The Female Side of Suicide

Visualizing 30 Years of Gender-based Suicide Patterns of Women

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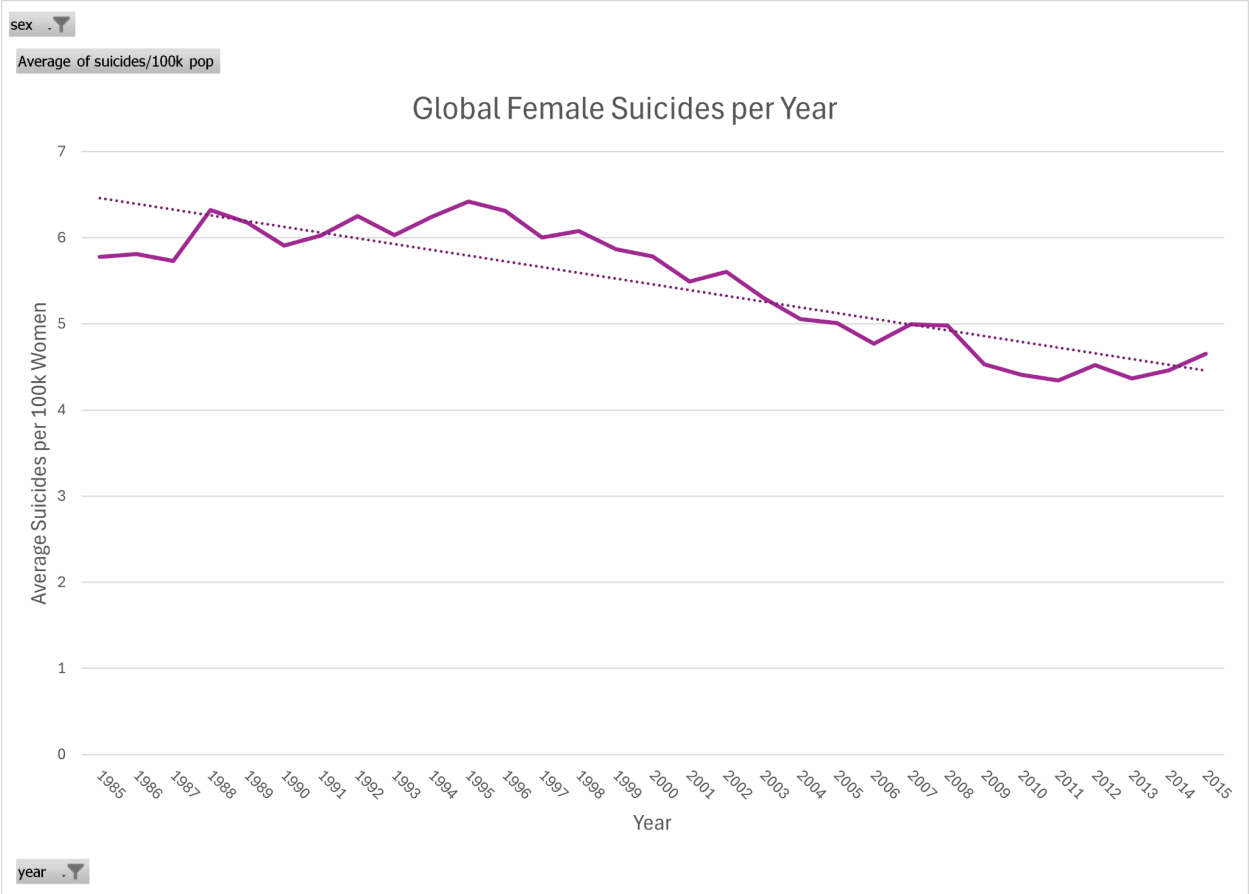
When we all think about death by suicide, I think it is fair to say that all of us have some experience with it, whether it be a family member, a spouse, a friend or acquaintance, or even a celebrity or icon. Suicide is a phenomonon that transcends culture, gender, age, sexual orientation, religion, and lifestyles. I would also venture to say that when we hear about suicide we automatically think about oft-talked about death by suicide trends, such as that men have a much higher suicide rate than women, and that the LGBTQ community suffers the highest (per capita) rates of suicide. These statistics show, that while there is no bias in completing the action, that some groups are more likely than others to follow through or attempt suicide. While it is important to address the most marginalized groups that suffer from this affliction, I feel that there is silence when it comes to talking about those who suffer outside of the most at-risk groups. For this assignment, I want to focus on a group I have rarely heard suicide discussion on: women.

