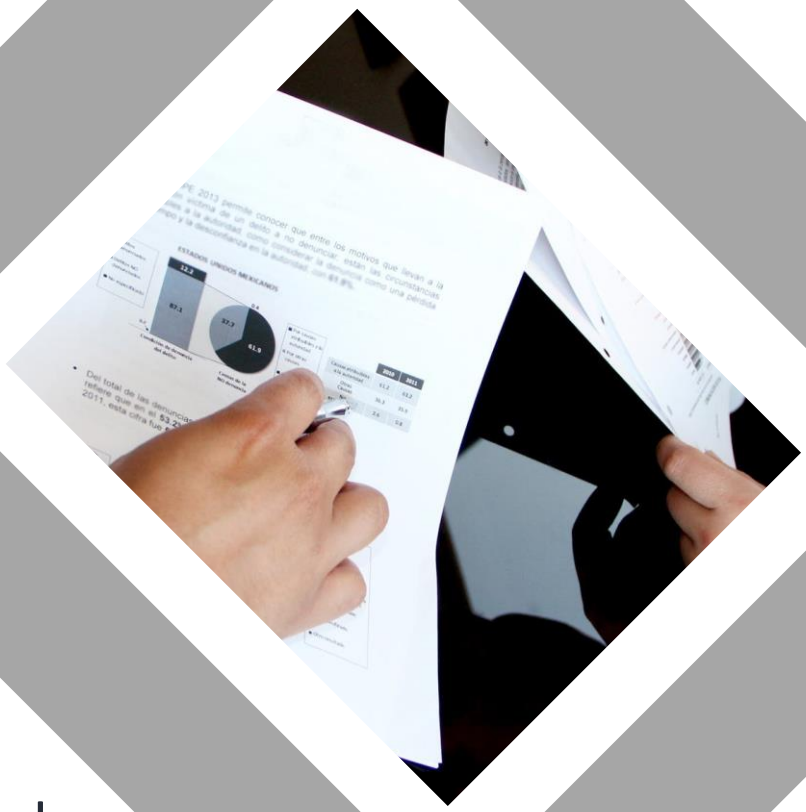

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# Analytical Research Paper
# **Suicide Data Analysis**

"The epic story of tomorrow can't be written if it ends today."

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# Suicide

Suicide is death caused by injuring oneself with the intent to die. A suicide attempt is when someone harms themselves with any intent to end their life, but they do not die as a result of their actions.

Many factors can increase the risk for suicide or protect against it. Suicide is connected to other forms of injury and violence. For example, people who have experienced violence, including child abuse, bullying, or sexual violence have a higher suicide risk. Being connected to family and community support and having easy access to healthcare can decrease suicidal thoughts and behaviour.

## Key facts

- More than 700 000 people die due to suicide every year.
- For every suicide there are many more people who attempt suicide. A prior suicide attempt is an important risk factor for suicide in the general population.
- Suicide is the fourth leading cause of death among 15–29-year-olds.
- Seventy-seven per cent of global suicides occur in low- and middle-income countries.
- Ingestion of pesticide, hanging and firearms are among the most common methods of suicide globally.

## Methods of suicide

It is estimated that around 20% of global suicides are due to pesticide self-poisoning, most of which occur in rural agricultural areas in low- and middle-income countries. Other common methods of suicide are hanging and firearms.

**Dataset:**

This analysis is based on Global suicide rate. Two Data Bases were used for the analysis first database having 10982 rows and 38 columns,
the second database has 4393 rows and 38 columns.

The analysis focuses on the trends in period 2000-2019.

The following analysis show in depth visualization of the data that was extracted. It counters various aspects of data and answers questions like Trends in global suicide

- Suicide trend of certain countries.
- Gender based suicide rates.
- Age segregated suicide trend.
- Continental suicide rates, etc.

