Review of: "The Association Between Fibromyalgia, Hypermobility and Neurodivergence Extends to Families: Brief Report"

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Potential competing interests: No potential competing interests to declare.

Writing

The article is not easy to read. There is much information, but the connections among topics and between sentences are often lacking. Please try to present the data and ideas consequently, from the general to the more nuanced.

The sequence of the investigated conditions (fibromyalgia, hypermobility…) in the texts is changeable. A logical sequence seems: fist FM, then hypermobility and finally the (types of) neurodivergence. Please keep that throughout.

General

This study aims to explore associations between fibromyalgia (FM) when it is accompanied by symptomatic hypermobile Ehlers-Danlos syndrome (hypermobility) on the one side, and neurodivergence on the other site. As ‘neurodivergence’ have been considered ADHD, autism, and Gille de la Tourette syndrome (Tourette). The search for the above associations has been also extended to the relatives of the FM/hypermobility subjects.

This article came to existence by support and help of a patients’ community. This is laudable, this means a real patient participation.

As to rationale of the study and interpretation of the findings, I am missing a theory, vision to see the phenomena in their context. Author found statistical associations among affected individuals. But what are the underlying relationships, influences between the conditions? The study suggests that the above conditions are clustered in families. It is interesting to know what have other studies found and what Author hypothesizes about it. Hypermobility is probably genetic or at least inborn. Rationally, the relationship FM -hypermobility can be at a physical level: hypermobility may form a predisposing factor for FM because of some fragility in the joint-tendon construction. As to ADHD and autism, a possible connection with FM seems more complicated. The route will probably go through psychosocial domains; some characterological inborn traits can be of importance here. However, any connection of ADHD and/or autism with hypermobility seems me difficult to conceive. Neither association between Tourette and FM seems unrealistic and difficult to measure because Tourette is rare whereas FM condition is very often seen in primary care.

Specific:

Abstract:

As expounded below about other parts of the manuscript, it is unclear. The most striking is the fact that the words ADHD, autism and Tourette are lacking through the text.

Introduction:

The first three sentences are too compact and with too little coherence. (In the first one, Author says about the prevalence of FM. In the second one, that the combination of FM and hypermobility is increasing last years. The third sentence is about ADHD…).

Please give a short information about every conditions. What is FM? (chronic pain accompanied by…), what is definition of hypermobility (is that a low muscle tonus or rather a joint imperfection), and what does “symptomatic hypermobility” mean. Give a reference.

Several things should be clarified in Intro.

- Is there an association between FM and hypermobility (citation).
- Is there an association between FM (and hypermobility?) and neurodivergence.
- Give the definition of neurodivergence (citation)
- Finally, what is the purpose of the study.

The parts in Introduction about psychological distress, medication for ADHD can be better placed in Discussion section.

Methods:

The 3rd sentence in Methods is too long and unclear.

Line 6 in Methods: “… neurodivergent conditions (specifically ADHD, autism and Tourette’s)…” This is too vague. Probably these three conditions were chosen explicitly. Expound not only which (neurodivergence) conditions have been chosen in the study, but also why? I still not understand why it is chosen for Tourette, on which basis Tourette could be associates with FM and/or hypermobility.

It seems better to give simple names for FM/hypermobility group and control group. These “index cases” and “comparison cases” are confusing.

Explain why OA patients are used as controls.

Please make a separate para for statistics.

Results:

The results are difficult to follow.

In the first sentence one reads “Among the 13 index cases, 9 had been diagnosed as autistic (69%), compared to none of the comparison cases”. A reader expects here more information about neurodivergences found (or not found), that is lacking. If there is no more positive findings, it should be mentioned here.

In Results, there is much said about prevalence and here in the text are continual moves from index cases to controls and back again. This should be better structured. Please give first the general information and then more and more details. Keep also a fixed order of information. For example, what have been found generally in the relatives of the FM/hypermobility group: X persons with FM, XX with hypermobility, XXX with “neurodivergence” of the three types (in a fixed order). After that is a place to handle the offspring’s. Next, the same topics can be presented for the control group (with the statistical differences between brackets).

Figure 1. it would be clearer if the size of the circles have corresponded with the number of the cases.

Discussion:

Generally: It will be useful to expound in Discussion, orderly, what is known from literature about associations in both genetic and, as a contrast, psychosocial (if any) aspects between FM and hypermobility. In the second instance, to expound the same aspects in respect to FM/hypermobility versus neurodivergences, and which types. If genetics are non-issue or are not known, Author can fully focus on psychosocial aspects of the conditions. It is interesting that the above conditions are clustering in families and society. There are much possibilities to explain that. Discussion section is the place to show conformities and oppositions between findings of others and the yours.

In detail: Pg 5, para 3: Please mention in the first sentence of Discussion what is the most important finding from the study. Then expound consequently other findings in the 1st paragraph. The explanation why you have chosen OA patients as controls doesn’t fit here, please shift that to Methods.

Again Pg 5 para 3, the sentence about OA: “…many immune disorders are increased in prevalence among neurodivergent people.” A reference is lacking.

Pg 5 para 4: “…arising from these conditions…” This is not clear, which conditions?

Pg 6, para 2: “The presence of hypermobility may mediate the relationship between neurodivergence and chronic pain in FM.” This is unclear, please explain how.

At pg. 6, Author writes “The association between FM and neurodivergent conditions is under-appreciated by many clinicians… many young people are struggling with their identity. Pain in all its manifestations… Understanding how best to respond to young people's emotional and social issues is fundamental to providing an efficient and cost-effective health system. “

This is said too cryptically. Please be clear. Will Author say that, when a young patient is presenting with pain, the clinician

should try and see underlying psychosocial problems? And the clinician should discuss these underlying problems or conditions to efficiently help an individual?

I am missing the following aspect: we are testing to make a “diagnosis”. We are again eagerly testing to “understand” a child that is out of the main stream. If an examiner try to be excellent, he/she tests a young individual earlier and earlier, and more extensive. But, if “many young people are struggling…” and have “emotional and social” problems, it can be that our society is little tolerant? Why are we looking at diversity or divergence with a suspicious eye? If an individual doesn’t fit in a system, there can be something wrong with the person, but these “many young people” seems too much. Perhaps is the system too rigid. Let’s us test less and judge more individually. Let’s us judge by positivity and not negativity. No genius without diversity!

Pg 6: “This study *is very relevant* to today's society”. I would say ‘may be relevant’ because the last word is to the reader.

I agree with Author that psychological and physical safety in childhood, and pedagogical environment are of importance and will improve or worsen the presentation of FM and others. It is conceivable that, as to neurodivergent people, if a person has a low self-esteem, works too hard for compensation while receiving little appreciation, then psychosomatic symptoms such as FM may appear.

Pg 6 para 3: the explanation of weaknesses of the study is good.

Summary:

1st sentence, “hospital clinical”, must be clinic?

Here again the sequence of the pathological conditions seems not logical. I would say, fist FM, then hypermobility and finally the neurodivergence.