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## INTRODUCTION

Idiopathic multicentric Castleman disease (iMCD) is a rare lymphoproliferative disorder driven by proinflammatory hypercytokinaemia. The presentation of iMCD is heterogeneous, ranging from mild constitutional symptoms to chronic burdensome symptoms and, in extreme cases, life-threatening multi-organ failure. Consequently, disease-related symptoms in patients with iMCD are likely to adversely impact daily life. To date, characterization of symptom burden and their impact on daily living in patients with iMCD has not been systematically studied.

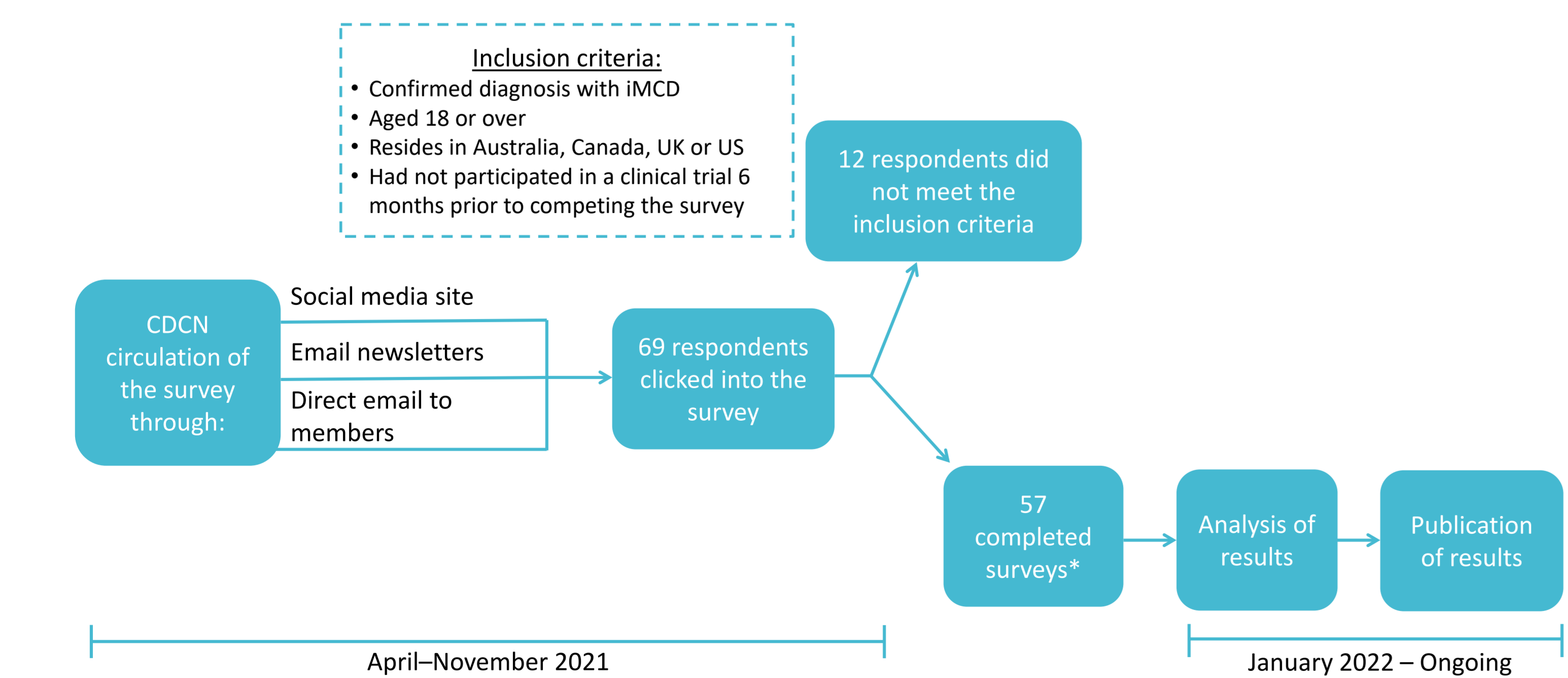
## OBJECTIVE

We aimed to investigate, characterize, and map the symptoms and associated burden on daily life experienced by patients with various subtypes of iMCD.

