

A PROJECT REPORT
On
SUICIDE RATE ANALYSIS
Submitted in partial fulfillment of the
requirement of University of Mumbai for
DMBI Mini Project
In
Information Technology

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DEPARTMENT OF INFORMATION TECHNOLOGY
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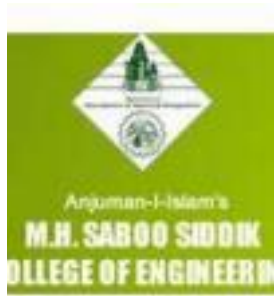
CERTIFICATE

This is to certify that the requirements for the report entitled ‘**SUICIDE RATE ANALYSIS**’ have been successfully completed by the following students:

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PROJECT APPROVAL FOR

This project entitled “**SUICIDE RATE ANALYSIS**” by MIRAJKAR SHAMIM , KHAN
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Place: Mumbai



DEPARTMENT OF INFORMATION TECHNOLOGY

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DECLARATION

We declare that this written submission for Mini Project entitled “**SUICIDE RATE ANALYSIS**” represents our ideas in our own words and where others' ideas or words have been included. We have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any ideas / data / fact / source in our submission. We understand that any violation of the above will cause for disciplinary action by institute and also evoke penal action from the sources which have not been properly cited or from whom prior permission have not been taken when needed.

Project Group Members:

Mirajkar Shamim _____

Khan Needa _____

Sayed Mohd Umair _____

Date:

Place: Mumbai

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1.INTRODUCTION :

The World Health Organization (WHO) estimates that each year approximately one million people die from suicide.

By definition, “The act of deliberately taking one’s own life or causing one’s own death” is referred to as “suicide”, which represents a global mortality rate of 16 people per 100,000 or one death every 40 seconds. It is predicted that by 2020 the rate of death will increase to one every 20 seconds.

The WHO further reports that:

In the last 45 years suicide rates have increased by 60% worldwide. Suicide is now among the three leading causes of death among those aged 15-44 (male and female). Suicide attempts are up to 20 times more frequent than completed suicides.

Although suicide rates have traditionally been highest amongst elderly males, rates among young people have been increasing to such an extent that they are now the group at highest risk in a third of all countries. Mental health disorders (particularly depression and substance abuse) are associated with more than 90% of all cases of suicide.

However, suicide results from many complex sociocultural factors and is more likely to occur during periods of socioeconomic, family and individual crisis (e.g. loss of a loved one, unemployment, sexual orientation, difficulties with developing one's identity, disassociation from one's community or other social/belief group, and honor).

Every year close to 800 000 people take their own life and there are many more people who attempt suicide. Every suicide is a tragedy that affects families, communities and entire countries and has long-lasting effects on the people left behind. Suicide occurs throughout the lifespan and was the second leading cause of death among 15-29 year-olds globally in 2016

Globally, the availability and quality of data on suicide and suicide attempts is

poor. Only 80 Member States have good-quality vital registration data that can be used directly to estimate suicide rates. This problem of poor-quality mortality data is not unique to suicide, but given the sensitivity of suicide – and the illegality of suicidal behavior in some countries – it is likely that under-reporting and misclassification are greater problems for suicide than for most other causes of death.

A lot has been done by the government since the mid 1990's to create awareness of suicide. Reach Out - a National Strategy for Action on Suicide Prevention 2005-2014' states: "Information on suicidal behavior is vital in order to guide the planning of effective services and supports." Agencies have been set up to provide statistics and a lot of research has been done but the rates still remain high.

Suicide is a serious public health problem; however, suicides are preventable with timely, evidence-based and often low-cost interventions. For national responses to be effective, a comprehensive multisectoral suicide prevention strategy is needed.

2. OBJECTIVES:

With each passing year, suicides are becoming more common. In consideration of that, we have , used the survey conducted by WHO , which was for the years 1979-2016 which shows the suicide rates for various countries depending upon age , sex and population. The data were analyzed through quantitative and qualitative methods.

Through this data , as we have got the information of number of suicide happening in countries year wise and also in consideration of sex , age and population , we aim in establishing effective, sustainable, and collaborative suicide prevention programming at the state/territorial, tribal, and local levels.

Also, we have forecasted suicide number for the years 2016-2022 , so through this we can try and go ahead to prevent it also to encourage community-based settings to implement effective programs and provide education that promote wellness and prevent suicide and related behaviors. But suicide is ultimately a private act. It is difficult to put into words the suffering and agonized state of mind of those who kill themselves.

