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Short communication

Does duration Matter? Evaluating the impact of short- and long-term telemedicine in functional motor disorders

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ABSTRACT

Introduction: Functional motor disorders (FMDs) are chronic neurological conditions characterized by altered expectations, disrupted attention, and a sense of agency, requiring long-term management. While 12-week telemedicine programs have shown effectiveness, the optimal duration for sustaining benefits remains unclear. We therefore aim to compare the effects of an extended 24-week telemedicine program with a standard 12-week program in managing FMDs.

Methods: 52 consecutive patients with FMDs completed a five-day intensive, multidisciplinary rehabilitation program followed by a standard 12-week telemedicine program. Participants were then allocated consecutively to either a self-management program without telemedicine support (control group, CG, n = 26) or an extended 24-week telemedicine program with biweekly sessions (experimental group, EG, n = 26). Motor and non-motor symptoms, Quality of Life (QoL), and self-perception of change were assessed at baseline (T0), after 12 weeks (T1), and 36 weeks (T2).

Results: Significant time effects were found for all outcomes except the Mental Health QoL. Significant Time × Group interaction was observed for TAS-20 ($p < 0.001$), where the CG reported a reduction both at T1 ($p = 0.003$) and T2 ($p < 0.001$), not observed in the EG. The CG reported a significant worsening in their self-perception of improvement at nine months (T2) compared to the EG ($p = 0.015$).

Conclusions: Extending the telemedicine program, even at a reduced biweekly frequency, may help sustain perceived improvements despite the absence of additional motor benefits. Such disconnection might be related to the strong role of altered expectations and attention within this disorder.

1. Introduction

Functional motor disorders (FMDs), a subset of functional neurological disorders (FNDs), are characterized by abnormal movements such as gait disturbances, dystonia, weakness, tremors, and balance disorders that are inconsistent with organic neurological diseases [1,2]. Their high prevalence in neurology clinics (15–20 %) and substantial impact on long-term disability and quality of life (QoL) highlight the need for effective management to reduce both disability and healthcare costs [2–4]. In addition to motor symptoms, non-motor symptoms (NMSs) such as pain, fatigue, anxiety, depression, and alexithymia further exacerbate disability and complicate treatment [1,5,6].

Given their complexity, involving altered expectations, disrupted attention, and diminished sense of agency, and their chronic nature, FMDs require a tailored, multidisciplinary approach grounded in the biopsychosocial model, integrating neurobiological, psychological, and environmental factors in symptom manifestation [2]. Current evidence- and consensus-based recommendations emphasize early diagnosis and

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structured interventions, with stepped-care approaches considered the most effective treatment strategy [2,3]. However, a gap remains regarding the optimal duration of these interventions, particularly given that FMD patients, when diagnosed early and referred for specialized treatment, have greater recovery potential than often assumed.

Telemedicine has emerged as a promising strategy to extend care beyond rehabilitation, offering accessible and long-term management for chronic neurological disorders such as Parkinson's Disease [7]. Various telemedicine approaches, including teleconsultation, telemonitoring, and telerehabilitation, provide distinct advantages but pose logistical challenges [8]. For FMDs, tailored telemedicine programs have demonstrated effectiveness, with studies showing reductions in motor symptoms and improved self-perceived outcomes [9,10]. Determining the optimal duration and frequency of telemedicine interventions is essential for tailoring treatment while ensuring efficient resource allocation. Given the chronicity of FMDs and patients' frequent concerns about lacking long-term support, extended telemedicine programs may provide additional benefits beyond short-term interventions. Clarifying the comparative effects of short-vs long-term telemedicine treatment is therefore critical to optimizing care strategies and ensuring continuity of support. Before conducting a confirmatory randomized controlled trial (RCT), an observational study that evaluates short-term vs. long-term telemedicine treatment can offer valuable insights into treatment outcomes and key areas for further research.

This study therefore evaluates the impact of a 24-week telemedicine program compared to a 12-week program on motor and non-motor symptoms, QoL, and self-perceived clinical improvement. We hypothesize that extending telemedicine support may be particularly beneficial for FMD patients by addressing their long-term disability and reinforcing continuity of care through structured telemonitoring and telerehabilitation. The findings will inform the development of a future RCT, ensuring that adjustments to treatment duration are data-driven and aligned with patient needs.

