Cases of Crimes against women

In [1]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
from plotly.offline import download_plotlyjs, init_notebook_mode, plot, iplot
import plotly.express as px
import plotly.graph_objects as go
import plotly.figure_factory as ff
from plotly.colors import n_colors
from plotly.subplots import make_subplots
```

In [2]:
```
victims = pd.read_csv('D:/__studymaterial__/7-sem/Capston Project/Crimes_India/20_Victims_of_rape.csv')
```

In [3]:
```
victims.head()
```

Out[3]:

	Area_Name	Year	Subgroup	Rape_Cases_Reported	Victims_Above_50_Yrs	Victims_Between_10-14_Yrs	Victims_Between_14-18_Yrs	Victims_Betwee 3
0	Andaman & Nicobar Islands	2001	Total Rape Victims	3	0	0	3	
1	Andaman & Nicobar Islands	2001	Victims of Incest Rape	1	0	0	1	
2	Andaman & Nicobar Islands	2001	Victims of Other Rape	2	0	0	2	
3	Andaman & Nicobar Islands	2002	Total Rape Victims	2	0	0	1	
4	Andaman & Nicobar Islands	2002	Victims of Incest Rape	0	0	0	0	

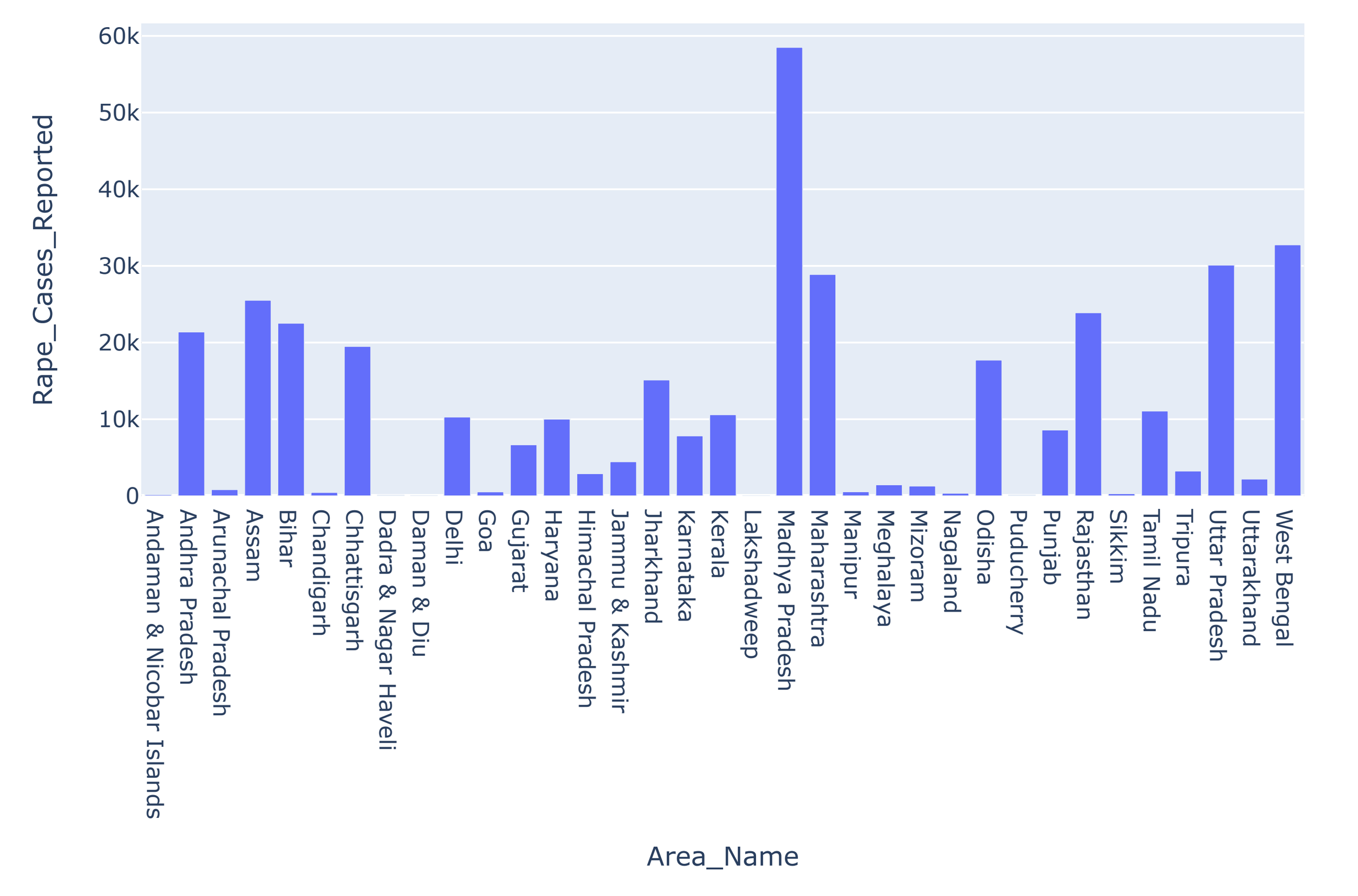
In [4]:
```
victims.describe()
```

Out[4]:

	Year	Rape_Cases_Reported	Victims_Above_50_Yrs	Victims_Between_10-14_Yrs	Victims_Between_14-18_Yrs	Victims_Between_18-30_Yrs	Victims
count	1050.00000	1050.000000	1050.000000	1050.000000	1050.000000	1050.000000	
mean	2005.50000	361.920000	1.866667	23.657143	53.085714	212.937143	
std	2.87365	592.180572	4.640286	50.677418	115.127899	350.135760	
min	2001.00000	0.000000	0.000000	0.000000	0.000000	0.000000	
25%	2003.00000	4.000000	0.000000	0.000000	0.000000	1.000000	
50%	2005.50000	37.000000	0.000000	3.000000	5.000000	15.500000	
75%	2008.00000	527.500000	1.000000	19.000000	42.000000	308.000000	
max	2010.00000	3135.000000	43.000000	416.000000	826.000000	1835.000000	

In [5]:
```
areawise_df = victims.groupby(['Area_Name'])['Rape_Cases_Reported'].sum().reset_index()