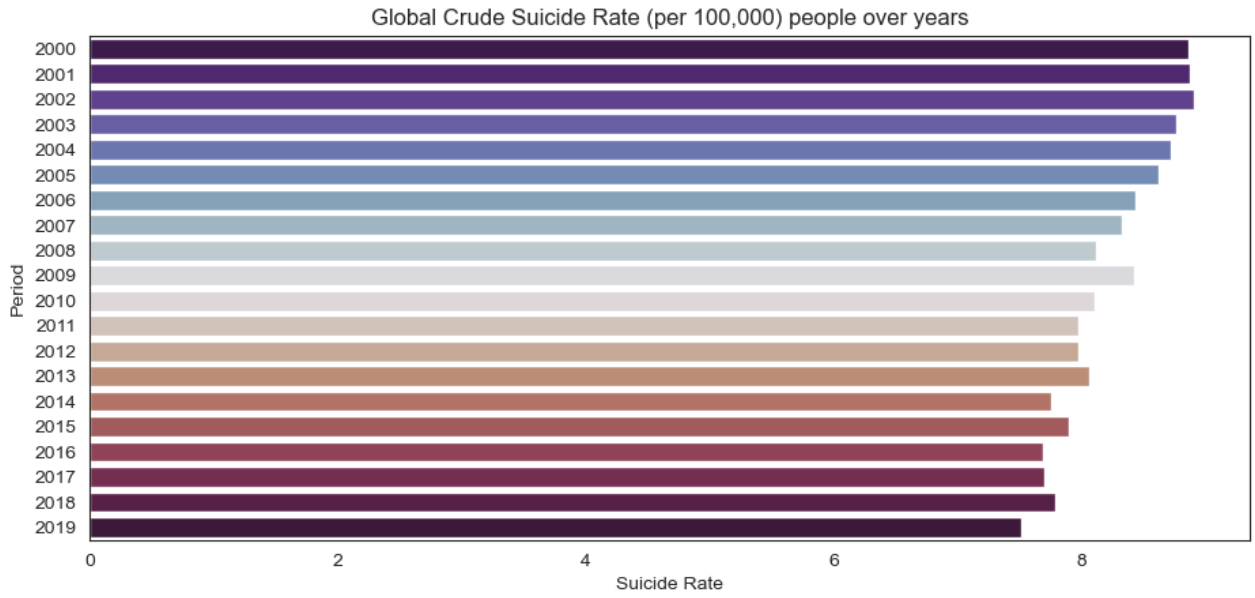
The **objective** of this analytical report is to bring to light the extremely sensitive topic of suicide which is still considered as a taboo in various countries and not a disorder that requires collaborate efforts from multiple sectors of society including the health sector and other sectors such as education, labour, agriculture, business, justice, law, defence, politics, and the media.

Here 'Jupyter Notebook' was used to run all the codes and analyse the data but other platforms can also be utilized.

**Source of Data Base**: The World Health Organization.

**Over all method used**: Crude Suicide Rate per 100,000 people of population.

## Global Yearly Analysis:




Countries with highest suicide rate

| | Location | FactValueForMeasure |
|---|---|---|
| **393** | Republic of Korea | 26.7425 |
| **510** | Ukraine | 27.8985 |
| **261** | Kiribati | 30.0780 |
| **255** | Kazakhstan | 30.7030 |
| **42** | Belarus | 34.0420 |
| **210** | Guyana | 34.5695 |
| **288** | Lithuania | 37.9765 |
| **402** | Russian Federation | 39.7190 |
| **165** | Eswatini | 41.0140 |
| **279** | Lesotho | 59.5735 |

Countries with lowest suicide rate

| | Location | FactValueForMeasure |
|---|---|---|
| **12** | Antigua and Barbuda | 0.6490 |
| **39** | Barbados | 1.1360 |
| **417** | Sao Tome and Principe | 1.4650 |
| **474** | Syrian Arab Republic | 1.5535 |
| **198** | Grenada | 1.7610 |
| **252** | Jordan | 1.7900 |
| **246** | Jamaica | 1.9970 |
| **381** | Philippines | 2.0825 |
| **69** | Brunei Darussalam | 2.1150 |
| **216** | Honduras | 2.3575 |