2. Materials and methods

2.1. Study design

For this prospective cohort study, we included consecutive patients with a clinically established diagnosis of FMDs [11] attending the Parkinson's Disease and Movement Disorders Unit (AOUI Verona, Italy) between March 2021 and May 2022. The study was conducted based on the Declaration of Helsinki and was approved by the local ethics committee (Project Number: 1757CESC). All patients gave their informed consent.

2.2. Participants

Inclusion criteria were established diagnosis of FMDs, age ≥18 years, completion of the 5-day rehabilitation program and the first 12-week tele-session program, and acceptance of the diagnosis [11]. Exclusion criteria were prominent dissociative seizures, prominent cognitive and physical impairment precluding signing the informed consent form, having discontinued the 5-day rehabilitation or the first 12-week telemedicine programs, and incomplete assessment due to language comprehension difficulties [11].

2.3. Interventions

All patients underwent a 5-day in-person multidisciplinary rehabilitation program and a 12-week telemedicine program consisting of one telemedicine session a week for 12 telemedicine sessions [10]. The 5-day in-person rehabilitation included education, symptom-movement exploration, movement retraining with attention redirection, and a 12-week telemedicine program [10]. The telemedicine program involved video calls via smartphone or a computer connection to monitor outcomes and provide exercise feedback [10]. Afterward, the Experimental Group (EG) continued with an extended program consisting of 24-week telemedicine sessions, consisting of bi-weekly sessions (12 telemedicine sessions over 24 weeks). The Control Group (CG) continued with 24 weeks of self-management without telemedicine. Assessments were performed before rehabilitation (T0), at a 12-week follow-up (T1), and at a 36-week follow-up (T2) (Fig. 1). One therapist led the first 12-week telemedicine program, while another handled the 24-week program for the experimental group.

2.4. Outcome measures

We collected age, sex, and detailed clinical history (i.e., motor and NMSs onset, disease duration, neurological, psychiatric, or medical comorbidities, and previous organic diagnosis) [10]. Outcome measures have been previously described [10]. Motor symptom severity and duration were scored through the objective-rated Simplified Functional Movement Disorders Rating Scale (S-FMDRS; range 0–54; a higher score means more motor symptoms). We employed the Multidimensional Fatigue Inventory Scale (MFI-20) to rate fatigue, with subscales evaluating general, physical, and mental fatigue, reduced motivation, and activity (range 4–20; higher score means more perceived fatigue). We assessed pain with the Brief Pain Inventory (BPI, with an Intensity subscale range of 0–40 and interference subscale range of 0–70; higher scores mean worse pain intensity/interference in daily activities). Psychological variables were measured through the Beck Inventories for depression (BDI-II) and anxiety (BAI) (both range 0–63, a higher score means more depressive/anxiety symptoms); and alexithymia with the Toronto Alexithymia Scale (TAS-20, range 20–100, a higher score means more difficulties in identify, recognize and express emotions). Patients self-rated QoL with the Mental Health and Physical Functioning scale of the 12-item Short-Form Health Survey (SF-12, range 0–120; a higher score means better mental and physical health). Finally, we evaluated the self-rated perception of change after treatment with the 7-point Clinical Global Impression (CGI) scale. The score ranges from 1 (much improved) to 7 (much worse).

All outcome measures were collected at T0, T1, and T2. CGI was evaluated at T1 and T2. Fig. 1 reports a flowchart of the interventions and data collection at the three-time points.

2.5. Statistical analysis

Descriptive statistics report frequencies for categorical variables and mean and standard deviations (±SD) for continuous variables. Chi-square or Fisher's exact test assessed group differences in categorical variables, and the independent *t*-test was used for continuous variables. Two-way mixed ANOVA examined the "Time" factor (T0, T1, and T2) as a within-subject factor, "Group" (EG and CG) as a between-group factor, and Time × Group interaction. Post-hoc t-tests with Bonferroni correction were applied. All tests were bilateral at $p < 0.05$. Outliers were excluded. The anchor-based Minimal Clinically Important Difference (MCID) for S-FMDRS was calculated using an anchor-based approach based on the patient's reported improvement with a CGI-I of ≤2. Responders were defined as those with changes in S-FMDRS≥11.83 and CGI-I≤2 at T1 and T2, with group differences analyzed using Fisher's exact and Chi-square test. Analysis was performed using RStudio (Version March 1, 1093 © 2009–2020 Rstudio, PBC).