3. DATASET:

Country	Year	Sex	Age	suicides_no	Population	Suicide Rate
Albania	2002	male	25-34 years	23	206,286	0.000111496
Albania	1999	male	15-24 years	24	250,600	0.000095770
Albania	1998	male	25-34 years	26	240,400	0.000108153
Albania	1998	male	15-24 years	27	248,800	0.000108521
Albania	2003	male	35-54 years	28	386,196	0.000072502
Albania	2007	male	35-54 years	29	378,626	0.000076593
Albania	1998	male	35-54 years	29	388,200	0.000074704
Albania	1997	male	35-54 years	30	380,800	0.000078782
Albania	1999	male	35-54 years	31	391,100	0.000079264
Albania	1998	female	15-24 years	32	295,600	0.000108254
Albania	1997	male	15-24 years	33	244,400	0.000135025
Albania	2001	male	35-54 years	34	378,826	0.000089751
Albania	2002	male	35-54 years	35	382,139	0.000091590
Albania	1997	male	25-34 years	36	236,000	0.000152542
Albania	2008	male	35-54 years	37	377,119	0.000098112
Albania	2004	male	35-54 years	39	391,767	0.000099549

In this data, you can observe the long-time trends and differences between countries, as well as within countries across a few demographic groups - in both cases you will see that these differences may be very large.

Basic aggregate numbers covering 1979-2016 , by country, age groups and sex.

Countries - suicide number country wise

Year - 1979-2016 data considered

Sex - male, female suicide numbers over the years

Age- few range of age considered

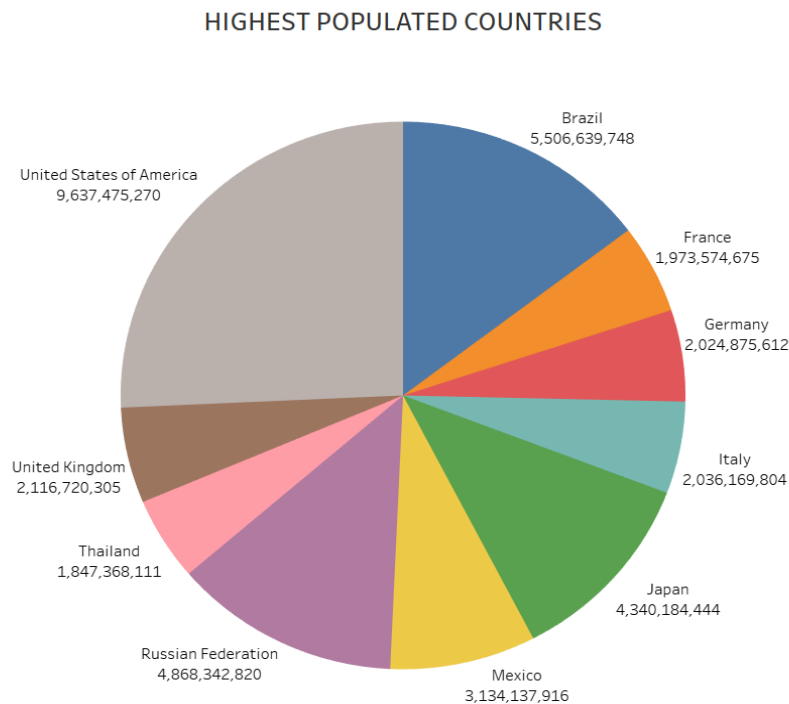
Suicide Number- country ,sex, year ,age wise

