Analyzing Gun Deaths in the United States (2012-2014)

Data Summary

1. What is the number of US suicide gun deaths by gender? Male suicide gun death is over 50,000 while females suicide gun is below 10,000, which shows how males are more likely to commit suicide with a gun

2. What is the number of gun deaths in the US per a 100,000 population from 2012-2014? The highest number of death is for white people, then black, and the hispanic

3. What are the annual number of gun deaths in the US on averga? There is a high number of suicide and homocide death compared to a low number of deaths due to accidents

4. What is the 100, 000 percentage of annual gun deaths tolls in the US? The 100,000 percentages shows that there are 60 suicide cases for every 100,000 people, which could be considered not a high rate. But there are 30 homicide cases for every 100,000 people.

Likewise, data shows almost the same number of suicides each year over a period of three years, so this is a regular patttern in society.

In [ ]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
sns.set(style= 'white', color_codes=True)
%matplotlib inline
```

In [ ]:
```
df = pd.read_csv('C:/Users/HP/Downloads/Crime Prediction/full_data.csv', index_col=
```

In [ ]:
```
print(df.shape)
```

```
(100798, 10)
```

In [ ]:
```
df.index.name = 'Index'
```

In [ ]:
```
df.columns = map(str.capitalize, df.columns)
df.head(5)
```

Out[ ]:

Index	Year	Month	Intent	Police	Sex	Age	Race	Hispanic	Place	Education
1	2012	1	Suicide	0	M	34.0	Asian/Pacific Islander	100	Home	BA+
2	2012	1	Suicide	0	F	21.0	White	100	Street	Some college
3	2012	1	Suicide	0	M	60.0	White	100	Other specified	BA+
4	2012	2	Suicide	0	M	64.0	White	100	Home	BA+
5	2012	2	Suicide	0	M	31.0	White	100	Other specified	HS/GED

Organize the data set by year and then by month

In [ ]:

```
dataset_gun= df
dataset_gun.sort_values(['Year', 'Month'], inplace=True)
dataset_gun
```

Out[ ]:

Index	Year	Month	Intent	Police	Sex	Age	Race	Hispanic	Place	Ec
1	2012	1	Suicide	0	M	34.0	Asian/Pacific Islander	100	Home	
2	2012	1	Suicide	0	F	21.0	White	100	Street	
3	2012	1	Suicide	0	M	60.0	White	100	Other specified	
12	2012	1	Suicide	0	M	21.0	Native American/Native Alaskan	100	Home	
135	2012	1	Suicide	0	F	59.0	White	100	Home	
...	...	...	...	...	...	...	...	...	...	
100793	2014	12	Homicide	0	M	31.0	Black	100	Other specified	
100794	2014	12	Homicide	0	M	36.0	Black	100	Home	
100795	2014	12	Homicide	0	M	19.0	Black	100	Street	
100796	2014	12	Homicide	0	M	20.0	Black	100	Street	
100797	2014	12	Homicide	0	M	22.0	Hispanic	260	Street	L

100798 rows × 10 columns

Data Analysis

1. How many males adn females are included in this study?

In [ ]:
```
dataset_gun.Sex.value_counts(normalize=False)
```

Out[ ]:
```
Sex
M    86349
F    14449
Name: count, dtype: int64
```

2. Categorize the data by gender

In [ ]:
```
dataset_bygender=dataset_gun.groupby('Sex').count()
dataset_bygender
```

Out[ ]:

Sex	Year	Month	Intent	Police	Age	Race	Hispanic	Place	Education
F	14449	14449	14449	14449	14446	14449	14449	14386	14243
M	86349	86349	86348	86349	86334	86349	86349	85028	85133

Data Visualization

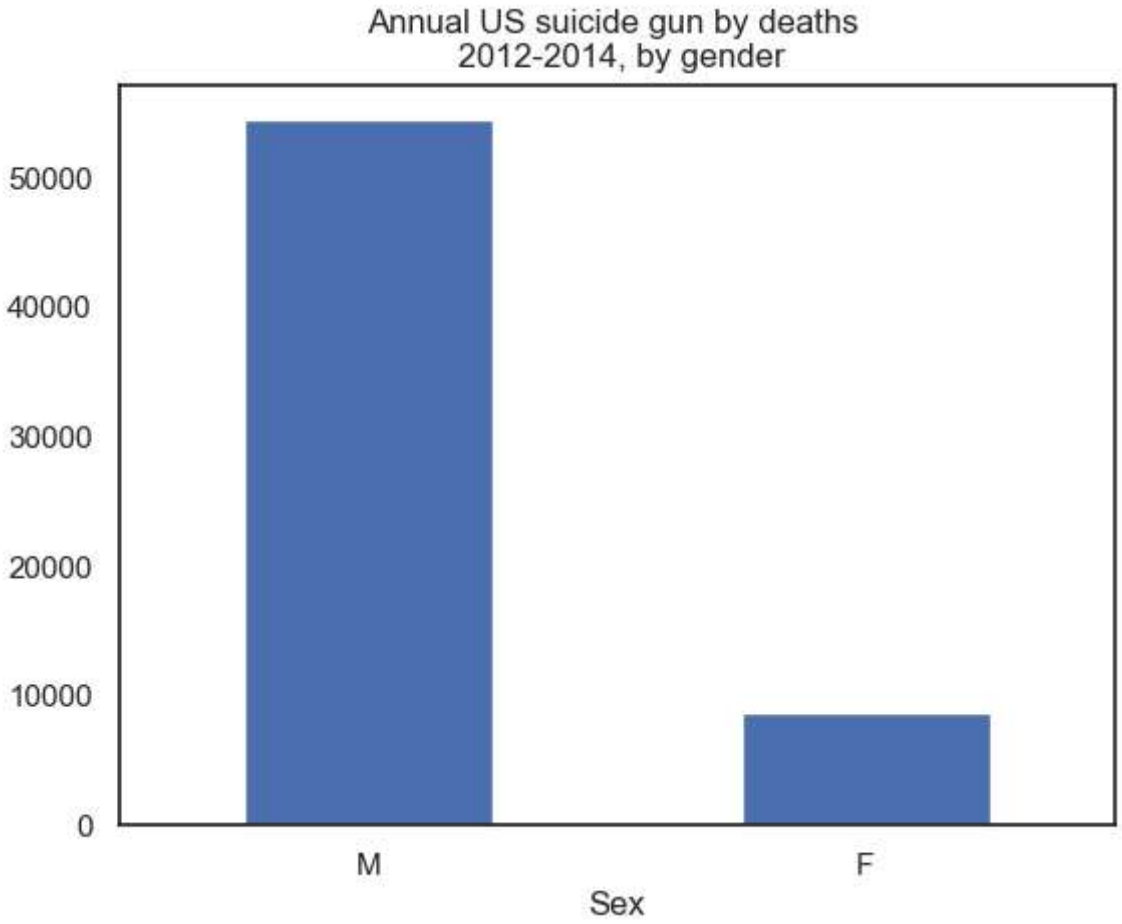
1. What is the number of suicide gun deaths in the United States from 2012-2014 by gender?

In [ ]:
```
dataset_bygender.head(1)
```

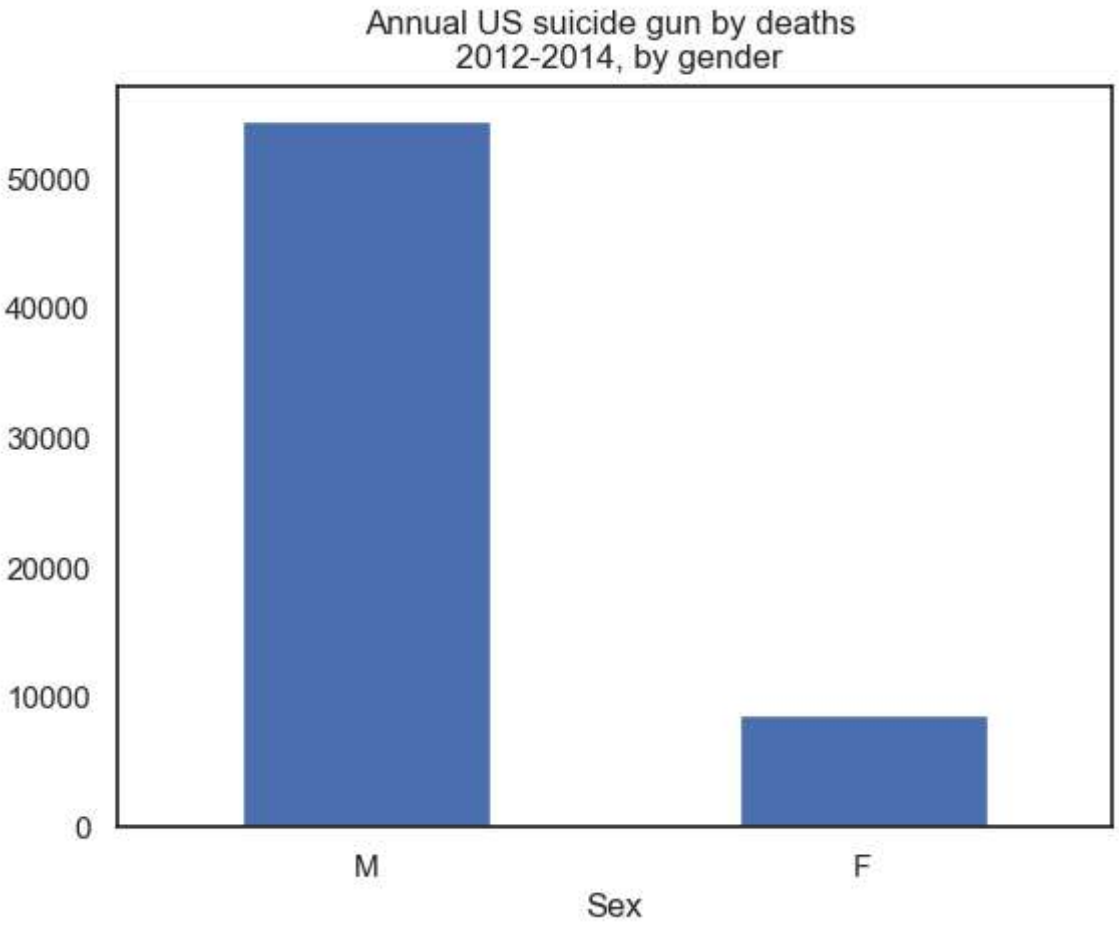
Out[ ]:

Sex	Year	Month	Intent	Police	Age	Race	Hispanic	Place	Education
F	14449	14449	14449	14449	14446	14449	14449	14386	14243

In [ ]:
```
import matplotlib.pyplot as plt