3. Results

We recruited 52 patients (mean age: 40.62 ± 12.67 years, 86.5 % female), allocating 26 to the EG (mean age: 39.12 ± 12.88 years, 88 % female) and 26 to the CG (mean age: 42.12 ± 12.52 years, 85 % female). Disease duration was 3.77 years (±5.49) in the EG and 3.67 years (±4.29) in the CG. The most common functional phenotypes were limb weakness (EG: 77 %, CG: 85 %), tremor (EG: 61.5 %, CG: 58 %) and gait

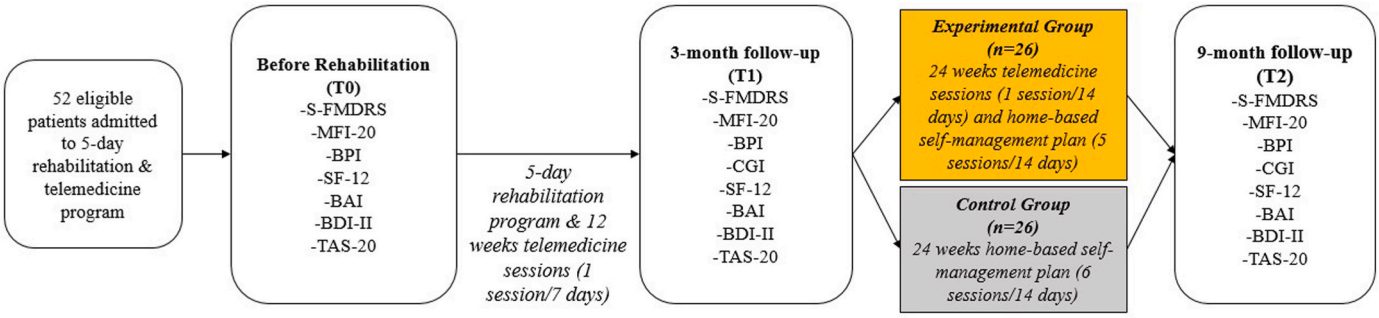

Fig. 1. Study design and measures.
Legend: S-FMDRS, Simplified Functional Movement Disorders Rating Scale; MFI-20, Multidimensional Fatigue Inventory scale; BPI, Brief Pain Inventory; SF-12, 12 items Short-Form Health survey; BAI, Beck Anxiety Inventory; BDI-II, Beck Depression Inventory-II; TAS-20, Toronto Alexithymia Scale; CGI, Clinical Global Impression scale.

disorders (EG: 54 %, CG: 81 %), often in a combined phenotype (EG: 81 %, CG: 92 %). Coexisting organic diseases were medical (EG: 50 %, CG: 54 %), neurological (EG: 23 %, CG: 42 %), and psychiatric (EG: 31 %, CG: 15 %). For details, see Supplementary Table 1. At T0, demographic and clinical features were comparable between groups (for all, $p > 0.05$). One CG patient did not complete psychological, pain, QoL, and CGI assessments at T2.

Significant "Time" effects were found for all outcomes except for Mental Health QoL, with improvements in S-FMDRS, MFI-20 domains, BPI intensity and interference, BDI-II, BAI, TAS-20 and physical functioning QoL (for all, $p < 0.012$). Statistics are reported in Table 1. At T2, "Group" effect emerged ($p = 0.015$), with 70 % (18/26) of the EG and 40 % (10/25) of the CG reporting improvements (Table 2). Worsening was more frequent in the CG (56 %, 14/25) than in the EG (19 %, 5/26), with no change in 4 % (1/25) of the CG and 11 % (3/26) of the EG. Significant "Time × Group" interaction was observed for TAS-20 ($p < 0.001$), with post-hoc analysis showing a reduction only in the CG (T1: $p = 0.003$; T2: $p < 0.001$). All other measures showed no significant effects.

The anchor-based MCID for the S-FMDRS was 11.83 points. At T1, responders were 9 in the CG and 3 in the EG; at T2, 5 responders were in the CG and 9 in the EG. The responder rate at T2 was higher in the EG (34.6 %) than the CG (20.0 %), but not statistically significant ($p = 0.39$). Details are in Table 2.