Population- country ,sex, ,age wise

Suicide rate - suicide number/ population

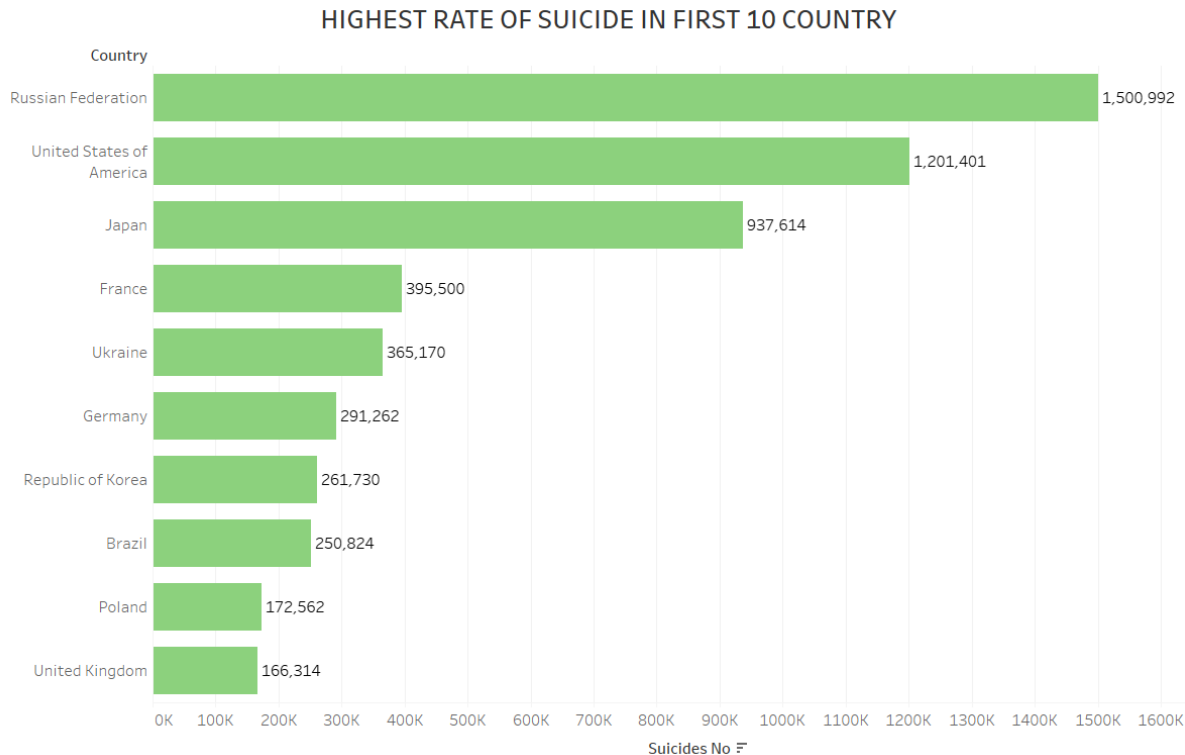
4. EXPLORING THE DATASET:

4.1 Assessment of population



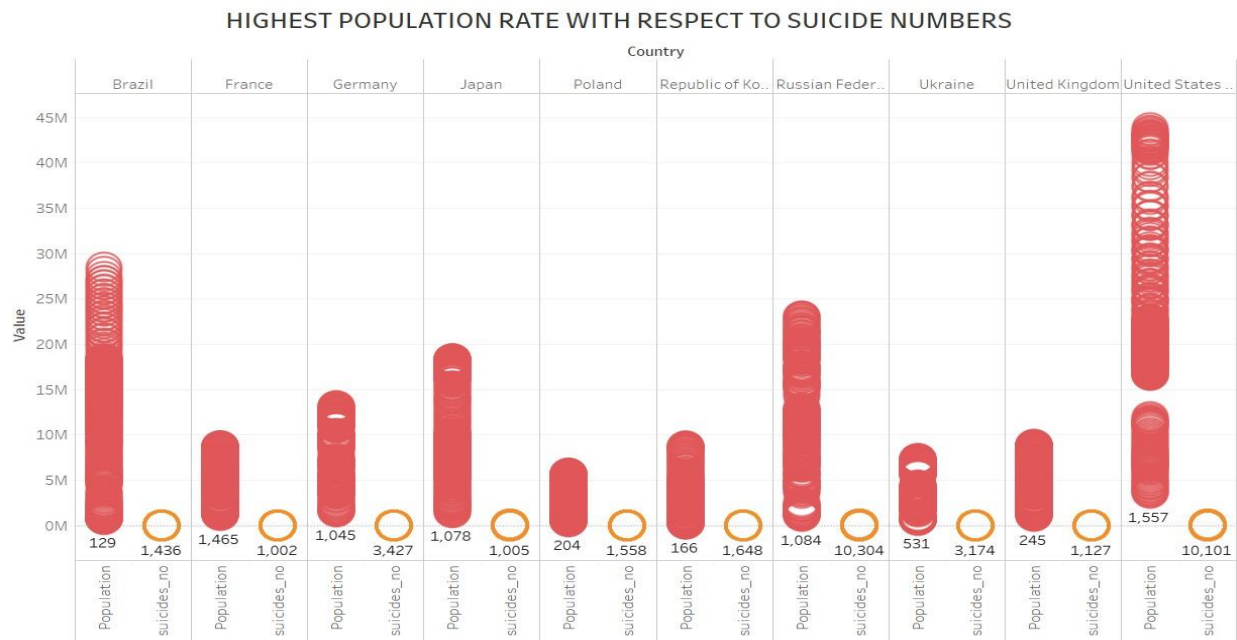
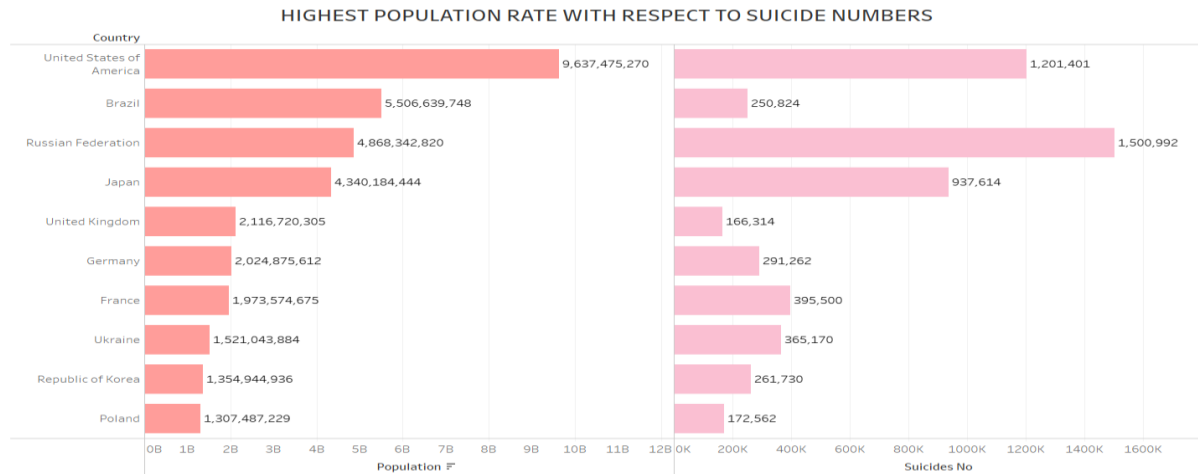
In Consideration of the data set , United States of America , Brazil, France ,Germany, Italy ,Japan , Mexico, Russian Federation, Thailand , United Kingdom stand as first ten populated countries .United States of America has the highest population(9,637,475,270) while Thailand has the lowest (1,847368,111) , Brazil being the second having a population of 5,506,639,748 and France being at ninth position with population of about 1,973,574,675 for the years 1979-2016.

4.2 Assessment of Suicide Numbers with respect to countries



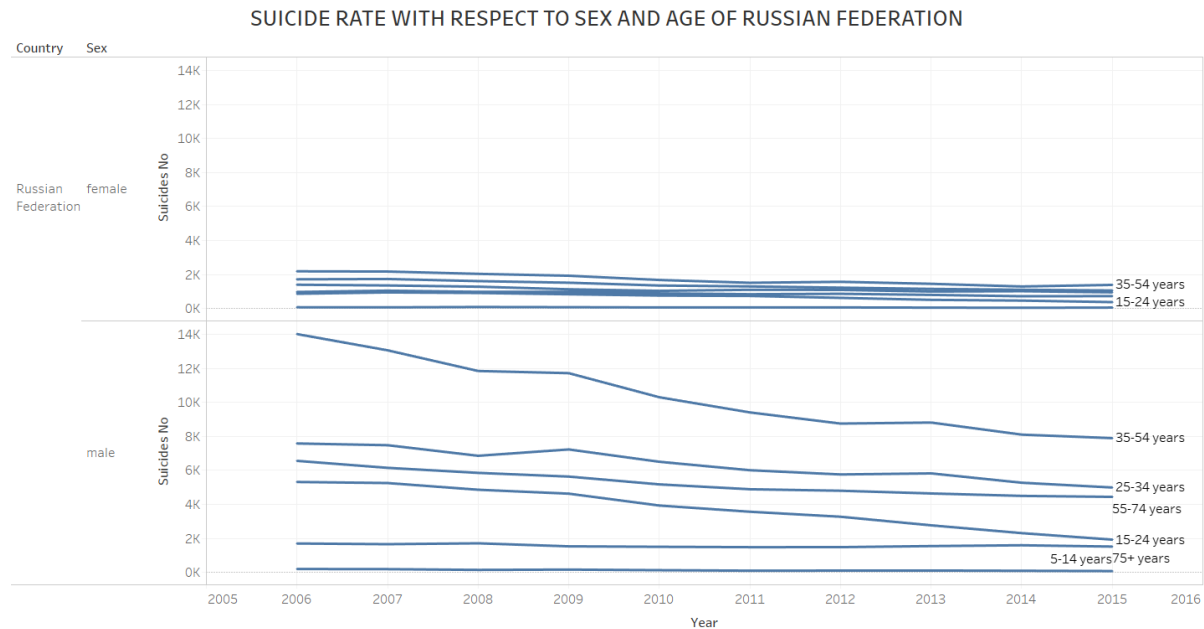
From the above visualization ,the highest country with suicide number of about 1,500,992 over the years 1979-2016 is Russian Federation , which is then followed by United States of America with the number of 1,201,401 suicides, France being the third and Brazil being the second highest population wise stands at eighth position while Thailand which was 10th highest in population ,is not in the first 10 positions over here. The least among the first ten countries is United Kingdom (166,314) over the following years.