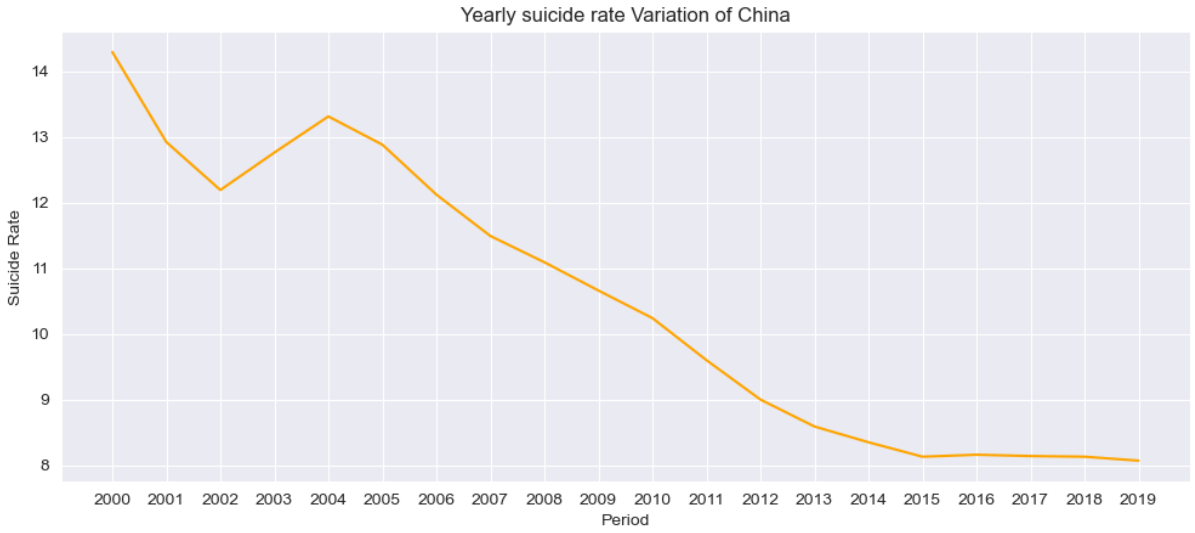
# Global Suicide Rate has declined over the years

# Some of the contributing factors are listed below

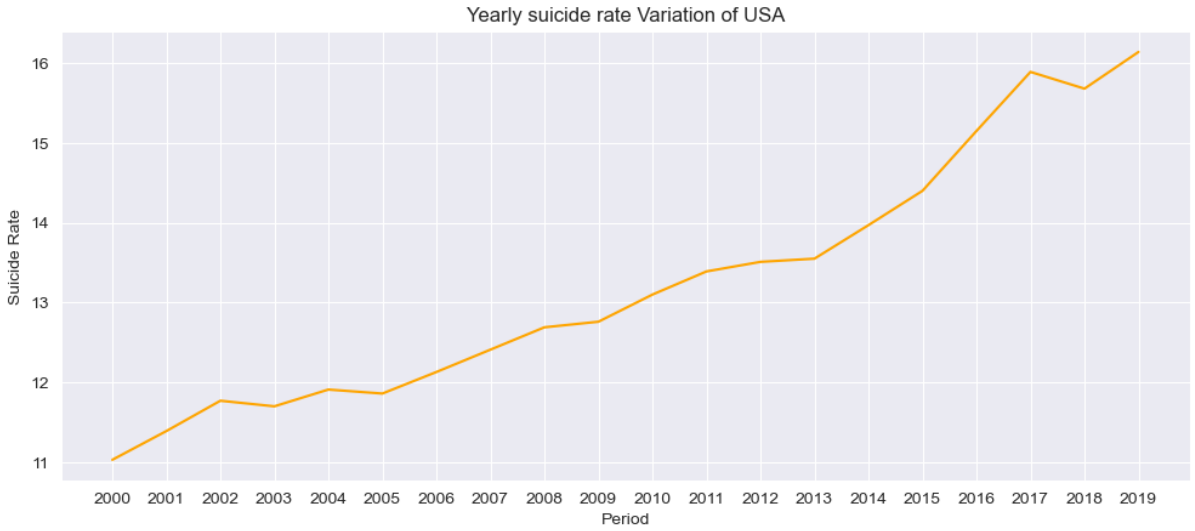
**Means Restriction**, removal of agents of self-destruction can have far-reaching consequences. It won't get the suicide rate down to zero anywhere. For one, it's nearly impossible to fully restrict all means.