4. Discussion

The key finding of this observational study is that patients with extended telemedicine follow-up reported greater self-perceived clinical improvement at 36 weeks compared to those in the standard 12-week program, despite similar motor, non-motor, and QoL outcomes, except for alexithymia. Both groups received 12 telemedicine sessions during the first three months, but the extended group had biweekly sessions afterward, effectively doubling the follow-up period without increasing the clinical workload. Post-hoc responder analysis suggested a trend toward sustained clinically meaningful improvement (anchor-based MCID) in the extended group. Although not statistically significant, the observed clinically relevant changes reflect both objective motor improvement and patient-perceived benefit.

This finding suggests that prolonged, less frequent contact may sustain patient engagement after intensive rehabilitation, highlighting the dissociation between objective outcomes and patient-perceived improvement. This dissociation may reflect the complexity of FMDs, where subjective experience influenced by altered expectations and disrupted attention, may better capture meaningful change than objective measures alone. Thus, hybrid outcome models that integrate objective and subjective measures could be valuable in future studies.

While previous research has demonstrated the feasibility and short-term efficacy of telemedicine in FMDs, particularly for improving motor symptoms and patient-reported outcomes [9,10], our results

Table 1
Motor and NMSs outcome measures before the 5-day in-person rehabilitation program (T0), at the 12-week follow-up (T1), and at the 36-week follow-up (T2) (n = 52).

Outcomes	Before -T0		T1		T2		Repeated measures mixed ANOVA		
	Mean (SD)		Mean (SD)		Mean (SD)		Group	Time	Time × Group
	Experimental	Control	Experimental	Control	Experimental	Control	p	p	p
S-FMDRS (0-54)	14.69 (8.33)	17.00 (9.21)	5.92 (7.17)	4.69 (5.90)	5.27 (5.95)	6.62 (6.82)	n.s.	<0.001*	n.s.
MFI-20									
General fatigue (4-20)	14.88 (4.41)	15.35 (3.31)	9.69 (4.17)	10.46 (4.94)	10.96 (5.48)	10.81 (5.14)	n.s.	<0.001*	n.s
Physical fatigue (4-20)	14.38 (5.08)	15.96 (3.40)	8.88 (3.74)	9.54 (5.49)	10.54 (5.34)	9.73 (4.97)	n.s.	<0.001*	n.s.
Reduced activity (4-20)	13.54 (4.59)	12.69 (4.38)	9.00 (3.59)	8.19 (4.62)	9.27 (4.47)	9.15 (4.50)	n.s.	<0.001*	n.s
Reduced motivation (4-20)	9.31 (4.20)	7.27 (3.66)	6.23 (2.76)	6.00 (3.32)	7.35 (3.91)	7.15 (3.21)	n.s.	0.006*	n.s
Mental fatigue (4-20)	13.19 (4.97)	11.69 (4.73)	8.15 (4.57)	9.08 (4.64)	10.38 (5.32)	9.19 (4.83)	n.s	<0.001*	n.s
BPI									
Intensity (0-40)	14.88 (12.62)	23.62 (19.43)	9.65 (11.85)	13.19 (12.21)	11.08 (12.98)	14.72 (13.97)°	n.s	<0.001*	n.s
Interference (0-70)	18.81 (16.10)	27.12 (20.82)	13.08 (17.62)	14.04 (18.66)	17.04 (25.35)	19.48 (21.20)°	n.s	0.011*	n.s
BDI-II (0-63)	11.04 (9.46)	11.23 (8.73)	8.38 (8.29)	5.65 (5.00)	9.35 (11.05)	7.92 (5.54)°	n.s.	0.003*	n.s
BAI (0-63)	21.96 (10.53)	22.46 (12.41)	17.31 (12.48)	14.00 (10.77)	17.81 (14.11)	16.08 (8.64)°	n.s	<0.001*	n.s
TAS-20 (20–100)	43.27 (12.56)	48.92 (12.60)	42.08 (12.71)	41.54 (11.73)	44.35 (12.39)	39.48 (12.93)°	n.s.	0.001*	<0.001*
SF-12 (0–120)									
Physical functioning	31.92 (11.56)	28.90 (9.16)	41.99 (11.31)	40.99 (13.73)	43.85 (10.77)	36.41 (11.69)°	n.s	<0.001*	n.s.
Mental health	42.81 (12.80)	46.87 (14.94)	45.75 (11.41)	47.57 (10.35)	44.27 (11.65)	44.26 (14.23)°	n.s.	n.s	n.s