4.3 Assessment on Highest population with respect to suicide numbers



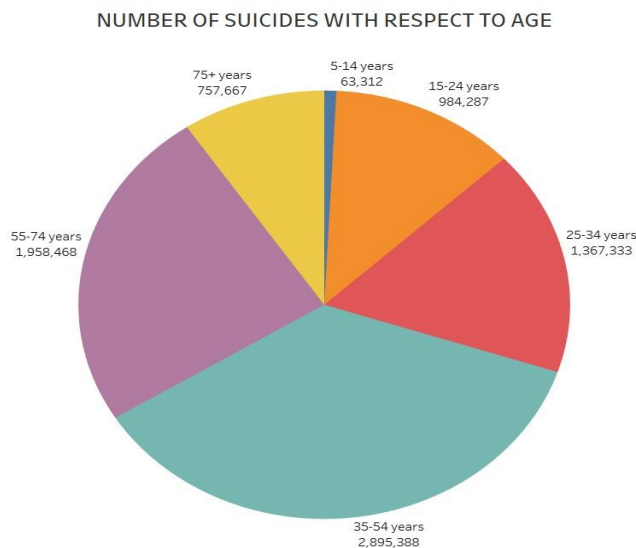
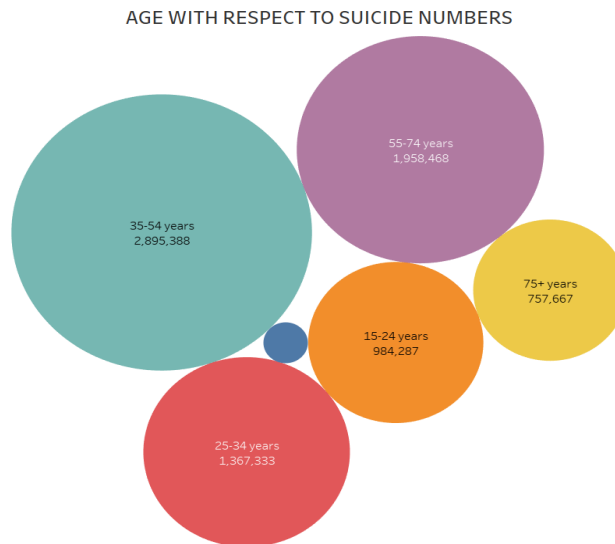
From considering the above visualization , as United States of America is the highest in population but is not in suicide numbers , the highest in suicide numbers is Russian Federation but population wise it stands third , Ukraine and Poland which did not stand in first ten countries population wise but do stand in case of suicide number over the years 1979-2016.