## METHOD

We developed an international patient-based online survey informed by clinical practice and published literature to elicit the burden of disease-related symptoms and effects of symptoms on daily life, from a patient perspective. Eligible patients were > 18 years old with a physician-confirmed diagnosis of iMCD-NOS (not otherwise specified), TAFRO (thrombocytopenia, anasarca, reticulon fibrosis of the bone marrow, renal dysfunction and organomegaly) and POEMS-associated MCD (multicentric Castleman disease with polyneuropathy, organomegaly, endocrinopathy, monoclonal protein and skin changes). This survey was shared with iMCD communities in Australia, Canada, the UK and the US via the Castleman Disease Collaborative Network (CDCN). Burden of illness (BOI) was quantitatively measured using a 5-point frequency Likert scale (from 0 'Does not affect my daily life' to 4 'Very severely affects my daily life'), and mean impact scores (MIS) were calculated. Ethics approvals/waivers were attained for this one-time, cross-sectional, bespoke 47-question survey. In addition to investigating the symptoms and associated burden on daily life, the survey explored topics such as treatment satisfaction, the treatments patients currently receive for their iMCD, and the overall burden iMCD has on patients' daily life, such as impact on productivity, emotional wellbeing and relationships. This poster focuses on the reported symptoms of iMCD and their associated burden on patients' daily life. The study design can be seen in Figure 1.

Figure 1: Study design



Key: \* Please note, not all questions were mandatory, and overall response rate per question may therefore differ. Post-hoc hypothesis generation was conducted to test the reliability and consistency of our survey responses between September and December 2021.

## RESULTS

A total of 57 patient responses were collected between April and November 2021. A summary of the background of patients can be found in Table 1.

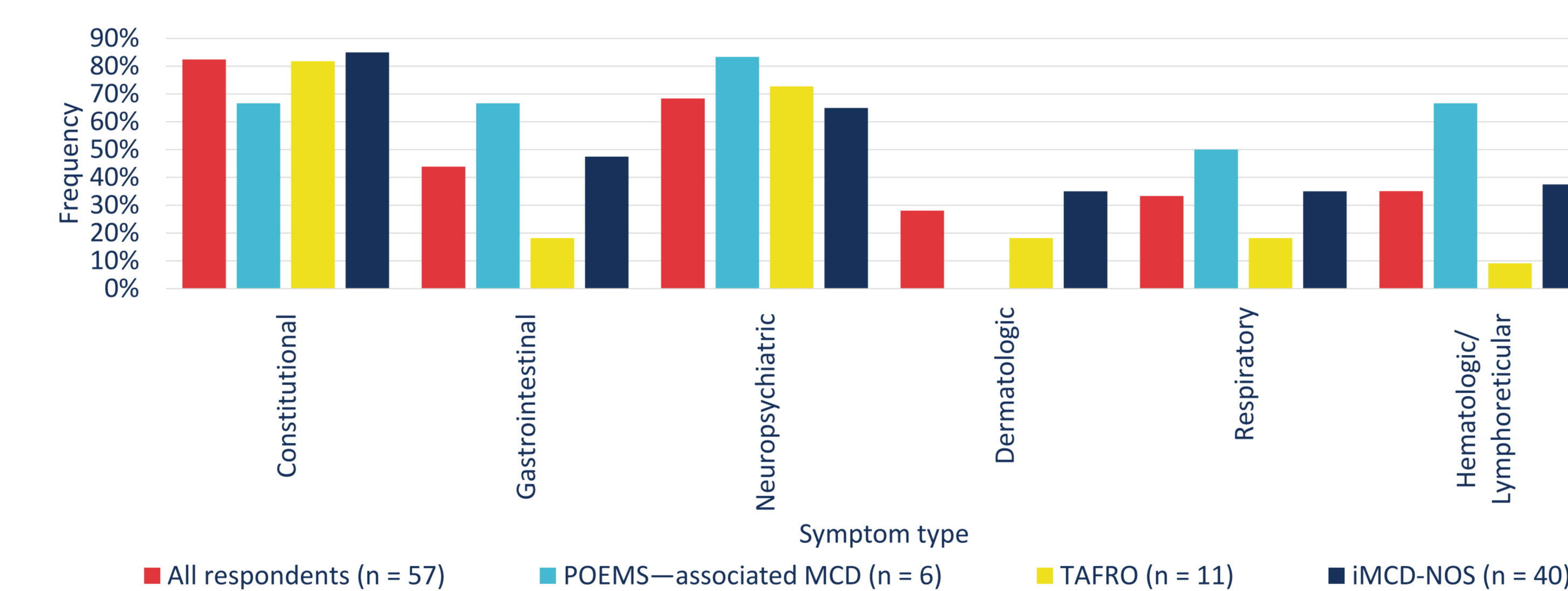
Table 1: Patient background characteristics

Patient characteristics (N = 57)			
<b>Gender</b>		<b>Type of diagnosis</b>	
Male	25 (44%)	iMCD-NOS	40 (70%)
Female	32 (56%)	POEMS-associated MCD	6 (11%)
		TAFRO	11 (19%)
<b>Country</b>		<b>Ethnicity</b>	
Australia	4 (7%)	Asian	7 (12%)
Canada	5 (9%)	Black or African American	1 (2%)
UK	3 (5%)	Native Hawaiian or Other Pacific Islander	2 (4%)
US	45 (79%)	White	44 (77%)
		Prefer not to say	3 (5%)
<b>Age groups:</b>		<b>Age at diagnosis</b>	
Mean (range, SD)	48 years (22–78 years, 12 years)	Mean (range, SD)	41 years (13–42 years, 13 years)