# Suponiendo que 'suicide_gender' es tu DataFrame y 'Sex' es una columna en tu Data
# Ajusta 'suicide_gender' con los datos que deseas graficar

# Crear el gráfico de barras
ax = suicide_gender.Sex.value_counts(normalize=False).plot.bar(title='Annual US sui

# Ajustar la rotación de las etiquetas del eje x
ax.set_xticklabels(ax.get_xticklabels(), rotation=0)

plt.show()
```



In [ ]:
```python
import matplotlib.pyplot as plt

# Suponiendo que 'suicide_gender' es tu DataFrame y 'Sex' es una columna en tu Data
# Ajusta 'suicide_gender' con los datos que deseas graficar

# Crear el gráfico de barras con las barras centradas entre los cuadros de fondo
ax = suicide_gender.Sex.value_counts(normalize=False).plot.bar(title='Annual US sui

# Ajustar la rotación de las etiquetas del eje x
ax.set_xticklabels(ax.get_xticklabels(), rotation=0)

plt.show()
```



What is the number of gun death by race in the US per 100,000 people from 2012 to 2014?

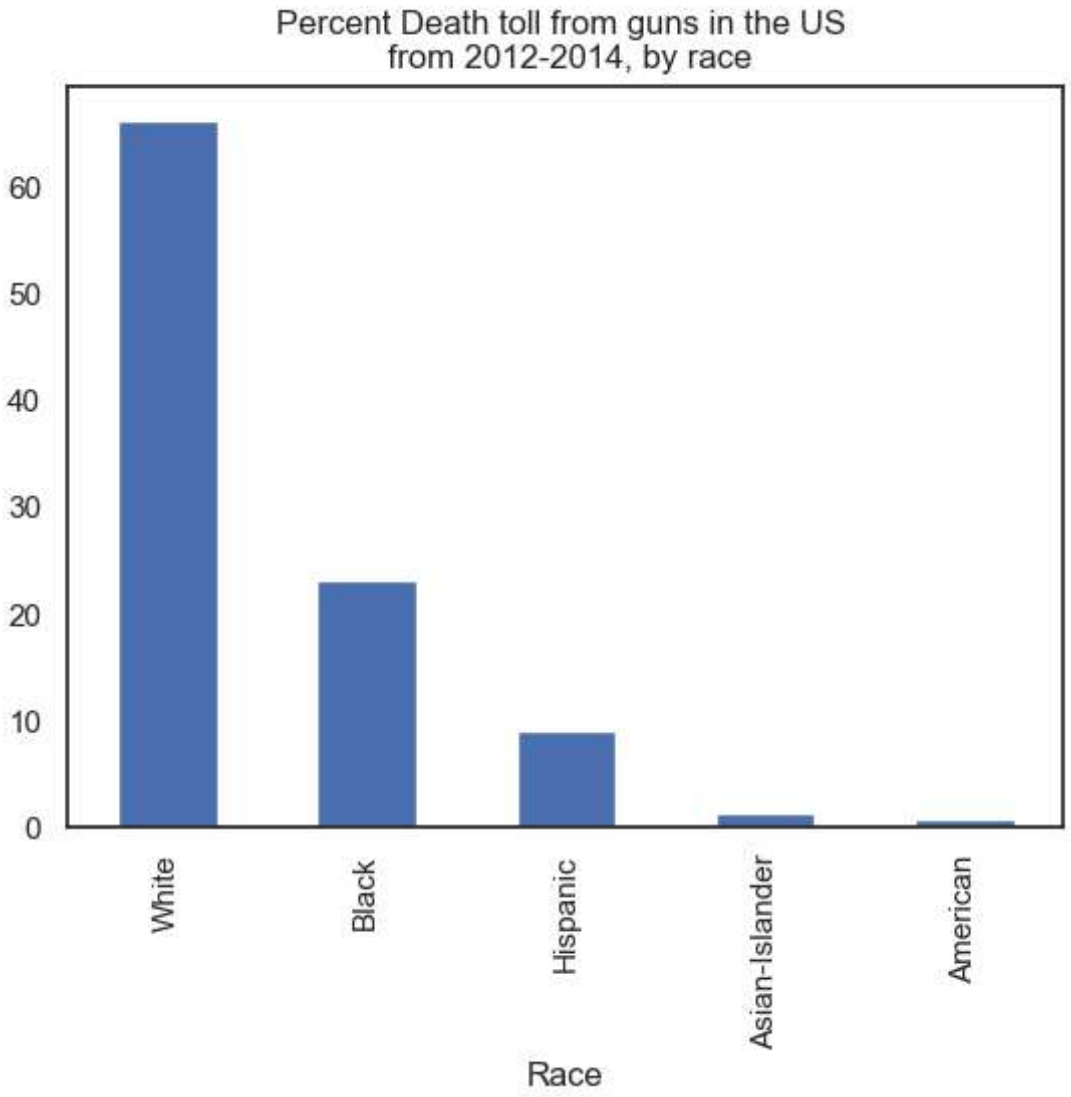
In [ ]:
```
dataset_byrace=df
dr=dataset_byrace.Race.value_counts(ascending=False)*100/100000
```

In [ ]:
```
dr
```

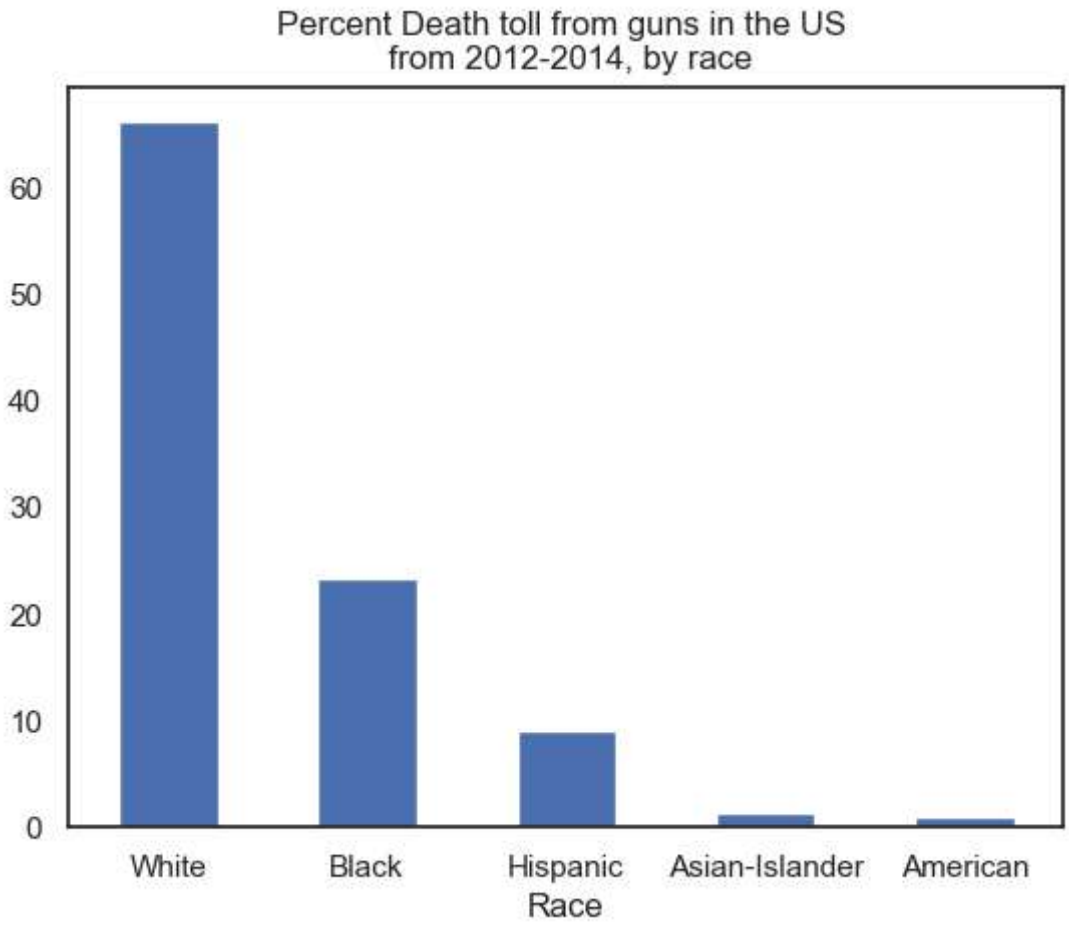
Out[ ]:
```
Race
White              66.237
Black              23.296
Hispanic            9.022
Asian-Islander      1.326
American            0.917
Name: count, dtype: float64
```

In [ ]:
```
dr.plot.bar(title='Percent Death toll from guns in the US \n from 2012-2014, by rac
```

Out[ ]:
```
<Axes: title={'center': 'Percent Death toll from guns in the US \n from 2012-2014,
by race'}, xlabel='Race'>
```



In [ ]:
```python
import matplotlib.pyplot as plt

# Suponiendo que 'dr' es tu DataFrame con los datos
ax = dr.plot.bar(title='Percent Death toll from guns in the US \n from 2012-2014, b

# Ajustar la rotación de las etiquetas en el eje x
ax.set_xticklabels(ax.get_xticklabels(), rotation=0)

plt.show()
```

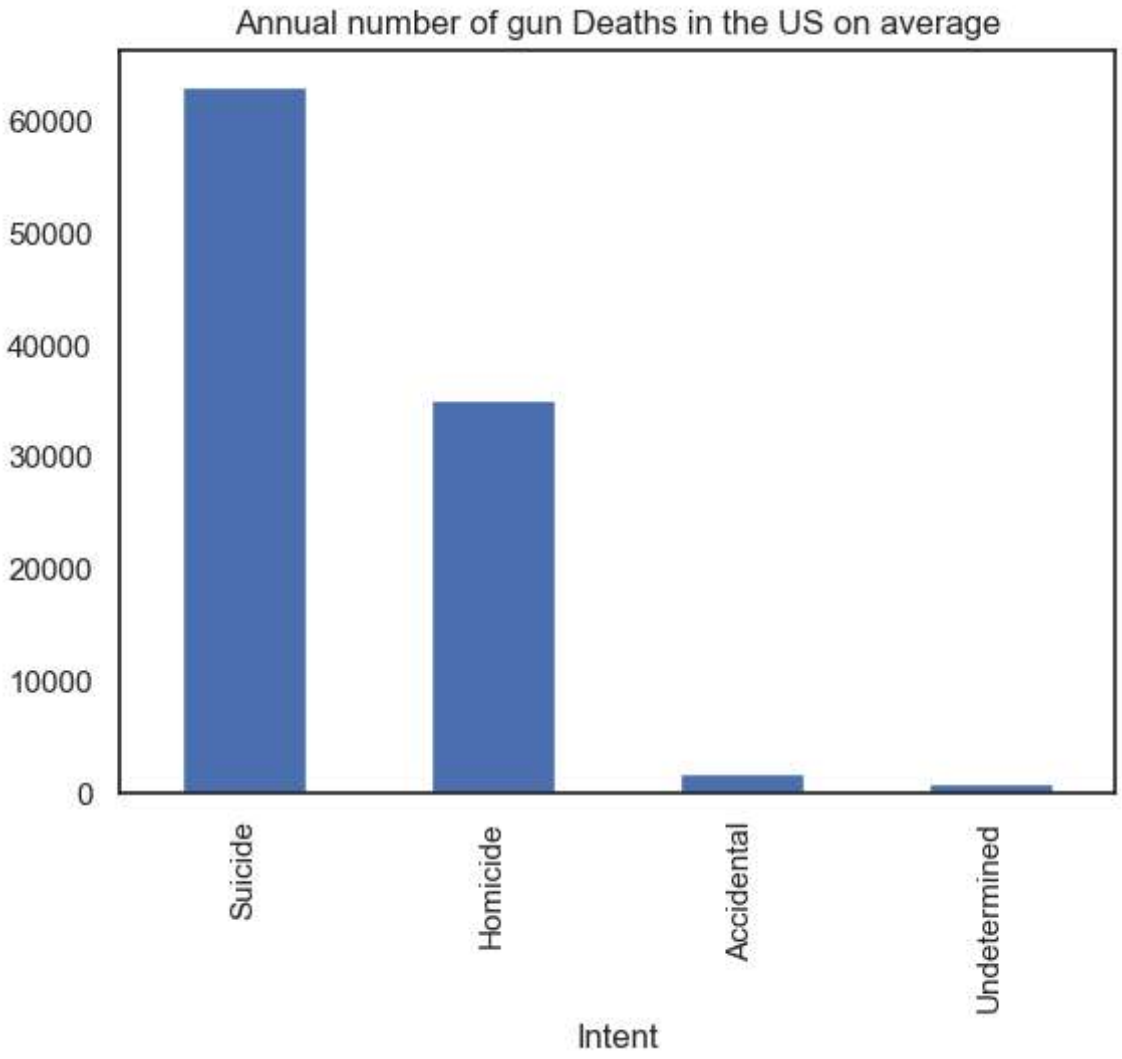


In [ ]:
```
dataset_byrace
```