```

In [6]:
```
fig = px.bar(areawise_df,x='Area_Name',y='Rape_Cases_Reported')
fig.show()
```



Rape_Cases_Reported
60k
50k
40k
30k
20k
10k
0
Andaman & Nicobar Islands
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Dadra & Nagar Haveli
Daman & Diu
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu & Kashmir
Jharkhand
Karnataka
Kerala
Lakshadweep
Madhya Pradesh
Maharashtra
Manipur
Meghalaya
Mizoram
Nagaland
Odisha
Puducherry
Punjab
Rajasthan
Sikkim
Tamil Nadu
Tripura
Uttar Pradesh
Uttarakhand
West Bengal
Area_Name

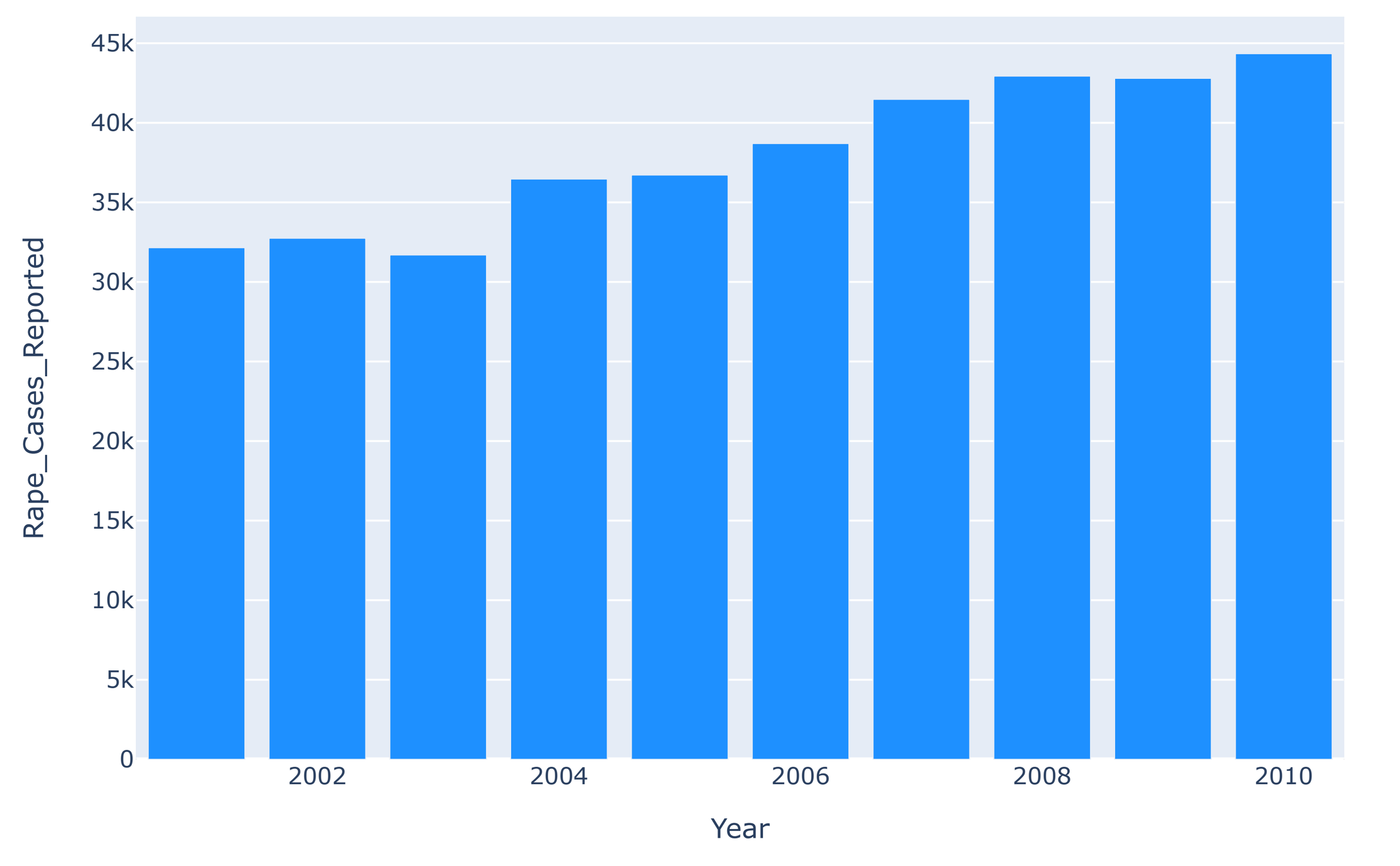
Year-wise crime

In [7]:
```
yearwise = victims.groupby(['Year'])['Rape_Cases_Reported'].sum().reset_index()
yearwise.head()
```

Out[7]:

	Year	Rape_Cases_Reported
0	2001	32150
1	2002	32746
2	2003	31694
3	2004	36466
4	2005	36718

In [8]:
```
fig = px.bar(yearwise,x = 'Year',y='Rape_Cases_Reported',color_discrete_sequence=['dodgerblue'])