Women, who make up roughly 50% of the world population, are rarely talked about when it comes to suicide, and that isn't by accident: In the U.S. alone, men died by suicide at a rate of 4 times that of women (American Foundation for Suicide Prevention, 2025). However, it is statistics like this that keep suicide in the zeitgeist of male health, with far less discussion on the risks and statistics for women. I have opted to use my platform to highlight important, and oft less-reported, death by suicide statistics for women. No matter the rates or lifestyles of those who died by suicide, the results are equally reverbrated for all those affected: despair, grief, sadness, and anguish.

To discuss the female side of suicide, I am using the dataset, collected from Kaggle, *Suicide Rates Overview 1985 to 2016* (Rusty, 2018). The dataset, which includes 27,820 entries (not individual deaths) between 1985 - 2016, include features such as Country, Age, Sex

(gender), Year, Population, and Generation, among others. To focus on women, I isolated the instances where the sex was listed as "female". From there, I conducted analytics and created data visualizations that focused on female suicide trends over the years, by country, and by generation. To emphasize these important statistics, I opted to avoid making comparisons between genders, ensuring that women remained the focal point of this research.

Data Visualization 1: Women Suicide Rates From 1985-2015

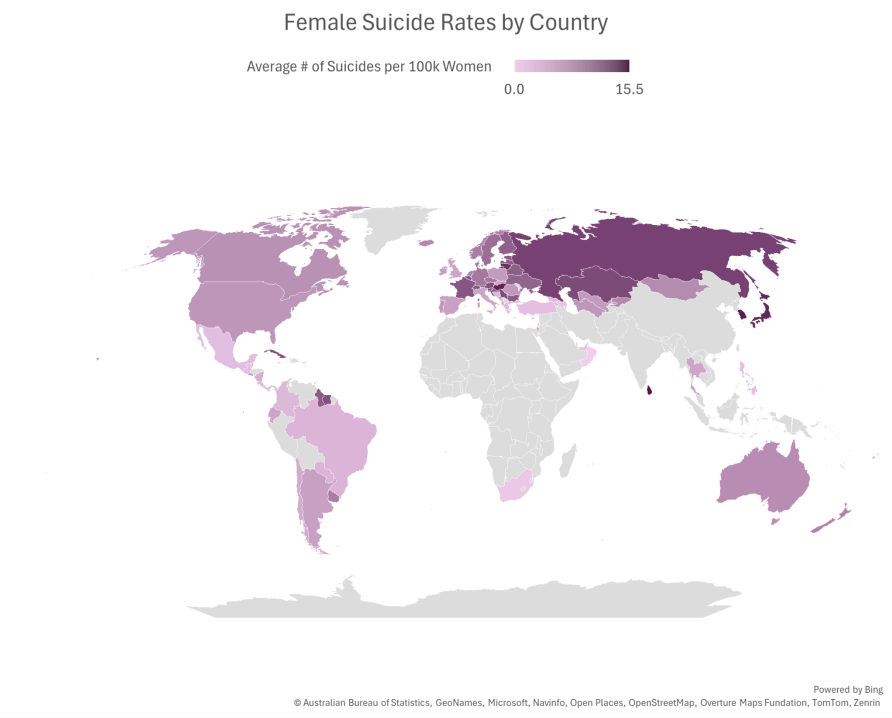


I created this data visualization because I had the burning question: *Has death by suicide for women increased or decreased over time?* To do this, as mentioned earlier, I isolated the dataset to just "female" and ensured that my "population" was taking into account only the

women population. Additionally, while the dataset takes deaths between 1985 and 2016, through EDA I was able to determine that the year 2016 was missing data (I determined this through population size per year), so I opted to only use the data up to 2015.