**Social safety nets** like universal basic income and universal health care could go some way toward bringing suicide rates down

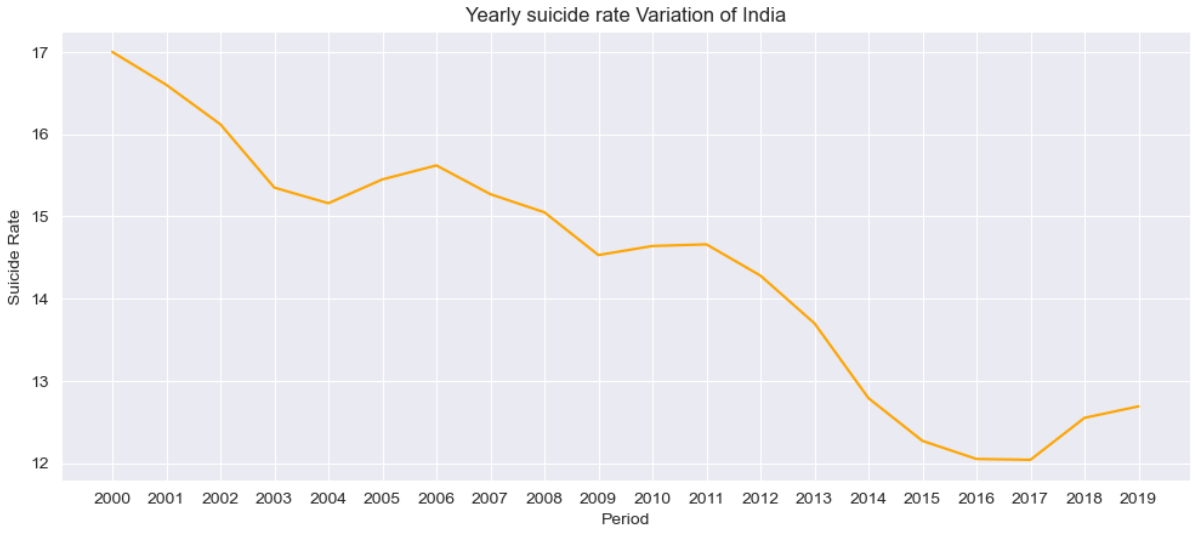
In the case of China, better economic stability had a massive impact on bringing the suicide rate down considerably.



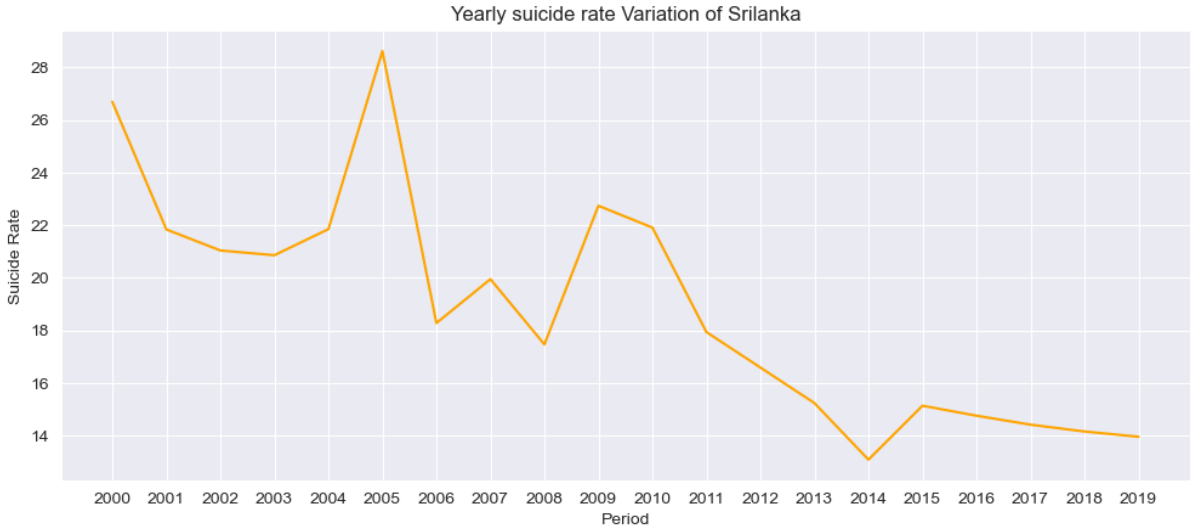

On the other side high-income country like United States of America is seeing hike in the yearly suicide rate. Suicide is the **second highest** cause of death among young Americans.