Legend: S-FMDRS, Simplified Functional Movement Disorders Rating Scale; MFI-20, Multidimensional Fatigue Inventory-20; BPI, Brief Pain Inventory; BDI-II, Beck Depression Inventory; BAI, Beck Anxiety Inventory; TAS-20, Toronto Alexithymia Scale; SF-12, 12-item Short-Form Health Survey; SD, standard deviation; *statistically significant; n.s., not significant; °, one missing.

Table 2
Patient-rated perception of change and responder rate at the 3-month (T1) and the 9-month (T2) follow-up.

CGI change	T1 3-month follow-up		Fisher's Exact test p-value	T2 9-month follow-up		Fisher's Exact test p-value
	Experimental N (%)	Control N (%)		Experimental N (%)	Control N (%)	
Improved	17 (65 %)	21 (81 %)	0.49	18 (70 %)	10 (40 %)	0.015*
No change	5 (19 %)	3 (11 %)		3 (11 %)	1 (4 %)	
Worse	4 (16 %)	2 (8 %)		5 (19 %)	14 (56 %)	
Responder rate	T1 3-month follow-up		Fisher's Exact test p-value	T2 9-month follow-up		Chi-squared test p-value
	Experimental N (%)	Control N (%)		Experimental N (%)	Control N (%)	
Responders	3 (11 %)	9 (34.6 %)	0.098	9 (34.6 %)	5 (20 %)	0.39
Non-responders	23 (89 %)	17 (65.4 %)		17 (65.4 %)	20 (80 %)	

Legend: CGI, Clinical Global Impression scale; T1, follow-up at the 3-month telemedicine program; T2, follow-up at nine months; N, number of patients; Improved category includes very much, much, and minimally improved; No change category consists of no change; Worse category includes minimally, much, and very much worse; Responders were defined as patients achieving both: (a) ΔS-FMDRS $\geq$11.83, and (b) CGI-I $\leq$ 2. *Statistically significant.

extend this by suggesting that longer follow-up period, even with reduced frequency, may help consolidate perceived benefits in FMDs, a population with often unmet long-term care needs.

The more remarkable self-perceived improvement in the experimental group likely reflects the value of maintaining therapeutic continuity over time. Although most clinical outcomes occur during intensive rehabilitation, long-term telemedicine (even when reduced frequency) may reinforce self-management strategies and reduce the sense of abandonment commonly reported by patients [11].

Alexithymia, characterized by difficulty identifying and expressing emotions, remains largely unexplored in FMDs [6,12]. A recent cohort study found higher levels of alexithymia strongly associated with greater of non-motor symptoms (i.e., depression, anxiety, general psychological distress, fatigue, and pain), but not with motor symptom severity [6]. The unexpected reduction in alexithymia scores in the control group after the 12 weeks of intervention is difficult to explain, as both groups received the same treatment. One possible explanation is that higher baseline alexithymia in the control group may reflect unmeasured personality traits influencing emotional processing and treatment response, supporting the value of psychological profiling for future stratification strategies [12]. Alternatively, self-management in the control group may have enhanced emotional regulation by fostering self-reflection, emotional awareness, and coping strategies that are less likely to develop through structured therapeutic contact [12]. Future studies should explore this domain more systematically, including the potential efficacy of emotional awareness interventions in this population [6,12].

This study provides real-world evidence supporting the role of extended, lower-frequency telemedicine follow-up in managing FMDs. A key strength lies in its design reflecting routine clinical practice and its inclusion of multiple outcome domains, including patient-reported perception of change. However, the study's observational nature limits causal interpretation, and the lack of randomization may introduce bias. Different therapists' influence and the therapeutic alliance's potential contribution to perceived improvement cannot be excluded. Although not statistically significant, a trend toward worsening physical QoL in the control group suggests that prolonged follow-up may help maintain perceived well-being. Additionally, the COVID-19 context may have influenced care delivery and patient recovery experiences.

