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EDITORIAL

Strategies for a safe and assertive telerehabilitation practice



During the coronavirus disease (COVID-19) pandemic, many countries issued an unprecedented array of temporary regulatory changes to provide more flexibility for the healthcare system. In Brazil, there was emergency regulations for the delivery of telemedicine¹ and telerehabilitation.² However, the accelerated regulations aiming for rapid introduction of remotely delivered interventions were accompanied by poor guidance for implementation and insufficient professional training. Despite strategies to overcome potential barriers involved in the implementation of telerehabilitation in Brazil published in a recent editorial in the Brazilian Journal of Physical Therapy,³ hesitation among clinicians remains. Therefore, we have developed a series of practical recommendations that may guide physical therapists throughout the use of technology for the treatment of their patients (Table 1). The term telerehabilitation will be employed henceforth to refer to remotely-delivered interventions used by physical therapists. Examples will focus on musculoskeletal pain conditions, such as low back pain and osteoarthritis, but recommendations may apply to a wide range of settings and conditions within physical therapy.

Keep using evidence-based treatments

Evidence-based treatment refers to interventions that are supported by scientific evidence, in combination with clinicians' experience, and patients' preferences.⁴ This represents the foundation of physical therapy interventions and all professionals in the field should be encouraged to base their practice on evidence, independently of mode of delivery.^{5,6} Best practice for chronic musculoskeletal pain includes provision of education/information about the patients' condition and management strategies and encouragement to pursue physical activity or exercises.⁷ In addition to promoting these strategies based on the best available evidence, telerehabilitation initiatives are an opportunity to encourage self-management and experimental learning strategies.

Understand context and preferences

Individuals with musculoskeletal conditions place great importance on patient-centered interventions.⁷ Telerehabilitation allows for tailored interventions to be delivered through a variety of synchronous/real-time (eg, video-conference) and asynchronous/store-forward (eg, digital images) means.^{8,9} To date, the literature provides evidence of good outcomes for a variety of musculoskeletal conditions when using either synchronous or asynchronous strategies,^{10–12} but the combination of both approaches offers a more complete and personalized treatment experience. Clinicians may use the digital environment to support self-management strategies according to patients' preferences.¹³ Individuals with chronic pain often report a feeling of anxiety and catastrophizing due to little knowledge about pain, especially during onset of symptoms, and telerehabilitation can focus on the provision of information with regards to pain, pain physiology, and activity pacing, for example.¹³ Patients can be frustrated or confused if the mode of telerehabilitation delivery does not match their digital health literacy levels¹⁴ or expectations,¹⁵ and also if there is an overload of information.^{16,17}

Communicate effectively

Non-optimal communication may result in a breakdown in patient/therapist relationship and weakened therapeutic alliance, which can potentially result in poor clinical outcomes.¹⁸ Conversely, clear communication with patients often leads to better engagement during treatment.^{7,19} Previous studies showed barriers to development of therapeutic alliance related to lack of visual cues and misunderstanding, therefore requiring advanced communication skills from clinicians to ensure best telerehabilitation practice.^{20,21} Beyond the provision of consistent information, patients prefer information delivered through an understandable language, avoiding technical terminology.¹⁹ Therapists must prevent patients' frustration or confusion with information

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Table 1 Clinical recommendations for the use of telerehabilitation.

What to do	How
Evidence-based is the foundation	<ul style="list-style-type: none"> • Share evidence-based information with your patient through diverse media, in an understandable language; • Encourage active participation in discussions of health-related topics; • Support a non-judgmental environment that encourages expressing personal beliefs; • Use teaching-back strategies for motivating participation.
Choose the best way of communicating	<ul style="list-style-type: none"> • Choose simple words to avoid misunderstanding, avoid technical language or use of medical jargon; • Give simple commands to avoid information-overload; • Use specific body regions and spatial references to guide exercises or meditation (eg, align your spine imagining your head wants to reach the ceiling); • Video material and videoconferences are good ways of demonstrating exercises: you can perform them to mirror your patient.
Listen to your patient's preferences	<ul style="list-style-type: none"> • Look forward to understand: <ul style="list-style-type: none"> • your patient's preferred means for receiving care (eg, telephone, videoconference, text-messaging) or suggest trying different modes to understand the patient's preference; • your patient's expectations and acceptability for telerehabilitation; • your patient's needs in terms of information content and physical activity/exercise program.
Tackle demotivation	<ul style="list-style-type: none"> • Use shared experiences to build and strengthen therapeutic alliance. • Include weekly challenges; • Send reminders such as tailored pre-recorded messages; • Provide useful information/strategies that patients can easily put in practice; • Align your rehabilitation program to balance necessary activities with the patient's preferred activities (eg, include functional activities that he/she shows interest in).
Ensure patient has access	<ul style="list-style-type: none"> • Understand your patient's reality: sociodemographic condition, previous experience with technology; • Assess your patient's health and digital health literacy levels; • Adapt your interventions to encompass the type of medias he/she has access to.

