SQL Project Suicide Rates

Purpose:

Mental health is a topic that deserves much more than a weekend project. About 9 Australians will die every day due to suicide. It is unfortunate and a topic that often gets avoided. The purpose of this project is for me to both understand this issue a bit better as well as provide a short demonstration of basic SQL skills. All data is from the World Health Organization, and I have attached the datasets and queries used.

Questions I would like to answer:

1. Are men more likely than woman to suicide?

2. Do suicide rates vary greatly with age?

3. Does having more mental health professionals and facilities reduce suicide rate?

4. Do countries with a higher GDP have lower suicide rates?

Hypothesis:

1. Yes. In some countries there is a stigma for men to show emotions. This negatively impacts mental health.

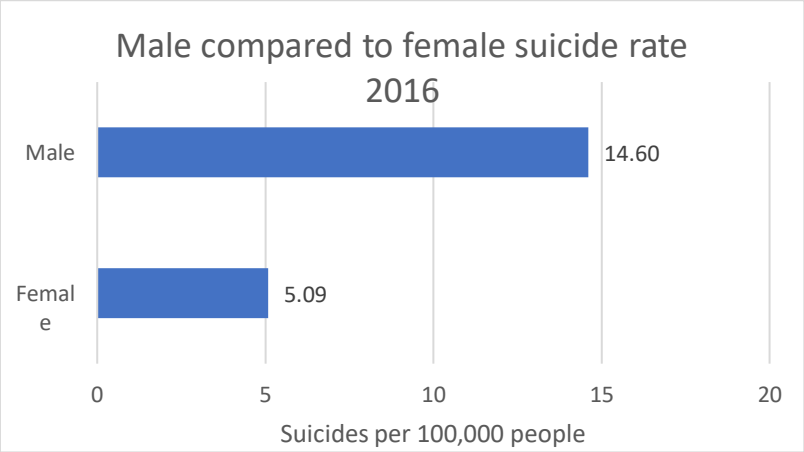
2. Yes suicide rates vary with age. Perhaps older people who are lonelier or have health issues are more likely to suicide. Teenagers in countries with high academic stress may also have high suicide rates.

3. Yes more mental health experts means less suicides.

4. Yes having a better quality of life from a higher GDP positively impacts mental health.

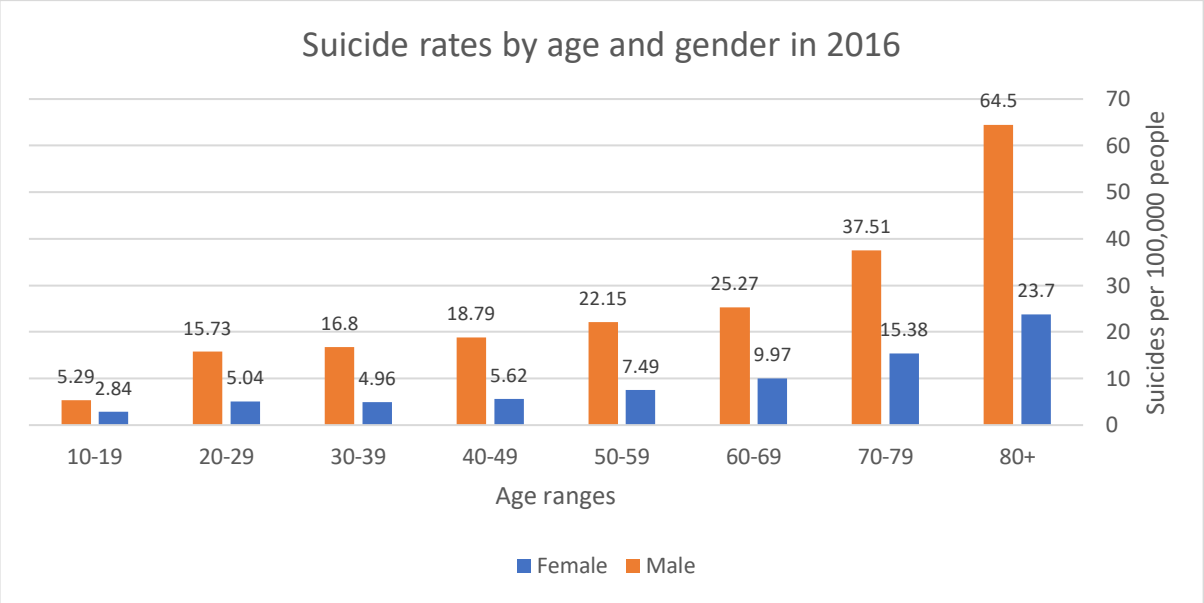
Data Analysis:

I decided to take the average suicide rate globally in 2016 and group them by gender to see if the data showed that males are more likely to be a victim of suicide. I made the following graph in Excel.