fig.show()
```



age_wise group victims

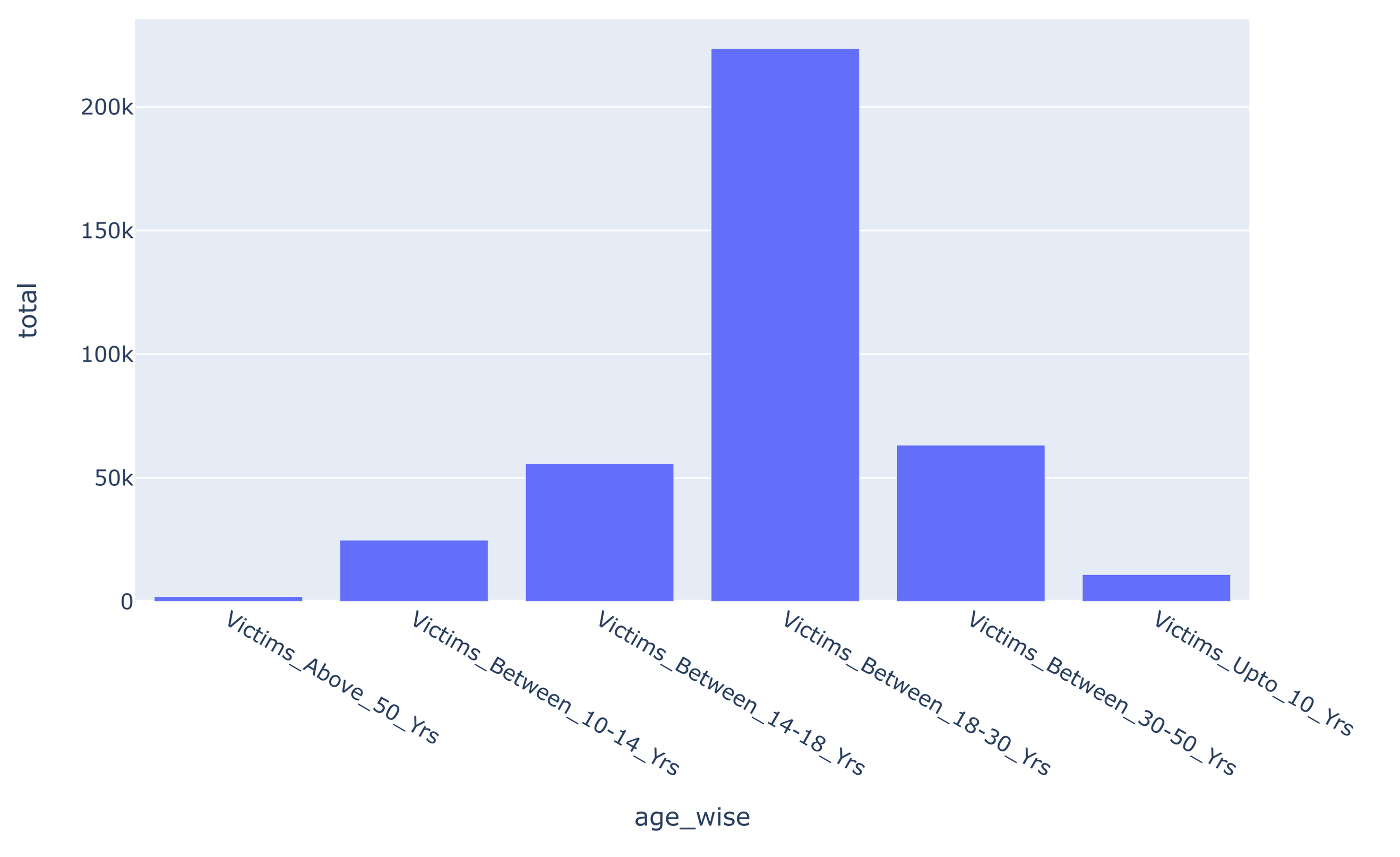
In [9]:
```
victims.columns
```

Out[9]:
```
Index(['Area_Name', 'Year', 'Subgroup', 'Rape_Cases_Reported',
       'Victims_Above_50_Yrs', 'Victims_Between_10-14_Yrs',
       'Victims_Between_14-18_Yrs', 'Victims_Between_18-30_Yrs',
       'Victims_Between_30-50_Yrs', 'Victims_of_Rape_Total',
       'Victims_Upto_10_Yrs'],
      dtype='object')
```

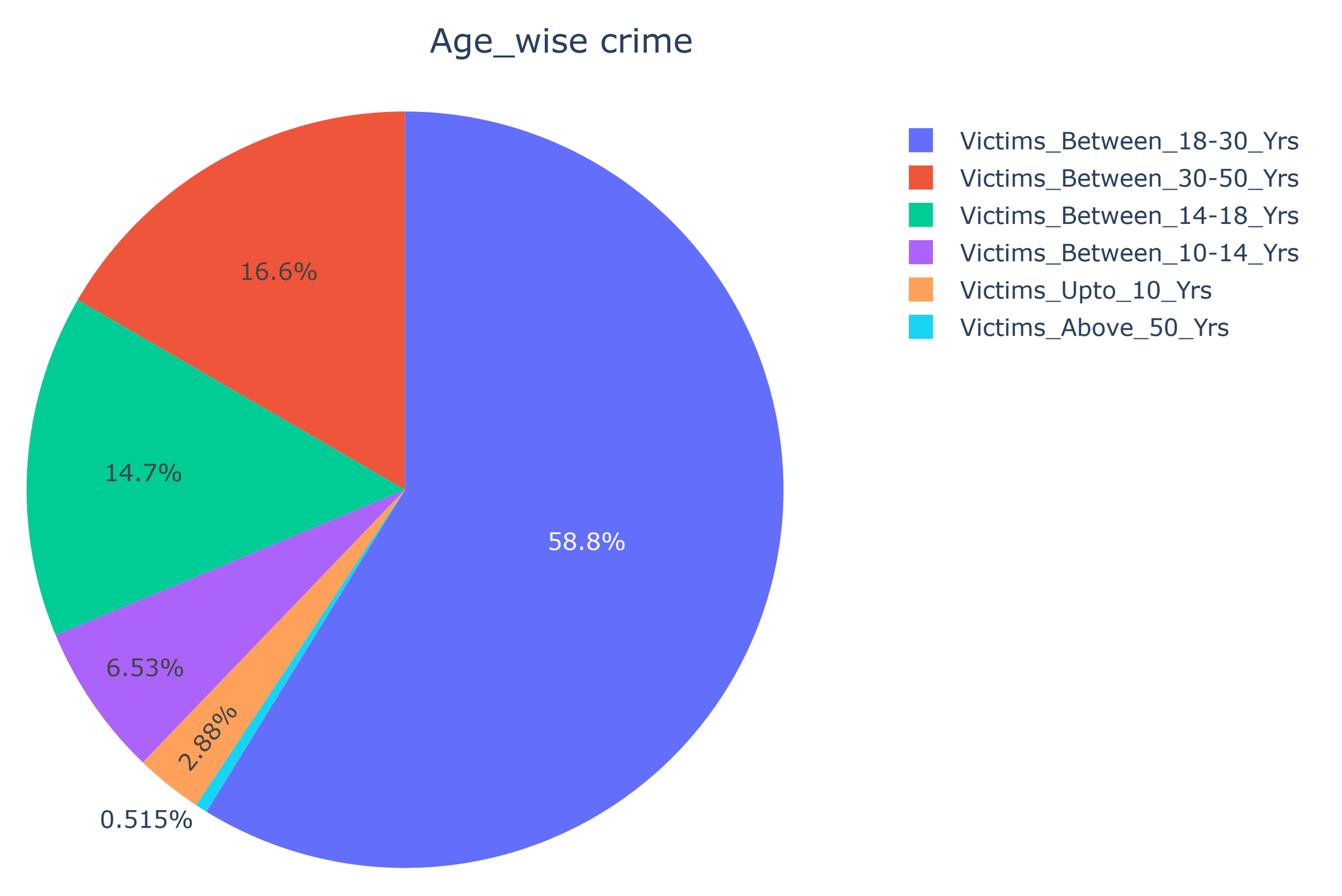
In [10]:
```
age_wise = np.append(victims[victims.columns[4:9]].sum(),victims[victims.columns[10]].sum())

agewise_name = ['Victims_Above_50_Yrs', 'Victims_Between_10-14_Yrs',
       'Victims_Between_14-18_Yrs', 'Victims_Between_18-30_Yrs',
       'Victims_Between_30-50_Yrs','Victims_Upto_10_Yrs']

age_wise_dict = dict(zip(agewise_name,age_wise))
```

In [ ]:

In [11]:
```