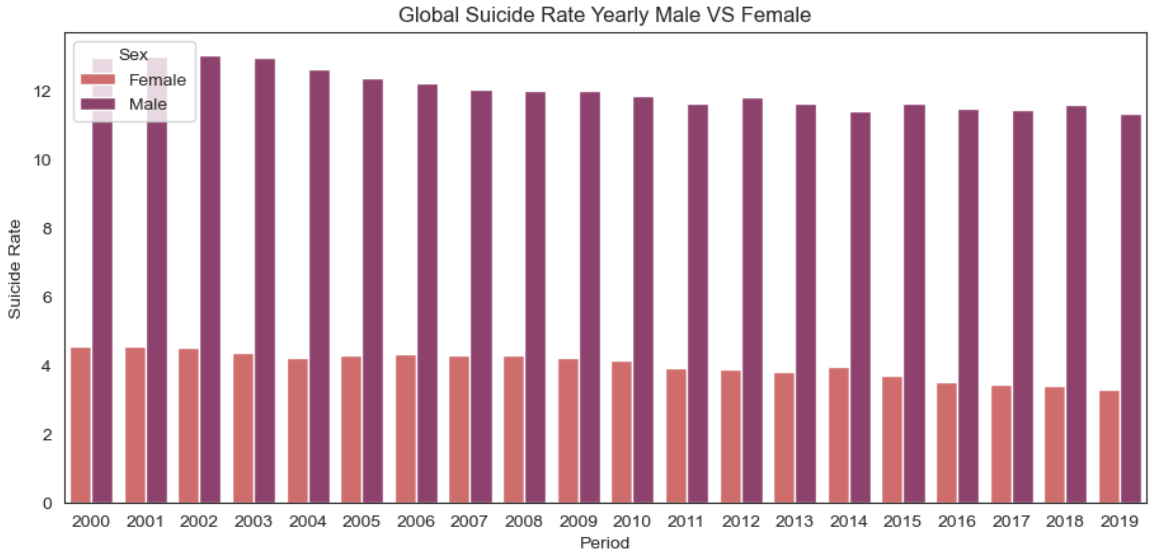

Banning or limiting access to dangerous pesticides has had astonishing effects in many countries like India.




In 1995 SriLanka banned dangerous pesticides, and the national suicide rate has fallen considerably.



**Global Gender Analysis:**




In countries around the world, women are more likely to be diagnosed with depression and to attempt suicide.

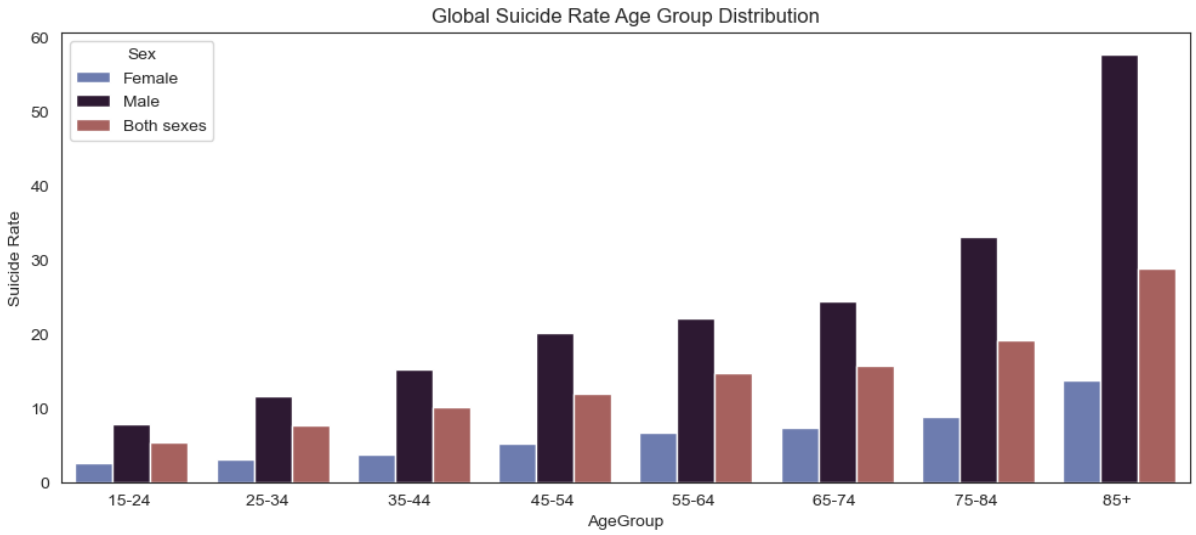
Yet , still the suicide rate of males is far higher than that of females.