### Symptoms

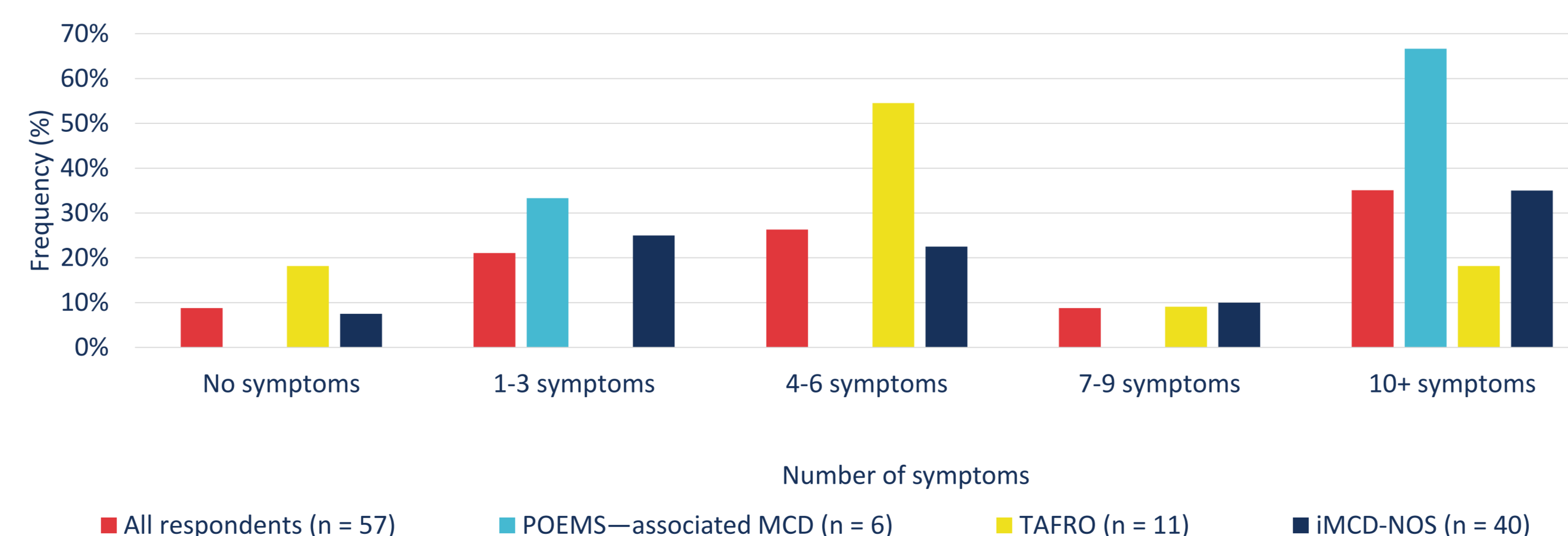
On average, patients experienced 7 symptoms (range: 0–22) in the week prior to survey completion. Tiredness was the most frequently reported symptom (77%), followed by physical weakness (44%) and night sweats (40%). Individual symptoms were clustered into clinically relevant categories and frequency of symptom groupings reported by iMCD subtype, as shown in Figure 2. The average number of symptoms by each iMCD subtype was 7.1 by iMCD-NOS, 5.5 by TAFRO and 8.5 by POEMS-associated MCD (Figure 3). 91% of all patients with iMCD reported experiencing at least one symptom in the week prior to survey completion.

Figure 2: Type of symptoms\*\* experienced a week prior to completing the survey



Key: \*\* Type of symptoms were grouped as follows: **Constitutional symptoms** - Tiredness, weakness (physical), fever, night sweats, weight loss, weight gain, flu-like symptoms, sweating/hot flashes, dry mouth, sluggishness & stupor/feeling lethargic; **Gastrointestinal symptoms** - loss of appetite, abdominal pain, bloating, nausea/vomiting; **Neuropsychiatric** - numbness/tingling, dizziness, impaired cognitive function, depression, anxiety, forgetfulness, headaches; **Dermatologic** - Sores/rashes, persistent itching; **Respiratory** - cough & shortness of breath; **Haematologic/ Lymphoreticular** - swollen lymph nodes.

