

# The link between migraine and functional neurological disorder; a high prevalence of undertreatment

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## Introduction

Migraine and Functional Neurological Disorder (FND) are two common neurological conditions associated with significant morbidity in working age adults.

With FND, **39% of patients stay the same or deteriorate on long-term follow up**, highlighting the need for new innovations in treatment (1). It is well established that FND patients benefit from an interdisciplinary treatment approach where physical and psychological comorbidities, such as migraine, are recognised and managed appropriately (2)

Studies have generally shown variable rates of migraine in FND patients, with estimates of the prevalence of migraine/headache in FND ranging from 6.3-40% (3,4). One study has shown that **reducing migraine in patients with psychogenic non-epileptic seizures improved symptom control** (5). Further research is needed to understand the effect that (under-)treatment of migraine has on functional neurological disorder.

## Aims

1. To estimate the prevalence of migraine in functional neurological disorder in patients attending a regional functional neurological disorders clinic.
2. To determine the percentage of referral letters to this clinic that mention the term 'migraine'.
3. In what proportion of patients with concomitant migraine and FND have adequate migraine treatment.

## Method

1. Patient information was obtained by cross referencing 'migraine' across all electronic clinic letters from one clinician working at a functional neurological disorders clinic between 2018-2019. The data was anonymised.
2. Letters were analysed to identify current or past migraine. Of these the number of patients with appropriate attack and prophylactic treatment were recorded. Patient letters stating prophylaxis treatment were analysed for a side effect assessment profile. The predisposing, precipitating and perpetuating factors for each patient's FND were documented.
3. By obtaining the number of new FND patients seen over the same period, the prevalence of current and past migraine in this cohort was calculated.
4. Referral letters of patients found to have concomitant migraine and FND were analysed to see whether the term 'migraine' was mentioned.

## Results

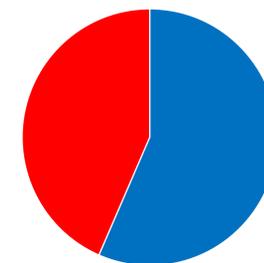
23 patients with FND were identified as having a history of migraine, with **20 reporting active migraine** and **3 reporting previous migraine**. With 230 new FND patients identified, the prevalence of current and past migraine was calculated to be 10%.

There was a mention of migraine in 57% of referral letters by mostly neurologists and occasionally GP's (13 patients) (Figure 1).

**Of the patients with active migraine 15 patients had inadequate migraine treatment, with 13 having inadequate attack treatment, and 7 having inadequate migraine prophylaxis.** 6 of 11 patient letters receiving migraine prophylaxis included a side effect assessment. Clinically it was felt that migraine affected FND symptoms in 18 of the 23 patients (Figure 2).

Migraine was found to be a predisposing, precipitating and a perpetuating factor in 16, 2 and 14 FND patients respectively (Figure 3).

'Migraine' mentioned in referral letter



■ Yes (13 patients) ■ No (10 patients)

Figure 1

Adequacy of treatment in patients with active migraine

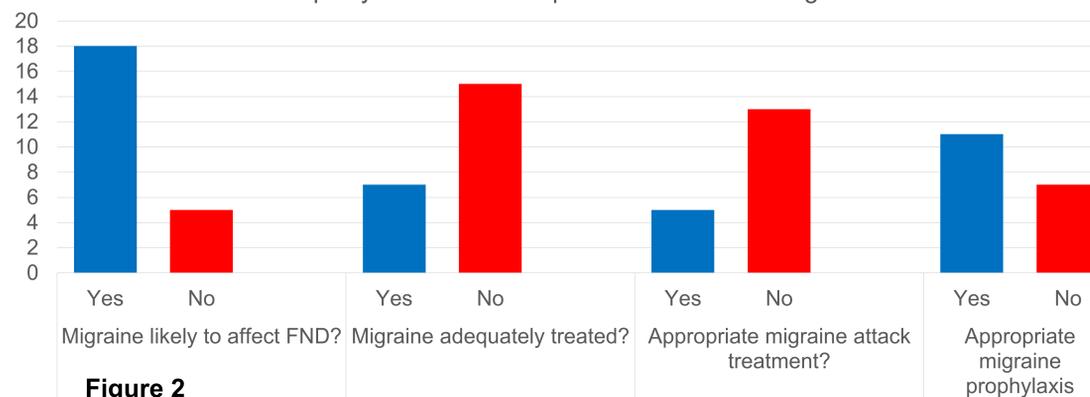


Figure 2

Predisposing, precipitating and perpetuating factors

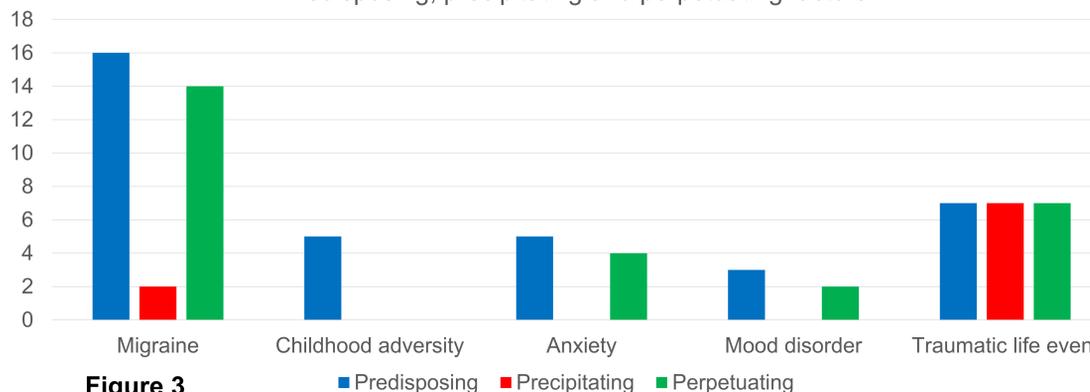


Figure 3

## Conclusion

The results of this analysis suggest a **high rates of under-recognition and undertreatment of migraine in patients with FND.**

It highlights the **importance of early detection of migraine**, asking patients about migraine symptoms and **ensuring appropriate attack and prophylaxis treatment regimens are in place.**

With other perpetuating factors present in this cohort such as untreated PTSD, anxiety and depression it further underlines the **importance of managing patients with FND in a holistic manner.**

## Future directions

Migraine was not systematically screened for in this clinic.

To improve our understanding of the relationship between migraine and FND further, larger data sets with systematic screening (and looking at migraine subtypes (e.g. chronic/episodic/aura/vestibular) are needed

With the heterogenous nature of functional neurological disorder, further research could investigate and compare the rates of migraine diagnoses and treatment in specific functional disorders like Persistent Postural-Perceptual Dizziness and functional seizures.

## References

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