From this data visualization, in the form of a line graph, we can see that the global suicide rate for women has decreased, by over one suicide per 100,000 women between 1985 and 2015. In 1985, there was nearly six deaths by suicide per 100,000 women, and less than five deaths per 100,000 women in 2015. Aside from the notable upticks in 1990 and 1995, we can see from the trendline that suicide rates have been increasing. If one suicide out of 100,000 women doesn't sound like alot, consider a) the population has grown through those years and b) with population growth suicide rates have decreased. In 1985, the female population was 2.42 billion and in 2015 the female population was 3.7 (World Bank Group, 2025).

Data Visualization 2: Female Suicide Rates by Country



When considering what statistics were the most important to report on, I thought it would be worthwhile to look into the suicide rates by country. It is generally accepted that death by suicide is considered a taboo and goes against most social and cultural normatives, but there is also the real possibility that life-altering events, a lack of social normatives, or deep-seated violence or misogyny against women, can lead to different countries and cultures experiencing different rates of suicide.

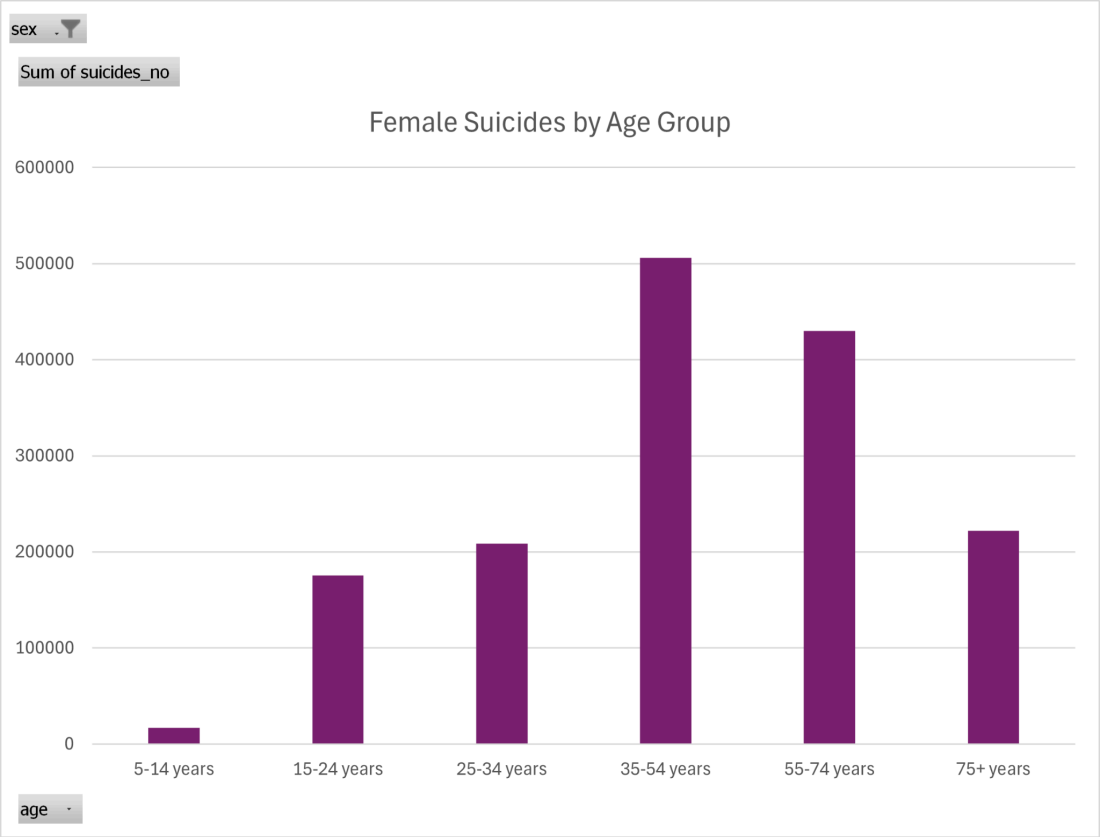
The geographical (heat) map above shows, with darker hues representing higher density, the number of suicides by country. The countries that are represented in various shades of purple (an official color of suicide prevention) represent countries that were represented in the dataset and gray represents the countries with no data (or outlier data, in the case of the two countries that reported no suicides over the course of 30 years). The data is an amalgamation of all suicides over the entire 30 years, and does not represent an isolated time period or age group from the dataset. From the visualization, the first thing that sticks out is how "dark" Russia is, and that is because it is in the top 10 countries with the highest number of female countries. However, our top countries (in descending order) are: Sri Lanka (15.5 out of 100k), South Korea (14.8), Hungary (14.1), and Japan (13.7).