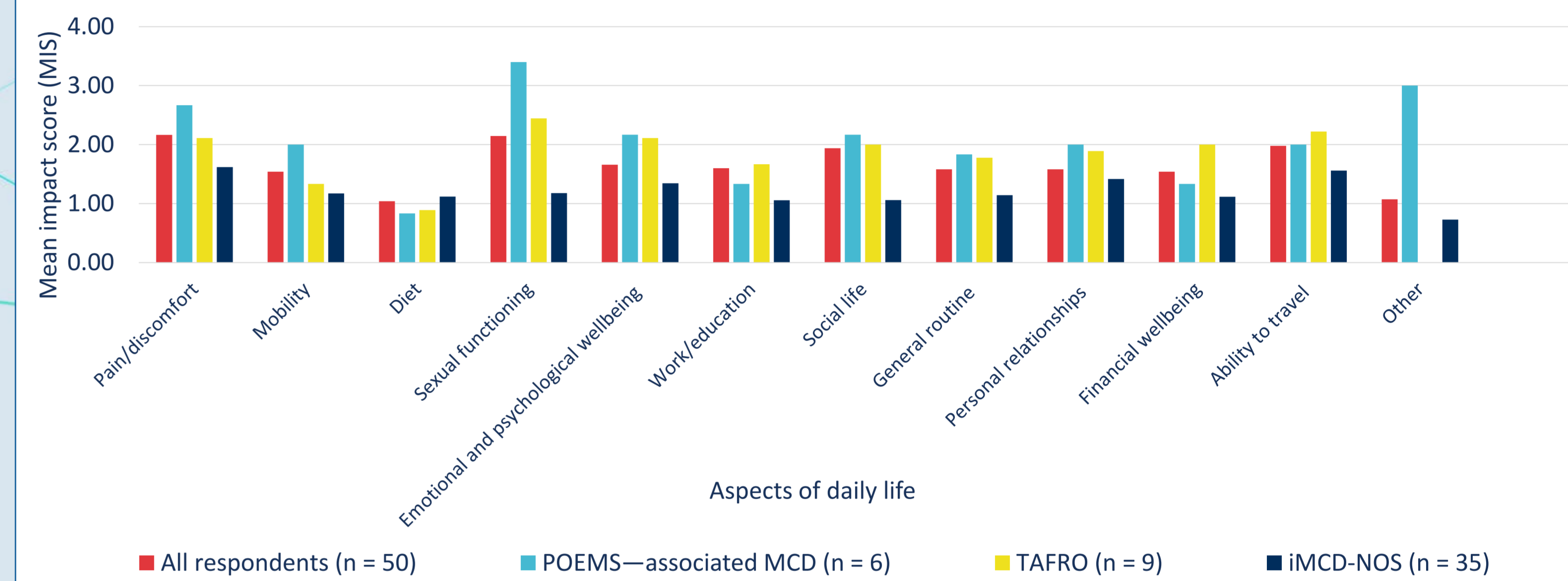
Figure 3: Number of symptoms experienced a week prior to completing the survey



### Impact of symptoms on daily life

When rating their most impacted aspects of daily life due to their symptoms, patients with iMCD-NOS reported pain and discomfort (MIS 2.09) and personal relationships (MIS 2.08), patients with MCD-POEMS reported sexual functioning (MIS 3.40) and pain and discomfort (MIS 2.67), and patients with TAFRO reported sexual functioning (MIS 2.44) and ability to travel (MIS 2.22). Figure 4 displays the full results.

Figure 4: Aspects of life impacted by symptoms



Patients were given the opportunity to provide additional information related to any other aspects of their daily life impacted by their iMCD symptoms. The responses can be seen in the quotations below. Additional qualitative responses were collected throughout the survey regarding their iMCD treatment, and the burden associated with living with iMCD per subtypes which will be reported in further publications.

'No covid antibodies so stay away from all social situations'

Respondent with iMCD-NOS

'I am not in control of my body and do not know which one I will get. Edema, fatigue, pain...'

Respondent with POEMS-associated MCD

'I have no life, this disease has stolen everything from me. I live to fight this disease, and survive for my three kids.'

Respondent with iMCD-NOS

To explore the robustness and psychometric properties of this survey, statistical analysis was performed on priori hypothesis sets which were generated as a result of expert interviews. A strong correlation was found between having a higher number of symptoms and greater adverse association with daily life.

## CONCLUSION

To our knowledge, this is the first study of its kind to characterize and map the BOI in iMCD patients assessed by symptom frequency, symptom burden (multiplicity of symptoms) and its adverse effects on different aspects of daily living. The exploratory psychometric assessment provides a level of confidence in the construct validity of the survey. These findings could potentially be used to develop an objective symptom burden score that can help when assessing disease severity, making treatment decisions, and evaluating responses in daily practice and clinical research.

## CONTACT INFORMATION

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