Following are some of the many contributing factors that leads to the above statistics:

- Male suicide methods are often more violent, making them more likely to be completed before anyone can intervene. Access to means is a big contributing factor.
- Lack of Communication: women are willing to share their problems and men tend to bottle them up.
- Men may be less likely to admit when they feel vulnerable, whether to themselves, friends, or a GP. Men seek help for mental health less often.
- There tends to be more substance use and alcohol use among males drinking can deepen depression and increase impulsive behaviours and alcoholism is a known risk factor for suicide.
- Other risk factors can be related to family or work, an economic downturn can result in increased unemployment. One 2015 study found that for every 1% increase in unemployment there is a 0.79% increase in the suicide rate.
- Another risk factor is a sense of isolation.

**Global Age Segregated Analysis:**

The average of suicide rates for the year 2019 for various age groups was considered for the below analysis segregated by Sex respectively.

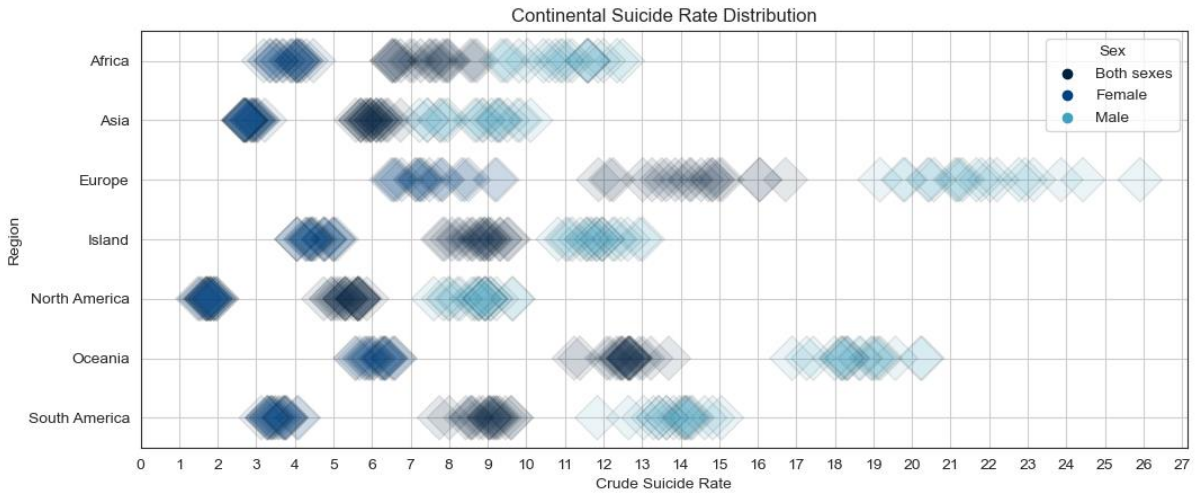



Following are some of the factors that lead to high suicide rate among older adults and in particular older men.

Risk factors for suicide in older adults include the loss of a loved one, loneliness and physical illness.

Suicide in older adults is often attributed to the development of depression due to bereavement or loss of physical health and independence.

**Continental Analysis:**




The average suicide rates of 20 countries from each continent was considered for the below analysis segregated by Sex respectively.

