

Familial MS observed among 13.04% of patients. The age standardized prevalence of FMS increased from 9.3 to 18.3 per 100,000 during the study period. The FMS recurrence was significantly higher in female than male ( $P = 0.001$ ). Mean age of MS onset was 28.49 years old and FMS had significantly lower age than sporadic MS ( $P = 0.036$ ). The occurrence of POMS was higher in patients with FMS compared to those without family history (8.1% vs. 6.6%). The majority of FMS cases were in first degree of relatives, with the highest rate among siblings (35.38%). Significantly higher frequency of FMS was among pediatrics than adults (15.8% vs. 13.2%,  $P = 0.007$ ). The strongest association among POMS was found for mother ( $p = 0.002$ ) and paternal grandmother/grandfather ( $p = 0.009$ ). The higher probability of MS occurrences between mother and offspring (7.99%) than between father and offspring (2.34%) was observed.

The increasing prevalence of FMS particularly among POMS in Tehran and displayed a parent-child pairs highlighted more examination on the significant role of genetic and environmental mechanisms in FMS pathogenesis.

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### Incidence and Prevalence of Multiple Sclerosis in the Sultanate of Oman: A Hospital Based Study

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The prevalence of multiple sclerosis (MS) is changing globally. In this study, we aim to estimate the incidence and prevalence of MS in Oman over the period from 2006-2019.

This is a retrospective observational hospital-based study. Omani patients with Multiple Sclerosis (MS) are recruited MS patients from the two major referral Neurology centres in Oman viz. Sultan Qaboos University Hospital and Khoula Hospital for this observational study. All Omani adult patients who were diagnosed with MS based on the revised McDonald criteria over the period from January 2006 to May 2019 were included. The total population of Oman as of June 2019 was obtained from the national census data. We retrieved the following data from the electronic case records: age at disease onset, gender and the year of diagnosis.

Based on the national census data, the total Omani population was 2,652,199 (as of June 2019). Four hundred and twenty-two (422) patients were diagnosed with MS during the study period. The estimated crude prevalence was 15.9 per 100,000, with a female to male ratio of 2.2:1 and with the initial MS symptoms occurring at a mean age of 27.3 years (S.D: 7.7 years; range: 9-59 years). Eighty three percent of the patients had the disease onset between the age of 19-40 years and 9% had the initial manifestation at less than 19 years of age. The annual incidence had increased from 1.00 case per 100,000 in 2015 to 1.37 cases per 100,000 in 2018.

MS prevalence in Omani population has increased from 4 per 100,000 in 2000 (based on the previously published hospital-based study from Oman) to 15.9 per 100,000 in the current study. Oman should be considered as medium risk zone for MS. It is to be noted that the MS prevalence in Oman is the lowest among the Arabian Gulf countries. The increase in MS annual incidence rate in Oman is similar

to what has been observed globally. Further studies are needed to assess the specific risks for MS in our population.

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### An Increase in the Prevalence of Multiple Sclerosis Has Moved Kuwait to a High-Risk Zone

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The national Multiple Sclerosis (MS) registry continues to assess the change in epidemiological status. The last reported data was in 2012. We aimed to update the prevalence and incidence rates of MS among Kuwaiti nationals

Cross-sectional study was conducted by extracting data from the national registry. Patients with a diagnosis of MS according to 2017 revised McDonald criteria were identified. Patients with possible MS or other demyelinating disorders were excluded. Population census with a cutoff on 30th June 2018 was obtained from Kuwait Bureau of Statistics to determine the number of people at risk. The crude, age- and sex-specific prevalence and incidence rates among Kuwaiti Patients were calculated.

1722 MS patients were identified of which 1454 (84.4%) were Kuwaitis. Women represented 66.8% of the cohort with female to male ratio of 2.01:1. The mean age of the cohort was  $36.7 \pm 10.7$  years while the mean age at onset and disease duration were  $27.2 \pm 8.8$  and  $10.1 \pm 7.3$  years respectively. The point prevalence of MS was 104.88 (95% CI: 89.5-121.9) per 100,000 persons, which increased 1.6 times since 2012. Women had a prevalence of 137.1 (95% CI: 129.3-145.3) compared to men 71.2 (95% CI: 65.3-77.6). The prevalence among the age ranges of  $\leq 19$ , 20-29, 30-39, 40-39, 50-59, and  $\geq 60$  years were 15.5, 147.8, 271.4, 230.9, 174.4 and 36.9 per 100,000 persons respectively. The incidence of MS was 5.39 (95%CI: 4.3-6.8) per 100,000 persons. The 5-year incidence was 6.4, which has been stable since the last reported rate.

There is an ongoing increase in the prevalence of MS. According to the Kurtzke geographical distribution, Kuwait is considered a high-risk geographical area for MS. Women had a higher prevalence with a peak among patients aged 30-39 years. The incidence rate has been stable throughout the last 5 years.

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### Epidemiology of Neuromyelitis Optica Spectrum Disorders Patients in Kuwait

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Neuromyelitis Optica Spectrum Disorders (NMOSD) is a rare disorder with prevalence ranging from 0.4-5 per 100,000 across the world. No data has been published from Kuwait.