overload by adopting simple terminology (eg, for guiding the execution of exercises) and choosing complementary materials that match patients' health literacy level.²²

Motivation is key

Patient engagement is a major issue limiting growth of telerehabilitation,^{14,23} and it can be affected by lack of acceptance by the elderly population or poor interaction with digital sources of information.^{11,24} Engagement success leads to better treatment outcomes and it depends largely on patient motivation.^{14,17} Feeling of impersonality due to lack of face-to-face contact with the health professional, the presence of technical problems during telerehabilitation sessions, and the inability of performing proposed activities might lead to patient demotivation and further disengagement.^{23,25,26} Nevertheless, patients who perceive the need to improve their health identify telerehabilitation interventions as a source of motivation, especially in cases when they are able to see their own improvement.¹⁵ Studies show several techniques and strategies that might help tackling patients' demotivation, such as the use of reminders,¹⁵ weekly challenges, and periodic feedback.²⁶

Ensure access

Barriers to access telerehabilitation might include one or more of the following: a) lack of proper device (eg, computer or smartphone), b) lack of stable, good quality broadband internet, and/or c) low familiarity with technology.^{15,27} In Brazil, the percentage of households with computers or notebooks has been dropping over the past 10 years in both urban and rural areas, despite the advance in internet access.²⁸ This contradiction is explained by the increase use of 3G and 4G technology through smartphones,²⁸ often accompanied by limited or prepaid internet package, not compatible with download of videos or video conferences. In addition, low familiarity with technology might lead to difficulties of use²⁷ and a burden for the patient and the clinician.¹⁵ Clinicians must be aware of patients' background (ie, sociodemographic information and previous experiences with technology) to best design a telerehabilitation intervention that supports patient participation and engagement.¹⁷

The evidence on acceptability of remote delivery of interventions for a diverse range of medical conditions (eg, pain management, post-surgery, cardiac and pulmonary conditions)^{12,29–31} indicate mostly positive findings, including a feeling of closeness despite the distance,¹¹ ongoing support from health professionals,³² and continuous motivation

for learning.³³ With the outbreak of COVID-19, telerehabilitation has become an important option for physical therapists to continue assisting those in need. Presenting clear and practical recommendations for telerehabilitation may empower clinicians to better use technology as an alternative mode of delivering physical therapy.

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Conflicts of interest

The authors declare no conflicts of interest.

