

Functional movement disorders in Italy: frequency, phenotypes and outcomes in an Italian cohort

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Objectives and background: Functional movement disorders (FMD) are a relatively new clinical entity characterized by a broad range of symptoms not explained by a classical neurological disease [1]. The exact prevalence of these disorders is not known, but studies estimate that it varies between 2 and 4% [1–3], although it can reach 20% in some centres [4]. Only a few reports focused on FMD epidemiology and no reports from European countries are available. The purpose of this study is to provide additional data from our Movement Disorder Outpatient Clinic on the epidemiology and clinical profile of this type of movement disorder.

Methods: To assess the prevalence and clinical patterns of movement disorders, we reviewed all the available medical records of a large cohort of patients who consecutively attended the Movement Disorders Outpatient Clinic at Fondazione Policlinico Universitario "Agostino Gemelli" IRCCS from December 2014 to May 2016. We recorded the following data for all study participants: age, sex, symptoms and clinical characteristics, specifically age at onset, comorbid conditions with focus on psychiatric disorders, concomitant neurological medications and movement disorders phenotype. All diagnoses have been reviewed in 2021. Patients were clustered in two groups, FMD patients and organic movement disorder (OMD) patients. A statistical analysis using SPSS25 for Mac was conducted. Differences between the two groups in clinical-demographic features were assessed using Chi-squared test and Mann-Whitney test. A $p < 0.05$ have been considered statistically significant.

Results: 999 records from patients diagnosed with a movement disorder were analysed. 17 patients (1.7%) had a diagnosis of FMD and 982 (98.3%) a diagnosis of OMD.

Functional patients were younger at diagnosis (mean age at diagnosis 46 ± 20 y) than OMD patients (mean age at diagnosis 64 ± 17 y) ($p = 0.003$). Sex was equally distributed between the two groups, with 497 men and 495 women.

A family history of movement disorders was found in 22% of patients, with no substantial differences between the two groups. The most common movement disorder in both groups was upper limb tremor (51% of neurological and 53% of functional, $p = 0.91$), followed by akinesia and dystonia in OMD patients and by dystonia and hemifacial spasm in FMD patients. In particular, hemifacial spasm was significantly more frequent in the FMD than in OMD patients (17% vs 3%, $p = 0.00066$). With respect to comorbidities, a history of orthopaedic disorders was present in 34% of patients, neoplastic diseases in 33%, and hypertension in 38% of patients; hypotension, on the other hand, was rare (only 3% of the total). There were no differences between the groups. In both groups, depression was the most common psychiatric comorbidity (59% of FMD and 33% of OMD, $p = 0.08$), followed by anxiety (59% in FMD, 23% in OMD, $p = 0.004$).

Past traumatic events were more frequently reported in the FMD group (29% of FMD and 3% of OMD patients, $p = 0.00001$).

Discussion and conclusions: Our data is globally in agreement with findings from other studies in

different populations. Indeed, the percentage of 1.7% FMD in our population is similar to that reported in the literature [1–3], even though some report higher numbers [4]. This is probably related to the characteristics of the recruiting sites, which can be more specialised in these disorders and can therefore report higher rates of FMD. Interestingly, we found no prevalence differences between males and females with FMD. Probably, this is due to the fact that being FMD a rare movement disorders, the sample size was too small. However, from records of functional patients who attended our centre in the following two years, we found a female prevalence (out of 67 subjects, 44 (66%) were females, and 23 (34%) were males).

Other clinical-demographic features were similar to those previously reported [2–4]. Indeed, the age at diagnosis in FMD patients is lower than in patients OMD. Furthermore, psychiatric comorbidities, and especially anxiety, are more frequent in patients with FMD.

Among the movement disorder phenotype, we confirmed that hyperkinetic movement disorders are more frequent, and especially tremor, followed by dystonia and hemifacial spasm.

In conclusion, our study confirms the previously reported clinic-demographic characteristics of FMD patients also in an Italian cohort.

References

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