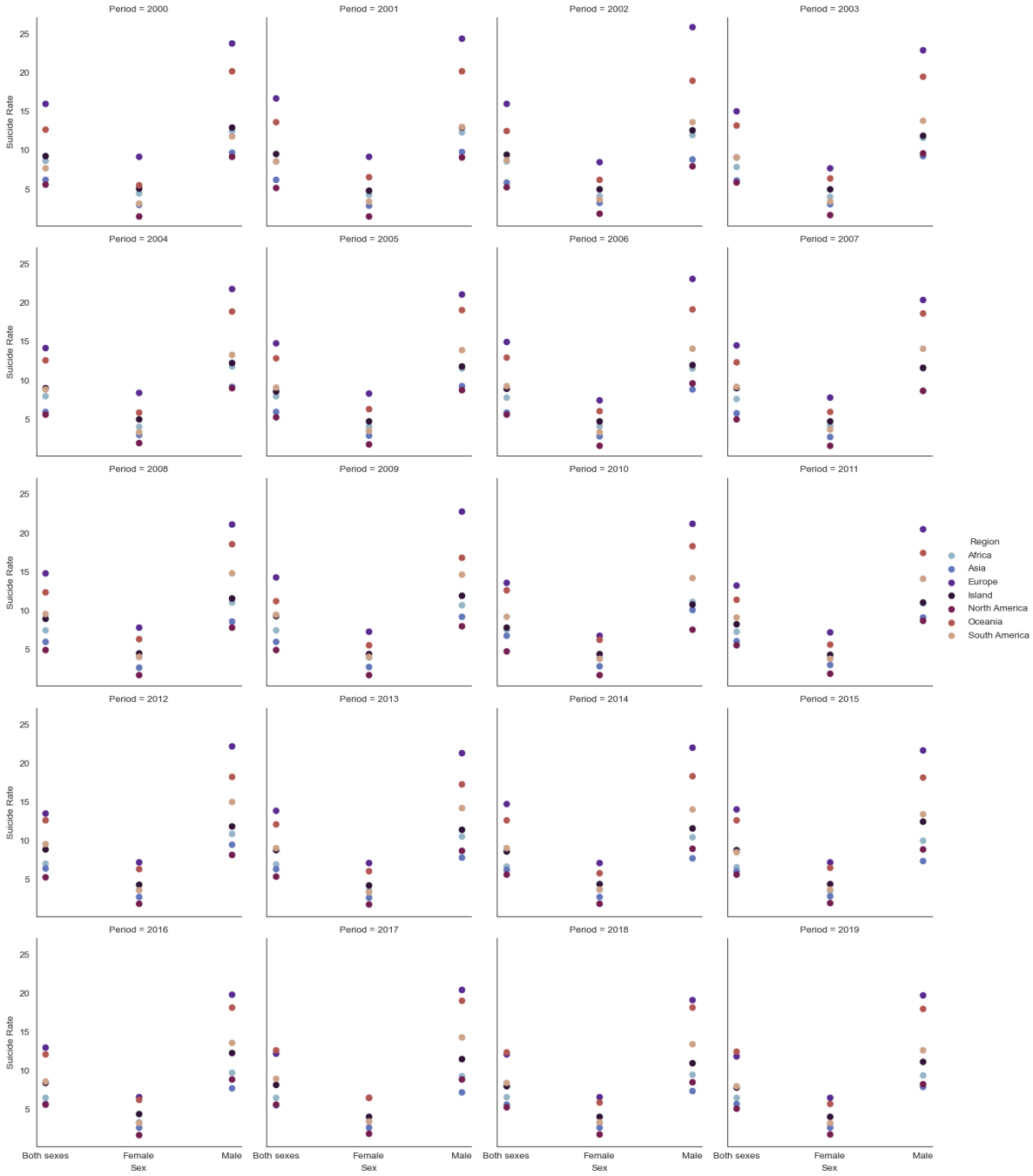
The highest value was in Europe while least values were observed in Asia and North America.

Measure: suicides per 100,000 people; Source: The World Health Organization

**Yearly Continental Analysis:**

The average suicide rates of 20 countries from each continent was considered for the below analysis segregated by Sex (considering suicide rate of both sexes) respectively and grouped by year.

