Background:
In recent years, the Multiple Sclerosis (MS) prevalence has increased significantly in Tehran. Positive familial history of MS is one of the known factors increasing the risk of MS presentation. In this study we estimated the prevalence and incidence of MS in Tehran in year 2016 while assessing associations among most important baseline characteristics of the patients.

Methods:
In this cross-sectional population-based study based on Iranian MS Society data from 1999 to 2016 we investigated most important variables related to the individual level for familial MS (gender, age a disease onset, and familial history of MS). An independent-samples t-test was conducted to compare the onset age in female and males. Multiple regression was used to indicate the predictors of onset age of MS via SPSS.

Results:
18061 MS patients were included. The crude prevalence was 136/100000 (95% CI: 114-160), the age standardized prevalence was 116/100000 in 2016 (95% CI: 96-139), with female to male ratio of 3.06:1. MS age standardized incidence rate was 1.8/100000 of population (95% CI: 1.3-7.2). 6.89% of the population had early onset MS (<=18 years old). 13.37% of male patients and 12.24% of female patients had a history of familial MS which was significantly different between them (χ²(1, N = 18,051) = 3.85, p=0.05). 14.86% of the individuals with early onset MS had familial history of MS comparing to 12.35% of the individuals with onset age more than 18 years old, χ²(1, N=18,052) = 6.68, p=0.01. The mean onset age of MS was 28.50, in individuals without familial history of MS (M=28.56 (95% CI:28.42-28.70) (p=0.007), 29.15 in males (28.88-29.42) and 28.29 in females (28.14-28.43). Gender was a strong significant predictor for onset age (coef. =-.86, p<0.001).

Conclusions:
While having increased MS prevalence in Tehran, the female to male ratio and incidence rate (comparing to previous studies) have decreased. The mean onset age of MS was significantly higher in individuals without familial history than individuals with history of familial MS. Therefore, further research on genetic epidemiology of MS is needed.