CRediT authorship contribution statement

Angela Sandri: Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Ilaria Antonella Di Vico:** Writing – review & editing, Supervision, Investigation. **Christian Geroin:** Writing – review & editing, Methodology, Investigation. **Federica Bombieri:** Writing – review & editing, Methodology, Investigation. **Vittoria Vandelli:** Writing – review & editing, Methodology, Investigation. **Michele Tinazzi:** Writing – review & editing, Supervision, Conceptualization. **Marialuisa Gandolfi:** Writing – review & editing, Writing – original draft, Project administration, Formal analysis.

Statement and declarations

The authors have no competing interests to declare.

Data availability

The data sets analyzed during the current study are available upon request with no restrictions.

Consent for publication

This manuscript has been approved for publication by all authors.

Ethical standards

All human and animal studies have been approved by the appropriate ethics committee (Project Number. 1757CESC) and performed according to the ethical standards of the 1964 Declaration of Helsinki and its later amendments. All patients gave their informed consent before inclusion in the study.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.parkreldis.2025.107948.

References

[1] M. Tinazzi, F. Morgante, E. Marcuzzo, et al., Clinical Correlates of functional motor disorders: an Italian multicenter study, Mov. Disord. Clin. Pract. 7 (2020) 920–929, https://doi.org/10.1002/mdc3.13077.
[2] M. Hallett, S. Aybek, B.A. Dworetzky, et al., Functional neurological disorder: new subtypes and shared mechanisms, Lancet Neurol. 21 (2022) 537–550, https://doi.org/10.1016/S1474-4422(21)00422-1.
[3] M. Tinazzi, M. Gandolfi, Z. Menaspà, et al., Reducing healthcare costs by timely diagnosis and management in functional motor disorders, Neurol. Sci. (2024), https://doi.org/10.1007/s10072-024-07865-2.

[4] B. O'Mahony, G. Nielsen, S. Baxendale, et al., Economic cost of functional neurologic disorders: a systematic review, Neurology 101 (2023) E202–E214, https://doi.org/10.1212/WNL.0000000000207388.
[5] G. Věchetová, M. Slovák, D. Kemlink, et al., The impact of non-motor symptoms on the health-related quality of life in patients with functional movement disorders, J. Psychosom. Res. 115 (2018) 32–37, https://doi.org/10.1016/J.JPSYCHORES.2018.10.001.
[6] G. Ostuzzi, C. Geroin, C. Gastaldon, et al., Characterising alexithymia in individuals with functional motor disorders: a cross-sectional analysis of the Italian Registry of Functional Motor Disorders, J. Neurol. Neurosurg. Psychiatry (2025), https://doi.org/10.1136/JNNP-2024-334788.
[7] R. Van Den Bergh, B.R. Bloem, M.J. Meinders, et al., The state of telemedicine for persons with Parkinson's disease, Curr. Opin. Neurol. 34 (2021) 589–597, https://doi.org/10.1097/WCO.0000000000000953.
[8] The coronavirus disease 2019 crisis as catalyst for telemedicine for chronic neurological disorders. https://doi.org/10.1001/jamaneurol.2020.1452, 2020.
[9] B. Demartini, F. Bombieri, D. Goeta, et al., A physical therapy programme for functional motor symptoms: a telemedicine pilot study, Parkinsonism Relat Disord 76 (2020) 108–111, https://doi.org/10.1016/j.parkreldis.2019.05.004.
[10] M. Gandolfi, A. Sandri, C. Geroin, et al., Improvement in motor symptoms, physical fatigue, and self-rated change perception in functional motor disorders: a prospective cohort study of a 12-week telemedicine program, J. Neurol. (2022), https://doi.org/10.1007/s00415-022-11230-8.
[11] G. Nielsen, M. Buszewicz, M.J. Edwards, et al., A qualitative study of the experiences and perceptions of patients with functional motor disorder, Disabil. Rehabil. 42 (2020) 2043–2048, https://doi.org/10.1080/09638288.2018.1550685.
[12] M.A. Lumley, L.C. Neely, A.J. Burger, The assessment of alexithymia in medical settings: implications for understanding and treating health problems, J. Pers. Assess. 89 (2007) 230–246, https://doi.org/10.1080/00223890701629698.