4.4 Assessment on Suicide Rate with respect to sex and age of Russian Federation



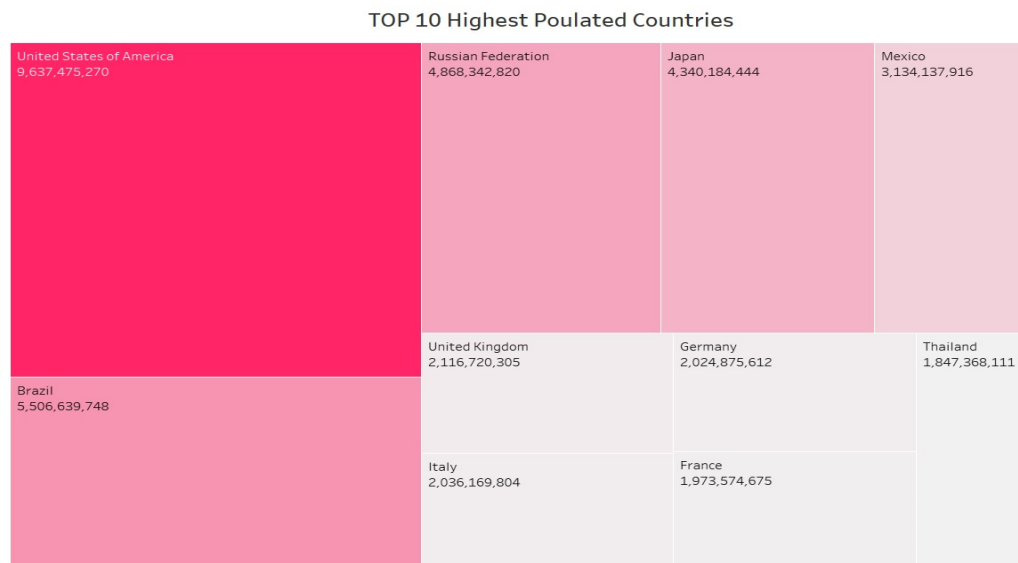
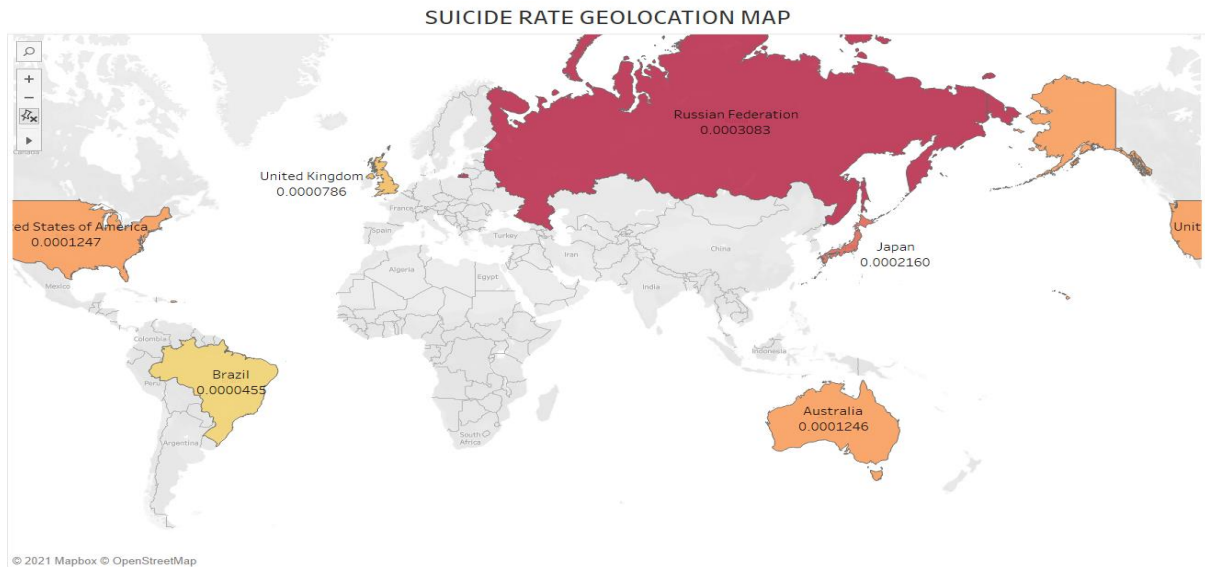
As the highest suicide number was in Russian Federation therefore on considering the suicide number from the year 2006 -2016 for male and female ,it shows that the number of suicide has been decreasing over the years especially a huge amount is noticed for male sex as compared to female , in case of female where the suicide number didn't go beyond 2k but in case of male it was above 13k ,approximately 14k which almost decreased between 9k-10k , over these years