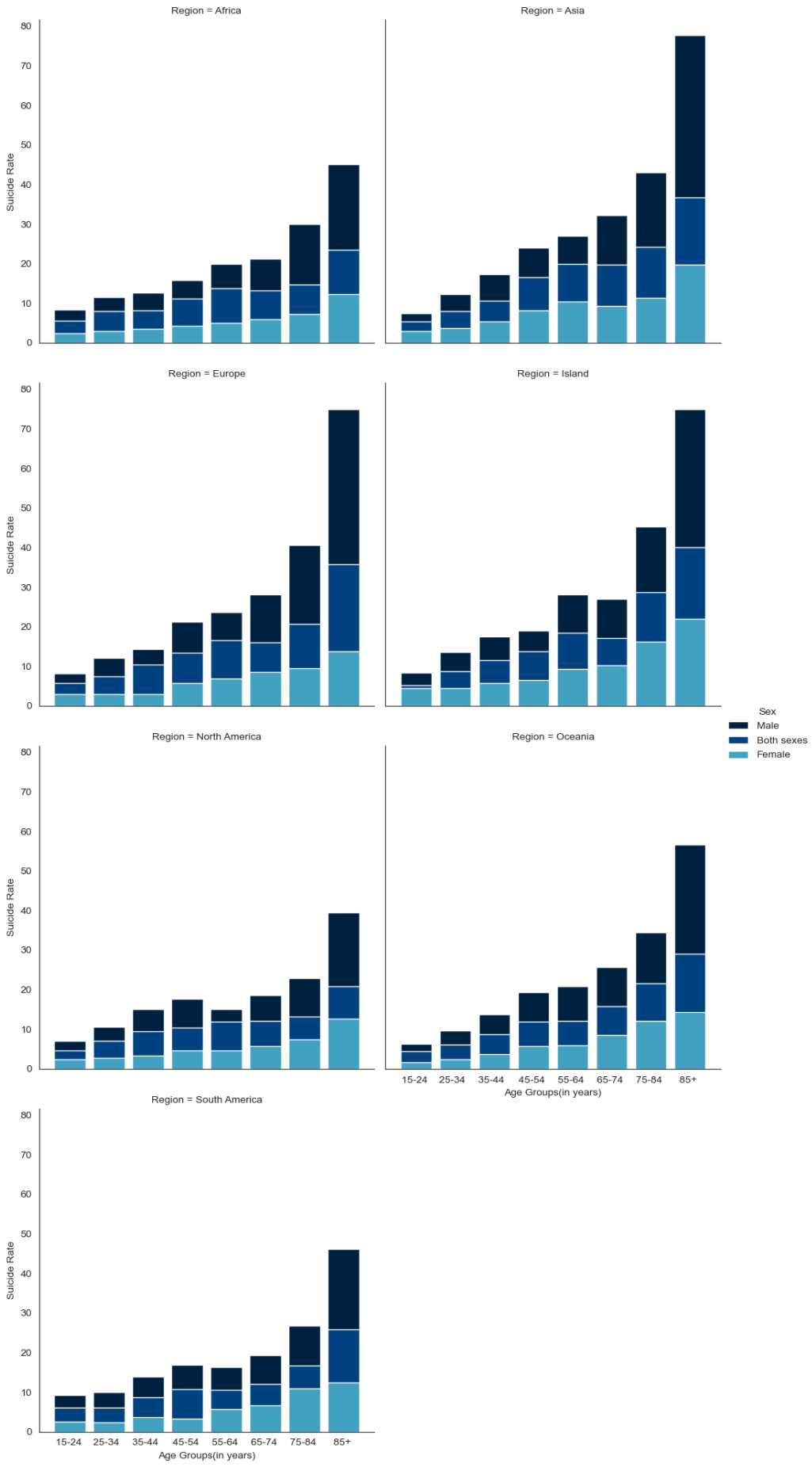
Measure: suicides per 100,000 people; Source: The World Health Organization




**Continental Age Group Analysis:**

The average suicide rates of 20 countries from each continent was considered for the below analysis segregated by Sex respectively and grouped by respective age groups.

Measure: suicides per 100,000 people; Source: The World Health Organization


Region = Africa
Region = Asia
Region = Europe
Region = Island
Region = North America
Region = Oceania
Region = South America
Suicide Rate
0
10
20
30
40
50
60
70
80
15-24
25-34
35-44
45-54
55-64
65-74
75-84
85+
Age Groups(in years)
Sex
Male
Both sexes
Female

**Prevention and control:**

Suicides are preventable. There are a number of measures that can be taken at population, sub-population and individual levels to prevent suicide and suicide attempts. LIVE LIFE, WHO's an approach to suicide prevention, recommends the following key effective evidence-based interventions:

- limit access to the means of suicide (e.g. pesticides, firearms, certain medications);
- interact with the media for responsible reporting of suicide;
- foster socio-emotional life skills in adolescents;
- early identify, assess, manage and follow up anyone who is affected by suicidal behaviours.

## Conclusion:

In conclusion the above analytical report deals with a sensitive topic of suicide that yearly takes nearly 700,000 lives across the globe with men having higher suicide rates (globally). The stats and the visualized charts provide in depth information that encourages us to formulate some fundamental schemes to eradicate this global enemy.