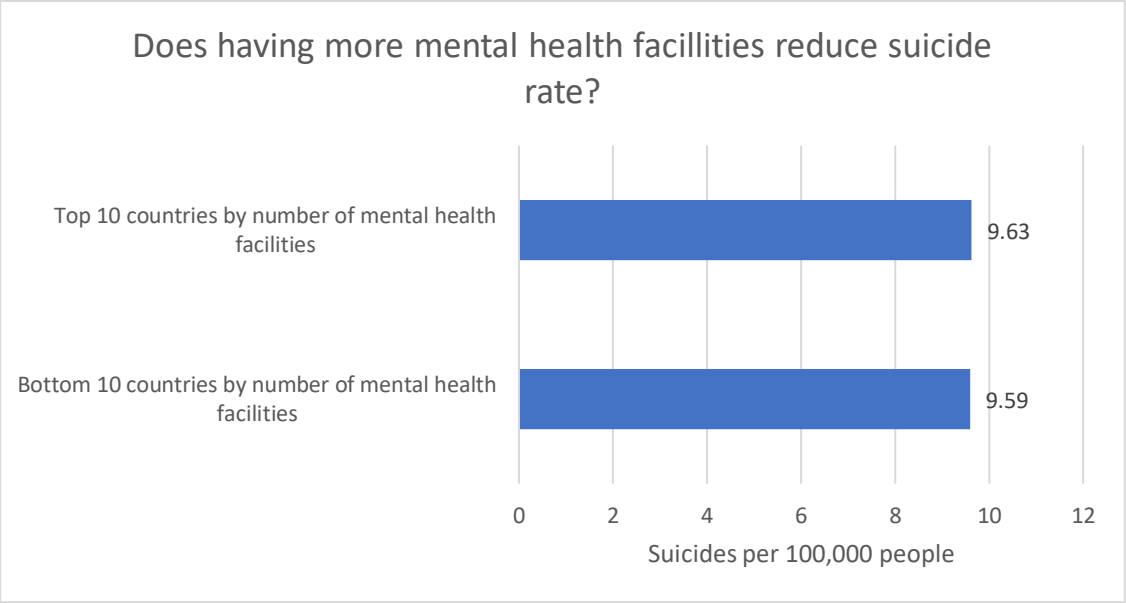
The data showed that males were almost 3 times as likely to suicide as females.

Next, I wanted to check if certain age groups were more at risk of suicide. I took the global suicide rates in 2016 and grouped them by gender and age.



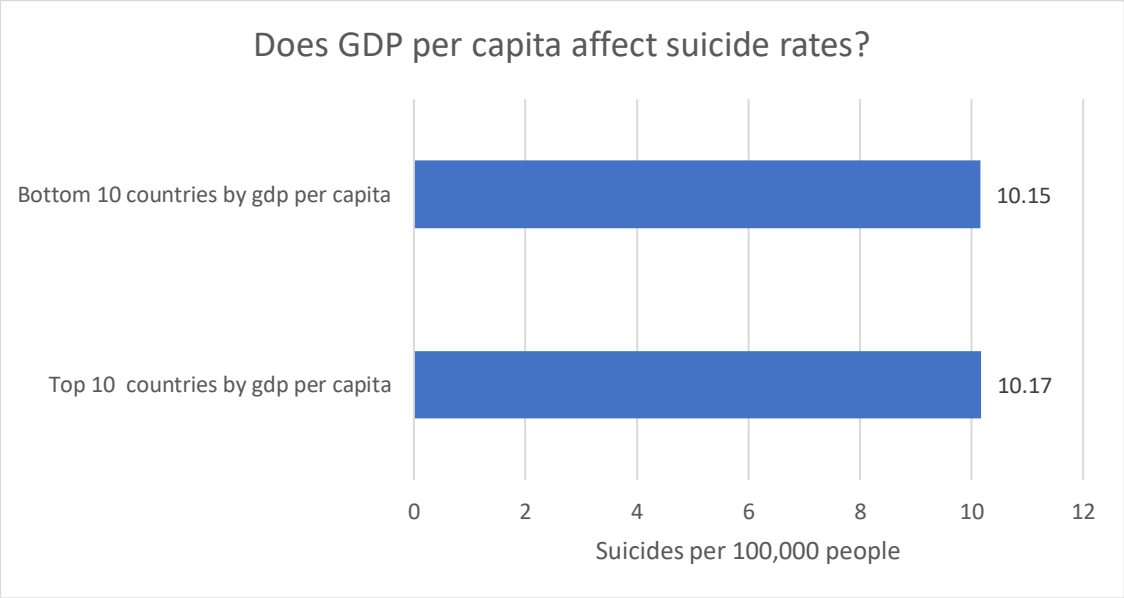
My findings were that age was an important factor for both males and females. The elderly was especially vulnerable to suicide, this may be caused by health issues lowering their quality of life, but further research would need to be conducted to validate this. Surprisingly, teenagers had a very low suicide rate. It turns out suicide being a leading cause of death in this age range is not due to this age group being particularly prone to suicide but rather deaths from other causes being extremely low.

Next, I wanted to find our if the number of mental health care facilities in this case including mental hospitals, health units, outpatient facilities and day treatment facilities, had an obvious impact on suicide rate. I used SQL to get the top 10 countries and bottom 10 countries by number of facilities and compared their suicide rates.



My findings were that the top 10 countries by number of mental health care facilities and bottom 10 had no significant difference in suicide rates. However, that doesn't mean mental health care facilities don't reduce suicide rates as there are many other different factors at play. It does however mean that simply having a lot of mental health care facilities doesn't guarantee low suicide rates. Multi-linear regression analysis with many variables could be used but is beyond the scope of this weekend project.

Lastly, I was curious if having a high GDP per capita meant lower suicide rates as a high GDP per capita typically means better overall living standards. I took a similar approach to the previous question and took the countries with the top 10 highest GDP per capita and bottom 10 GDP per capita. Then I compared their suicide rates.



My findings were the top 10 countries by GDP per capita and bottom 10 by GDP per capita had nearly identical suicide rates. Once again, this doesn't necessarily mean GDP doesn't have an impact, but it does mean GDP alone doesn't necessarily promise lower suicide rates.

Result:

1. Yes, globally males are almost 3 times likely to suicide. The exact cause of this requires further research beyond a weekend project.
2. Yes, age was a factor, elderly people were especially vulnerable. The exact cause is beyond this project.
3. Inconclusive. Having more mental health facilities doesn't guarantee lower suicide rates but that doesn't mean they aren't related.
4. Inconclusive. Having a GDP per capita does not ensure lower suicide rates. Reducing suicides is a complicated problem that isn't as simple as GDP per capita or building more mental health care facilities.