Let's take a look at some of the highest risk countries starting with Sri Lanka. Sri Lanka is a country that had been dominating headlines for years as they found themselves in turmoil brought on by a decades-long civil war (Siriwardhana & Wickramage, 2014). This civil war created a lot of unrest and uncertainty for the population. This civil war can be attributed to high numbers of suicides due to the decades-long fallout. Additionally, along with the civil war, came the breakdown of social and traditional norms. These, along with a lack of mental health

resources and alcohol-related abuse, are possible factors when it comes to suicide deaths of Sri Lankan women.

On the opposite spectrum, the second highest suicide rate for women is the Republic of Korea (South Korea). South Korea, unlike Sri Lanka, is a fully developed country that has boasted stability in government and economics. This very different lifestyle, when compared to Sri Lanka, showcases suicide's ability to navigate beyond social boundaries and constructs, South Korea is a country with high levels of depression and anxiety, and high stigma on mental health discussion (Lee et al., 2025). Additionally, female Koreans have the extra societal burdens of juggling both traditional and progressive roles and to have high beauty standards.

Data Visualization 3: Women Suicides by Age



After looking at death by suicide for women by country and year trends, I thought it was important to look at age (generations) trends. From my analytics, which was a sum of all deaths by suicide of women over the years, I was able to determine which age groups were at the highest risk and which age groups were the lowest risk. From the visualization (bar chart), we automatically see that the lowest rate (< 20,000 over 30 years) is associated with the youngest age group (5-14 years) and the highest rate (over 500,000 over 30 years) associated with 35-54 year old women (followed by 55-75 year old women with 400,000 deaths by suicide). Out of the 1.6 million deaths by suicide of women in the dataset, that means 35-54 year old women make up roughly 30% of all suicides, and women between the ages of 35 and 75 make up nearly two-thirds of all death by suicide of women.

While it is interesting to know that middle-aged women make up the majority of femal suicides across the world, it is also important to understand *what* is causing this group of women to die by suicide. Research suggests that middle-aged people (men and women) are at the higher risks of suicide because of declines in physical health, mental health, increases of chronic pain, and the inability to perform daily activities (MGH Center For Women's Mental Health, 2020). These non-gendered causations aside, research does suggest that hormonal fluctuations during menopause can increase the risk of suicidal ideation (MGH Center For Women's Mental Health, 2020). In addition, global gender-based inequality has been an epidemic for most of recent history, with women being treated less than equally to men. Middle-aged women face less freedoms and rights, have less say in politics and economy, and are treated with less respect.

Conclusion

Death by suicide is an issue that we have all dealt with, whether it be a friend, a family member,a loved one, an acquaintance, or even an idol or celebrity. Death by suicide is dominated by research focused on men and LGBTQ+ individuals, due to their higher rates of death. However, just because certain individuals are at higher risks doesn't mean that other populations, such as women, should be minimized. Death by suicide does exist for women, and research and analysis has shown that death by suicide is not isolated by culture, religion, gender, age, mental or physical health, or sexual orientation. On average, globally, around 6 out of every 100,000 have committed suicide, luckily in recent years, this number has not only decreased, but has shown a study decline in death by suicide of women. Additionally, Countries like Lithuania, Sri Lanka, Russia, and Hungary show the highest rates of death by suicide of women with over 32 women per 100,000 women population. Middle aged women (35-54) are at the highest risk of suicide, making up about 30% of all deaths by suicide. Research suggests women, who face the same factors as men when it comes to suicidal ideation, also suffer from factors such as hormonal changes, sexual abuse, and gender inequality.

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