age_wise_df = pd.DataFrame.from_dict(age_wise_dict,orient='index',columns=['total']).reset_index()
age_wise_df.rename(columns={'index':'age_wise'},inplace=True)

fig = px.bar(age_wise_df,x='age_wise',y='total')
fig.show()
```



In [12]:
```
fig = px.pie(age_wise_df,values='total',names='age_wise')
fig.update_layout(title_text='Age_wise crime',title_x=0.5)
fig.show()
```



Human Rights Voilation by Police

In [13]:
```
rights_voilation=pd.read_csv('D:/__studymaterial__/7-sem/Capston Project/Crimes_India/35_Human_rights_v
iolation_by_police.csv')
rights_voilation.rename(columns={'Cases_Registered_under_Human_Rights_Violations':'Cases_Registered_HR
V'},inplace=True)
rights_voilation.head()
```

Out[13]:

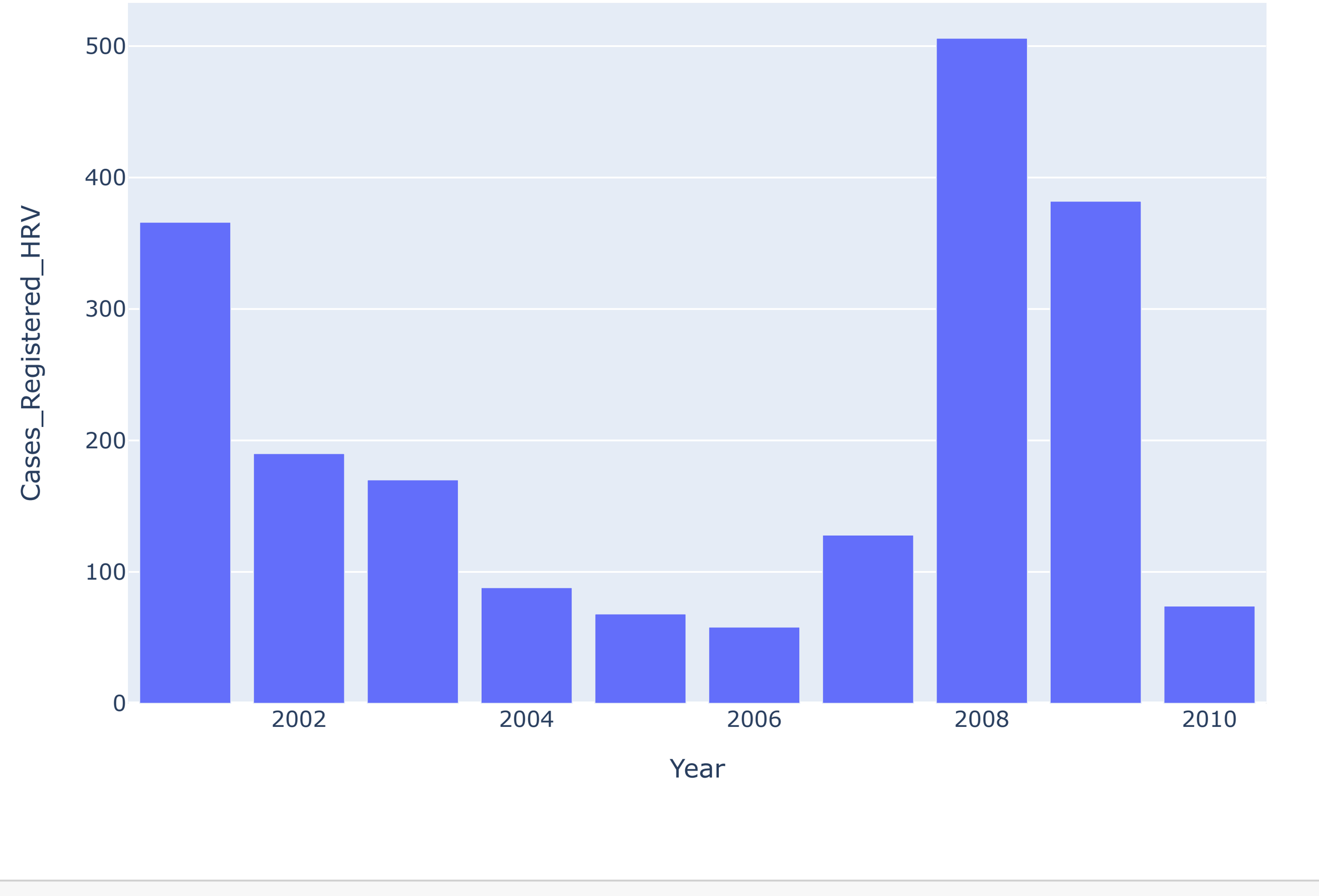
	Area_Name	Year	Group_Name	Sub_Group_Name	Cases_Registered_HRV	Policemen_Chargesheeted	Policemen_Convicted
0	Andhra Pradesh	2001	HR_Disappearance of Persons	01. Disappearance of Persons	0.0	0.0	0.0