4.5 Assessment on Age with respect to suicide numbers



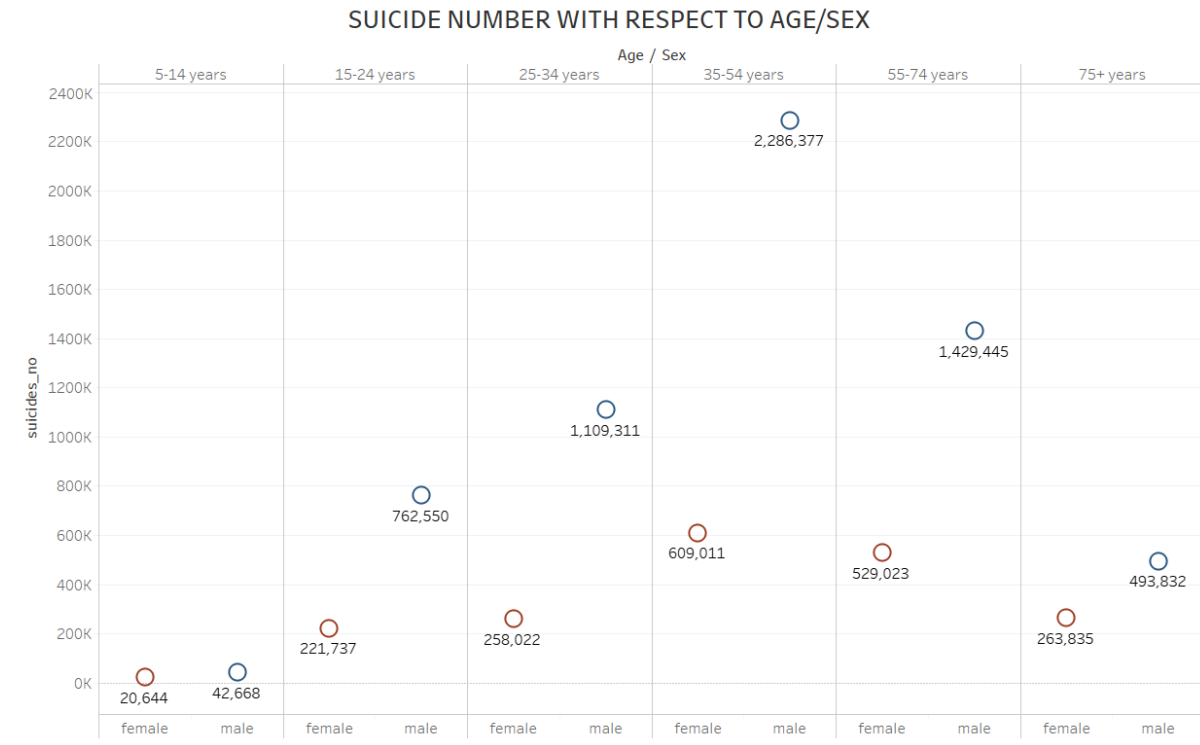
From the above visualization, the age range of 35-45 has the highest suicide numbers, over the years then followed by 55-74 years old, which is then followed by 25-34 years, 15-24 years, 75+ years and the least number of suicide is for the range of 5-14 years in consideration of 1979-2016.