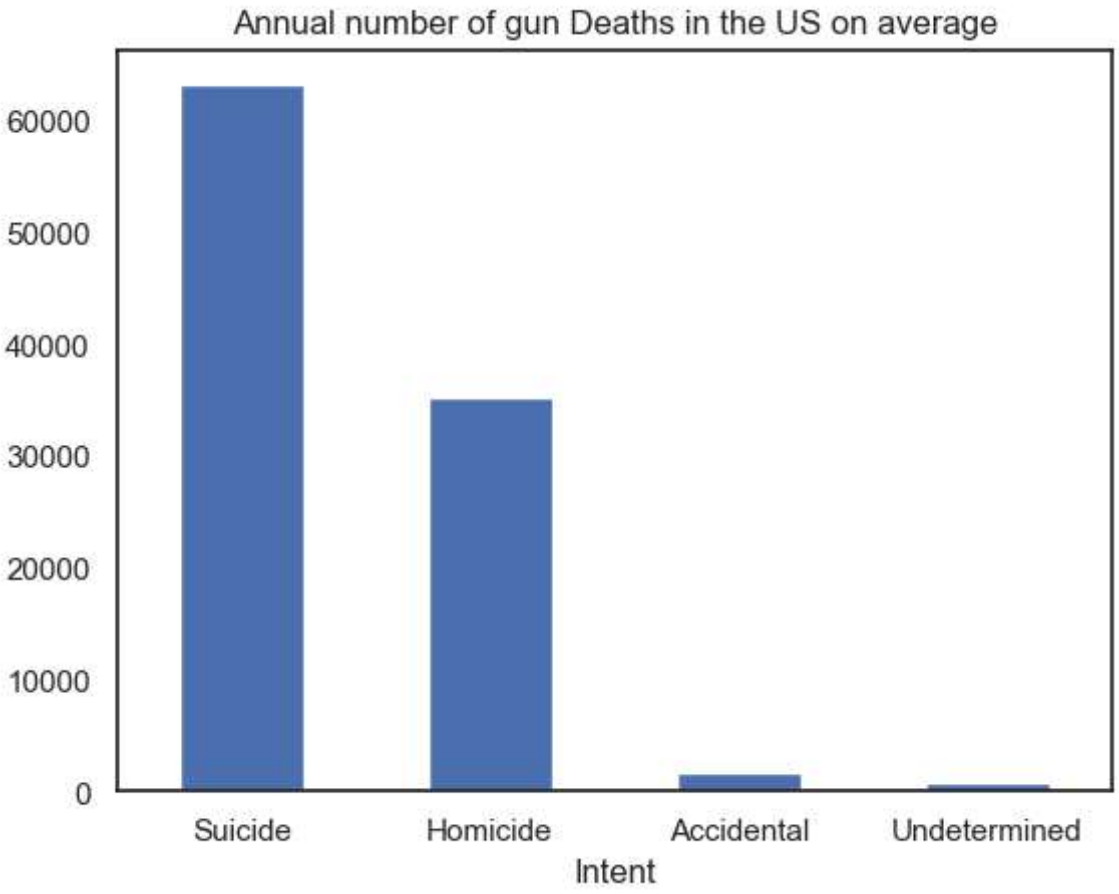
Visualizing Gun Death by Cause

In [ ]:
```
dataset_byrace.Intent.value_counts(sort=True).plot.bar(title= 'Annual number of gun
```

Out[ ]:
```
<Axes: title={'center': 'Annual number of gun Deaths in the US on average'}, xlabe
l='Intent'>
```



In [ ]:
```
import matplotlib.pyplot as plt