References

1. Saúde Md. LEI Nº 13.989, DE 15 DE ABRIL DE 2020. Dispõe sobre o uso da telemedicina durante a crise causada pelo coronavírus (SARS-CoV-2). <http://www.in.gov.br/en/web/dou/-/portaria-n-467-de-20-de-marco-de-2020-249312996>; 2020 Accessed 20 May 2020.
2. Conselho Federal de Fisioterapia e Terapia Ocupacional. RESOLUÇÃO Nº 516, DE 20 DE MARÇO DE 2020 – Teleconsulta, Telemonitoramento e Teleconsultoria. <https://www.coffito.gov.br/nsite/?p=15825>; 2020 Accessed 20 May 2020.
3. Dantas LO, Barreto RPG, Ferreira CHJ. Digital physical therapy in the COVID-19 pandemic. *Braz J Phys Ther.* 2020; <http://dx.doi.org/10.1016/j.bjpt.2020.04.006>.
4. Meyer D. *Essential evidence based medicine*. 2nd edition; 2010. Cambridge.
5. da Silva TM, Costa LO, da C, Garcia AN, Costa LO. What do physical therapists think about evidence-based practice? A systematic review. *Man Ther.* 2015;20:388–401, <http://dx.doi.org/10.1016/j.math.2014.10.009>.
6. Kamper SJ. Evidence in practice: a new series for clinicians. *J Orthop Sports Phys Ther.* 2018;48:429–, <http://dx.doi.org/10.2519/jospt.2018.0105>.
7. Lin I, Wiles L, Waller R, et al. What does best practice care for musculoskeletal pain look like? Eleven consistent recommendations from high-quality clinical practice guidelines: systematic review. *Br J Sports Med.* 2020;54:79–86, <http://dx.doi.org/10.1136/bjsports-2018-099878>.
8. Bashshur R, Shannon G, Krupinski E, Grigsby J. The taxonomy of telemedicine. *Telemed J E Health.* 2011;17:484–494, <http://dx.doi.org/10.1089/tmj.2011.0103>.
9. Fisk M, Rudel DRR. Definitions of terms in telehealth. *Informat-ica Medica Slovenica.* 2011;16:28–46.
10. Reis FJJ, Bengaly AGC, Valentim JCP, et al. An E-Pain intervention to spread modern pain education in Brazil. *Braz J Phys Ther.* 2017;21:305–306, <http://dx.doi.org/10.1016/j.bjpt.2017.06.020>.
11. Eriksson L, Lindstrom B, Ekenberg L. Patients' experiences of telerehabilitation at home after shoulder joint replacement. *J Telemed Telecare.* 2011;17:25–30, <http://dx.doi.org/10.1258/jtt.2010.100317>.
12. Bennell KL, Nelligan R, Dobson F, et al. Effectiveness of an internet-delivered exercise and pain-coping skills training intervention for persons with chronic knee pain: a randomized trial. *Ann Intern Med.* 2017;166:453–462, <http://dx.doi.org/10.7326/M16-1714>.
13. Ledel Solem IK, Varsi C, Eide H, et al. Patients' needs and requirements for eHealth pain management interventions: Qualitative study. *J Med Internet Res.* 2019;21:e13205, <http://dx.doi.org/10.2196/13205>.
14. Jansen-Kosterink S, Dekker-van Weering M, van Velsen L. Patient acceptance of a telemedicine service for rehabilitation care: a focus group study. *Int J Med Inform.* 2019;125:22–29, <http://dx.doi.org/10.1016/j.ijmedinf.2019.01.011>.
15. Jelin E, Granum V, Eide H. Experiences of a web-based nursing intervention-interviews with women with chronic musculoskeletal pain. *Pain Manag Nurs.* 2012;13:2–10, <http://dx.doi.org/10.1016/j.pmn.2011.08.008>.
16. Currie M, Philip LJ, Roberts A. Attitudes towards the use and acceptance of eHealth technologies: a case study of older adults living with chronic pain and implications for rural healthcare. *BMC Health Serv Res.* 2015;15:162, <http://dx.doi.org/10.1186/s12913-015-0825-0>.
17. O'Connor S, Hanlon P, O'Donnell CA, Garcia S, Glanville J, Mair FS. Understanding factors affecting patient and public engagement and recruitment to digital health interventions: a systematic review of qualitative studies. *BMC Med Inform Decis Mak.* 2016;16:120, <http://dx.doi.org/10.1186/s12911-016-0359-3>.
18. Farin E, Gramm L, Schmidt E. Predictors of communication preferences in patients with chronic low back pain. *Patient Prefer Adherence.* 2013;7:1117–1127, <http://dx.doi.org/10.2147/PPA.S50695>.
19. Lim YZ, Chou L, Au RT, et al. People with low back pain want clear, consistent and personalised information on prognosis, treatment options and self-management strategies: a systematic review. *J Physiother.* 2019;65:124–135, <http://dx.doi.org/10.1016/j.jphys.2019.05.010>.
20. Morony S, Weir K, Duncan G, Biggs J, Nutbeam D, McCaffery KJ. Enhancing communication skills for telehealth: development and implementation of a Teach-Back intervention for a national maternal and child health helpline in Australia. *BMC Health Serv Res.* 2018;18:162, <http://dx.doi.org/10.1186/s12913-018-2956-6>.
21. Fraser C, Beasley M, Macfarlane G, Lovell K. Telephone cognitive behavioural therapy to prevent the development of chronic widespread pain: a qualitative study of patient perspectives and treatment acceptability. *BMC Musculoskelet Disord.* 2019;20:198, <http://dx.doi.org/10.1186/s12891-019-2584-2>.
22. Caiata Zufferey M, Schulz PJ. Self-management of chronic low back pain: An exploration of the impact of a patient-centered website. *Patient Educ Couns.* 2009;77:27–32, <http://dx.doi.org/10.1016/j.pec.2009.01.016>.
23. Eccleston C, Blyth FM, Dear BF, et al. Managing patients with chronic pain during the COVID-19 outbreak: considerations for the rapid introduction of remotely supported (eHealth) pain management services. *Pain.* 2020;161:889–893, <http://dx.doi.org/10.1097/j.pain.0000000000001885>.
24. Chu JT, Wang MP, Shen C, Viswanath K, Lam TH, Chan SSC. How, when and why people seek health information online: qualitative study in Hong Kong. *Interact J Med Res.* 2017;6:e24, <http://dx.doi.org/10.2196/ijmr.7000>.
25. Vugts MA, Joosen MC, van Bergen AH, Vrijhoef HJ. Feasibility of applied gaming during interdisciplinary rehabilitation for patients with complex chronic pain and fatigue complaints: a mixed-methods study. *JMIR Serious Games.* 2016;4:e2, <http://dx.doi.org/10.2196/games.5088>.
26. Bossen D, Buskermolen M, Veenhof C, de Bakker D, Dekker J. Adherence to a web-based physical activity interven-