4.6 Assessment on Suicide Rate



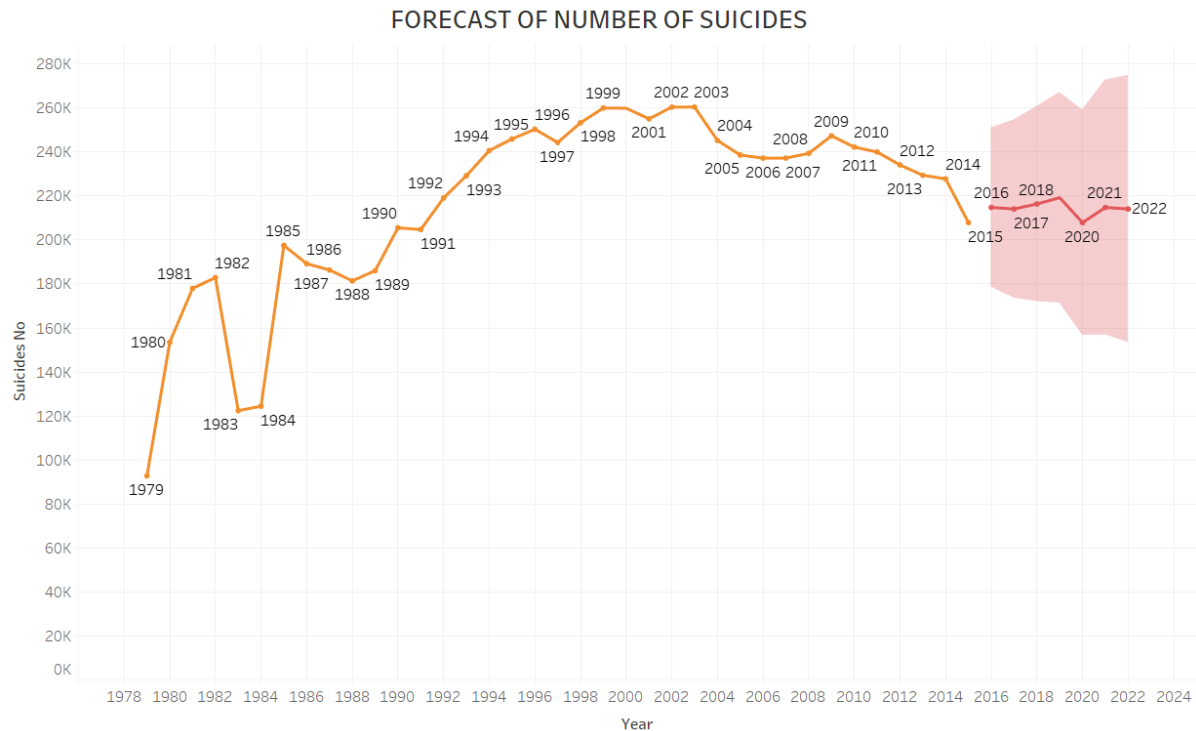
Russian Federation has the highest suicide rate(0.0003083) which is number of suicide upon population but stands third in population wise , then United States of America with rate of 0.0001247 but stands first in population for the years 1979-2016.

4.7 Assessment on Suicide Number with respect to Age/Sex



From the above visualization , the males in the range of 35-54 years appears to have the highest suicide number(2,286,377) which is highest as compared to male sex for all the other ranges and least is of female of the range 5-14 years(20,644) over the years 1979-2016 , second least female range is 15-24 years(221,737) but in case of male it is 493,832 for 75+ years .While the second highest in male is the range of 55-74 years with 1,429,445 suicide numbers and then followed by 25-34 years of age in male . In female also the highest is in the range of 35-54 years with the number of (609,011).

4.8 Assessment on Forecast of number of suicides



In consideration of above visualization , the highest the number of suicides for the years 1979-2016 is from 1999-2003 , the least was in 1979, the highest could be approximately in the year 2003 and also through this data set the forecast is also predicted for the years 2016-2022 and among these 2018 is suppose to have the highest suicide number.

5.Business Intelligence:

As we have seen through the analysis , suicide number is decreasing as we go from 1979-2016 , but as the highest suicide number was in Russian Federation ,so developing and sustaining public-private partnerships to advance suicide prevention, would definitely help in decreasing the number of suicide attempts.

Also, promotion of effective programs and practices will increase protection from suicide risk, including resiliency training and encouraging community-based settings to implement effective programs and provide education that promote wellness and prevent suicide and related behaviors.

As the prediction, of suicide number for the years 2016-2022 was done , this can also be prevented by improved surveillance and monitoring of suicide and suicide attempts is required for effective suicide prevention strategies. Cross-national differences in the patterns of suicide, and changes in the rates, characteristics and methods of suicide, highlight the need for each country to improve the comprehensiveness, quality and timeliness of their suicide-related data. This includes vital registration of suicide, hospital-based registries of suicide attempts and nationally-representative surveys collecting information about self-reported suicide attempts.

Also, as we have seen through our analysis the suicide number for the age range between 35-54 years was the highest throughout all the countries , so we can say that, they had no idea of how dangerous a suicide can be, but by encouragement and awareness given to them in their younger days of schools, workplaces and faith-based communities would guide them not to go for such a drastic move.

As also with this pandemic going on around the world we cannot reach out to many people ,so for increasing communication ,efforts can be taken to connect through online medium that will promote positive messages and support safe crisis intervention strategies also promote suicide prevention as a core component of health care services.

As we are all living in the age of technology ,we can develop and implement new safety technologies, that will reduce access to lethal means.

“The person who completes suicide, dies once. Those left behind die a thousand deaths, trying to relive those terrible moments and understand... why?”
– Clark

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