ax = dataset_byrace.Intent.value_counts(sort=True).plot.bar(title='Annual number of

ax.set_xticklabels(ax.get_xticklabels(), rotation=0)

plt.show()
```



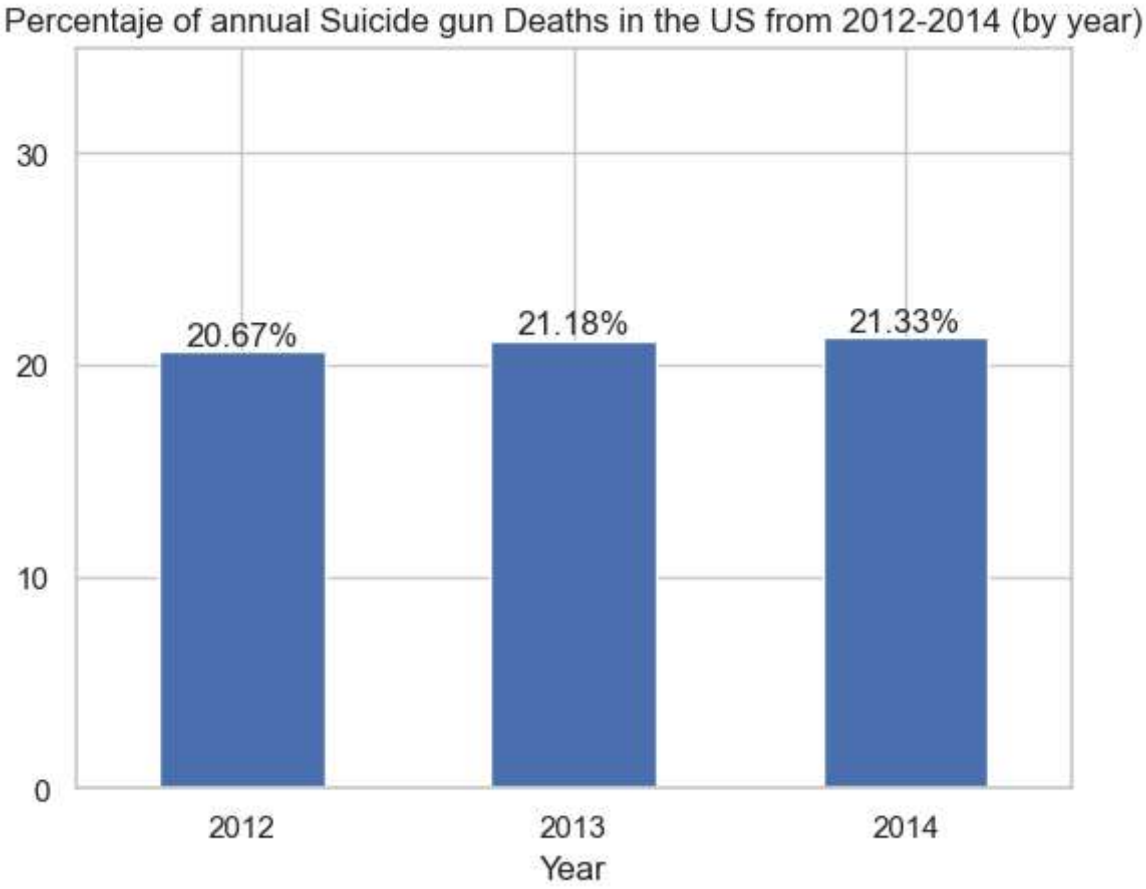
Visualizing Gun Death by year

In [ ]:
```
dataset_suicide= df[df["Intent"] == "Suicide"]
datasetSuicide=dataset_suicide.Year.value_counts(ascending=False) *100/100000
datasetSuicide.sort_values(ascending=True)
```

Out[ ]:
```
Year
2012    20.666
2013    21.175
2014    21.334
Name: count, dtype: float64
```

In [ ]:
```
import matplotlib.pyplot as plt

ax = datasetSuicide.sort_values(ascending=True).plot.bar(title='Percentaje of annua


ax.set_ylim(0, 35)  # Establece los límites del eje y de 0 a 35
ax.set_yticks(range(0, 31, 10))  # Establece los intervalos del eje y de 10 en 10

# Agregar etiquetas de datos a cada barra
for bar in ax.patches:
    ax.annotate(format(bar.get_height(), '.2f') + '%',
                (bar.get_x() + bar.get_width() / 2, bar.get_height()),
                ha='center', va='bottom')
```

```
# Ajustar la rotación de las etiquetas del eje x
ax.set_xticklabels(ax.get_xticklabels(), rotation=0)

plt.show()
```



Summary of the data

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2. What is the number of gun deaths in the US per a 100,000 population from 2012-2014? The highest number of death is for white people, then black, and the hispanic
3. What are the annual number of gun deaths in the US on averga? There is a high number of suicide and homocide death compared to a low number of deaths due to accidents
4. What is the 100, 000 percentage of annual gun deaths tolls in the US? The 100,000 percentages shows that there are 60 suicide cases for every 100,000 people, which could be considered not a high rate. But there are 30 homicide cases for every 100,000 people.

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