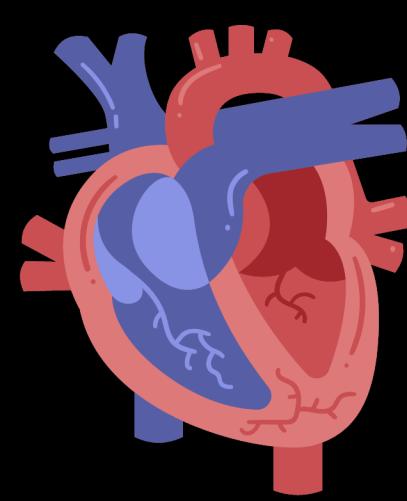
CASES OF HEART ATTACK IN RURAL VS URBAN AREAS

```
• select `Urban/Rural` ,count(*) as cases  
  from heart_attack  
  where age<30  
  group by `Urban/Rural`;
```



	Urban/Rural	cases
▶	Urban	3876
	Rural	2734

The query retrieves the count of heart attack cases in individuals younger than 30 years old, grouped by their living area (Urban/Rural). The result will show the number of cases for each category (urban or rural).

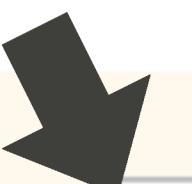


IMPACT OF PHYSICAL ACTIVITY ON HEART ATTACK CASES IN YOUNGSTERS

SELECT

```
'Physical Activity level',
COUNT(*) AS Cases,
AVG(`BMI (kg/m²)`) AS Average_BMI,
AVG(`Cholesterol Levels (mg/dL)`) AS Average_Cholesterol,
AVG(`Resting Heart Rate (bpm)`) AS Average_Heart_Rate
FROM heart_attack
WHERE Age < 30
GROUP BY `Physical Activity level`
ORDER BY `Physical Activity level`;
```

This query calculates the number of heart attack cases (Cases), the average BMI (Average_BMI), the average cholesterol levels (Average_Cholesterol), and the average resting heart rate (Average_Heart_Rate) for individuals under 30 years old, grouped by their physical activity level. The results are ordered by the physical activity level.



Physical Activity level	Cases	Average_BMI	Average_Cholesterol	Average_Heart_Rate
High	662	27.27507552870088	199.9063	89.1888
Moderate	2615	27.45441682600373	201.2593	89.9637
Sedentary	3333	27.495109510951107	200.2754	88.9997

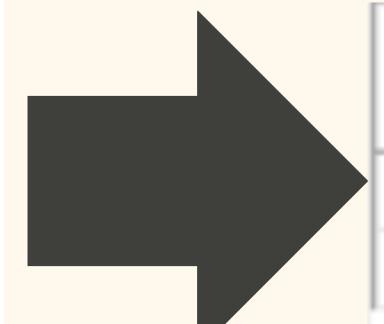
FAMILY HISTORY OF HEART DISEASE THAT CAUSES HEART ATTACK CASES IN YOUNGSTERS

The query retrieves the count of heart attack cases (Cases) in individuals younger than 30 years old, grouped by their family history of heart disease. The results are ordered by the family history category.

1

SELECT

```
'Family History of Heart Disease',
COUNT(*) AS Cases
FROM heart_attack
WHERE Age < 30
GROUP BY 'Family History of Heart Disease'
ORDER BY 'Family History of Heart Disease';
```



	Family History of Heart Disease	Cases
▶	No	4656
	Yes	1954

THE FREQUENCY OF HEART ATTACK CASES BY DIFFERENT DIET PATTERNS IN YOUNGSTERS

SELECT

```
'Diet Type'  
FROM heart_attack  
WHERE Age < 30  
GROUP BY 'Diet Type'  
ORDER BY 'Diet Type';
```



Diet Type
Non-Vegetarian
Vegan
Vegetarian

This query will count the number of heart attack cases for each diet type among individuals younger than 30 and order the results by diet type. group the different diet types from the heart_attack table for individuals younger than 30 years old, and then order the results by diet type. This will give a sorted list of all diet types without counting the frequency of heart attacks.