- tion for patients with knee and/or hip osteoarthritis: a mixed method study. *J Med Internet Res*. 2013;15:e223, <http://dx.doi.org/10.2196/jmir.2742>.
27. Zuidema Rm, Van Dulmen S, Nijhuis-van der Sanden Mwg, Fransen J, Van Gaal BGI. qLessons learned from patients with access to an online self-management enhancing program for RA patients: qualitative analysis of interviews alongside a randomized clinical trial. *Patient Educ Couns*. 2019;102:1170–1177, <http://dx.doi.org/10.1016/j.pec.2019.01.005>.
 28. Brazilian Internet Steering Committee C. In: Center BNI, ed. *ICT households - survey on the use of information and communication technologies in Brazilian households*. 2018:392 <https://www.cetic.br/pt/publicacao/pesquisa-sobre-o-uso-das-tecnologias-de-informacao-e-comunicacao-nos-domicilios-brasileiros-tic-domicilios-2018/>, 2018 Accessed 18 May 2020.
 29. Cottrell MA, Galea OA, O'Leary SP, Hill AJ, Russell TG. Real-time telerehabilitation for the treatment of musculoskeletal conditions is effective and comparable to standard practice: a systematic review and meta-analysis. *Clin Rehabil*. 2017;31:625–638, <http://dx.doi.org/10.1177/0269215516645148>.
 30. Dear BF, Gandy M, Karin E, et al. The pain course: a randomised controlled trial comparing a remote-delivered chronic pain management program when provided in online and workbook formats. *Pain*. 2017;158:1289–1301, <http://dx.doi.org/10.1097/j.pain.0000000000000916>.
 31. Yadav Un, Hosseinzadeh H, Lloyd J, Harris Mf. How health literacy and patient activation play their own unique role in self-management of chronic obstructive pulmonary disease (COPD)? *Chron Respir Dis*. 2019;16, <http://dx.doi.org/10.1177/1479973118816418>, 1479973118816418.
 32. Lawford Bj, Delany C, Bennell Kl, Hinman Rs. I was really sceptical...But it worked really well: a qualitative study of patient perceptions of telephone-delivered exercise therapy by physiotherapists for people with knee osteoarthritis. *Osteoarthr Cartil*. 2018;26:741–750, <http://dx.doi.org/10.1016/j.joca.2018.02.909>.
 33. Merolli M, Gray K, Martin-Sanchez F. Patient participation in chronic pain management through social media: a clinical study. *Stud Health Technol Inform*. 2016;225:577–581.

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