1	Arunachal Pradesh	2001	HR_Disappearance of Persons	01. Disappearance of Persons	0.0	0.0	0.0
2	Assam	2001	HR_Disappearance of Persons	01. Disappearance of Persons	0.0	0.0	0.0
3	Bihar	2001	HR_Disappearance of Persons	01. Disappearance of Persons	0.0	0.0	0.0
4	Chandigarh	2001	HR_Disappearance of Persons	01. Disappearance of Persons	0.0	0.0	0.0

In [14]:
```
rights_voilation.columns
```

Out[14]:
```
Index(['Area_Name', 'Year', 'Group_Name', 'Sub_Group_Name',
       'Cases_Registered_HRV', 'Policemen_Chargesheeted',
       'Policemen_Convicted'],
      dtype='object')
```

In [15]:
```
year_HRV = rights_voilation.groupby(['Year'])['Cases_Registered_HRV'].sum().reset_index()
```

In [16]:
```
fig = px.bar(year_HRV,x='Year',y='Cases_Registered_HRV')
fig.show()
```



In [17]:
```
year_police_convicted =  rights_voilation.groupby(['Year'])['Policemen_Chargesheeted', 'Policemen_Convi
cted'].sum().reset_index()
```
```
<ipython-input-17-8b621a1c2d28>:1: FutureWarning:

Indexing with multiple keys (implicitly converted to a tuple of keys) will be deprecated, use a list
instead.
```

Types of Human Rights violations

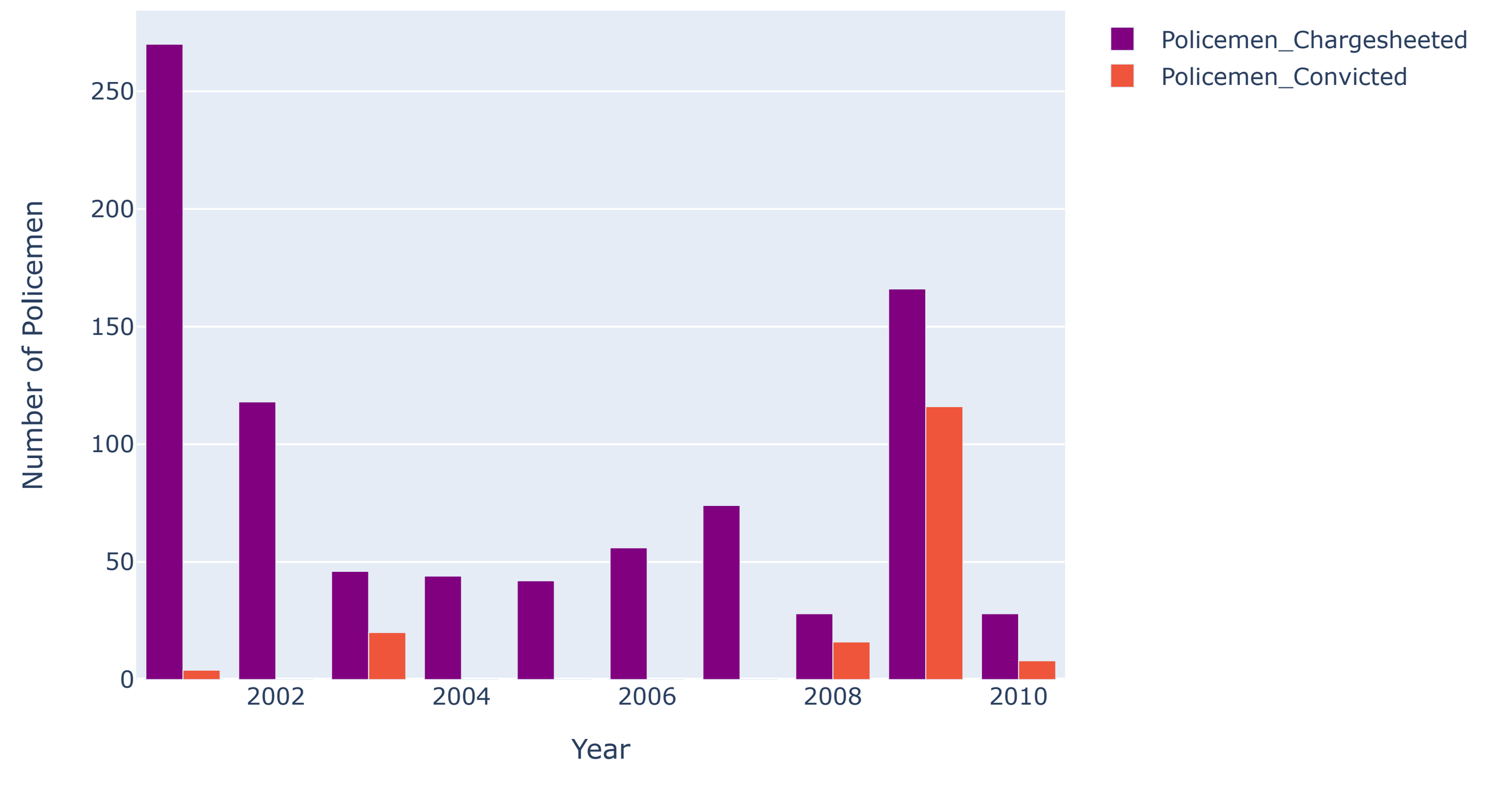
In [18]:
```
a = rights_voilation['Group_Name'].value_counts()
b = rights_voilation['Group_Name'].unique()
c = dict(zip(b,a))

type_HRV = pd.DataFrame.from_dict(c,orient='index',columns=['total_Cases']).reset_index().rename(column
s={'index':'Types of cases'})
type_HRV
```

Out[18]:

	Types of cases	total_Cases
0	HR_Disappearance of Persons	214
1	HR_Illegal detention/arrests	194
2	HR_Fake encounter killings	190
3	HR_Violation against Terrorists/Extremists	190
4	HR_Extortion	190
5	HR_Torture	188
6	HR_False implication	186
7	HR_Failure in taking action	185
8	HR_Indignity to Women	185
9	HR_Atrocities on SC/ST	182
10	HR_Others Violations by Police	182
11	HR_Total Violations by Police	181

Policemen Chargesheeted vs Policemen Convicted

In [19]:
```
police_charges= rights_voilation.groupby(['Year'])['Policemen_Chargesheeted','Policemen_Convicted'].sum
().reset_index()
year=['2001','2002','2003','2004','2005','2006','2007','2008','2009','2010']
fig = go.Figure(data=[
        go.Bar(name='Policemen_Chargesheeted',x=year,y= police_charges['Policemen_Chargesheeted'],marke
r_color='purple'),go.Bar             (name='Policemen_Convicted',x = year,y = police_charges['Policem
en_Convicted'])
        ])
fig.update_layout(barmode='group',title='Police Charged & Convicted',title_x=0.5,xaxis_title='Year',yax
is_title='Number of Policemen')
fig.show()
```
```
<ipython-input-19-681949c01b01>:1: FutureWarning:

Indexing with multiple keys (implicitly converted to a tuple of keys) will be deprecated, use a list
instead.
```



In [ ]: