



Review Article

Rehabilitation during the COVID-19 Crisis: A View from the Periphery

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Abstract

The COVID-19 crisis has dramatically transformed the organization of public rehabilitation services around the world. Rehabilitation practitioners have faced different challenges at all stages of patient management from acute departments to home, especially in the periphery of the country.

The Physical Medicine and Rehabilitation department at the Soroka University Hospital is a part of the Southern regional rehabilitation network, and was forced to find optimal solutions to all kinds of organizational challenges from the first days of the crisis. Most of those solutions, which, in our opinion, showed their effectiveness in managing our patients in this confused situation, are presented and discussed in the article.

We are sure, that our adapted strategies can be helpful to our colleagues in other parts of the world.

Keywords: Rehabilitation; Corona crisis; COVID-19; Management

Introduction

The corona crisis has raised many difficulties to health systems, both, in Israel and around the world, causing the necessity to make systemic changes—often “on the run” and sometimes as an immediate, emergent solution to problems encountered throughout components of the entire system [1-3]. Although most of the pressure at this stage

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was exerted on the resources of urgent and less so, preventive medicine, rehabilitation healthcare systems were also required to adapt to the constantly changing terrain during this period [4,5]. It should be noted that Physical Medicine and Rehabilitation, as a profession, is uniquely positioned to help COVID-19 patients, both, conceptually and practically. Physical Medicine and Rehabilitation physicians have always put the quality of life of a patient affected by illness or injury front and center [6,7]. This is a necessary approach to COVID-19 sufferers and survivors, from the initial disease stages up to and including maximal improvement of the patient [8].

As clinical reports are just beginning to be publicized, and there is no clear scientific or evidence-based consensus, all the specific aspects of rehabilitation of COVID-19 patients are still unclear [9]. However, a fair amount of experience has already been gained both, in our country and the world, regarding the mechanics of the rehabilitation system in an environment of epidemiologic, social and institutional limitations during the corona crisis [10]. In our opinion, especially in light of reports indicating the possibility of the crisis continuing over a prolonged time, it is of great importance to analyze and share the adapted management mechanisms of the rehabilitation system at local, regional or state levels [11,12]. The medical system in the periphery of a country has special restrictions and organizational problems everywhere, including Israel, so the analysis of local regional challenges and solutions during the corona crisis in rehabilitation is especially important.

The Department of Physical Medicine and Rehabilitation at Soroka University Hospital in Be'er Sheva, Israel was established five years ago. The department has twenty beds and a catchment area of the entire southern half of Israel. It is a general rehabilitation unit, caring for patients with all diagnoses, including stroke, spinal cord injury, brain injury, orthopedic surgeries, neuropathies, and trauma. We are located within an acute-care hospital, which is a Level 1 trauma center servicing the entire southern half of the country. We function as a part of the Southern Regional Rehabilitation Network together with the outpatient Rehabilitation Unit of the Clalit Health Fund. This structure gives us the professional opportunity to follow and manage our patients from the acute department to inpatient rehabilitation and from there to outpatient programs as one seamless process. Here, we'll present and discuss our COVID-19 crisis challenges and solutions in our region at the periphery of the country.

General Characteristics of the Corona Crisis (Relevant to the Rehabilitation System)

- Social distancing and an awareness of the danger of being infected cause a number of social phenomena, such as:
 - A. Fear of leaving the house (and certainly to present to a hospital) results in a delay to seek and receive emergency medical treatment. This increases the number of patients with severe functional impairment and the need for prolonged rehabilitative care. Had they sought medical care in a timely fashion the impairments would have been minimized

- B. Fear of contact with people and lack of awareness of the consequences of refraining from rehabilitating causes cancellation of participation in day hospitalization programs, in some cases leading to closure of outpatient rehabilitation day programs. This has especially occurred in the periphery of the country, which has fewer physicians, beds, and a lower socioeconomic population
 - C. There is a preference for some families and patients who have undergone significant health events to opt for rehabilitation at home rather than to receive intensive inpatient rehabilitation
 - D. There has been refusal by patients in the periphery to seek outpatient rehabilitation care in the center of the country due to difficulties in getting relatives to transport them, or due to transport limitations
 - E. Closure of some of the support post-rehabilitation frameworks that assist chronic patients, such as social clubs, due to incompatibility with the requirements of social distancing
- Many social changes during the crisis, such as closure of the education system, closure of some communities, cessation of public transport activities, and the exit of some of the professionals from the labor market due to (self- or imposed) isolation causes personnel problems in the various rehabilitation systems with a secondary reduction of activity in both in-hospital and the community. This state of professional manpower constraints requires, among other things, protecting the rehabilitation staff and the prevention of infection in the workplace. Given the nature of rehabilitation treatment, despite the best efforts at social distancing, if one team member were to test positive for COVID-19 it would necessitate the isolation of most of the staff and possible closure of the entire department
 - During the crisis, the organized flow of the rehabilitation services and institutions, developed and dependent upon agreements and working practices of various relevant organizations, such as general and rehabilitation hospitals, health funds, health ministries, welfare and others, often goes awry
 - The usually seamless process of transferring a patient from an acute-care hospital to a rehabilitation hospital, and from there to a day-program in the community and finally, home rehabilitation does not work properly due to cancellation or reduction of services. This increases the need for direct coordination between the various relevant parties and the personalization of the entire program to the needs, abilities and preferences of the patient and his family

Possible Challenges and Solutions in the Acute Department

1. The need to reduce the exposure of the rehabilitation staff during the patient's initial assessment. In order to reduce the possible exposure and infection of the Physical Medicine and Rehabilitation physicians while performing consults in other departments, the following adjustments have been made:
 - Evaluation of the patient is made remotely by one of the senior physicians in the department. This assessment is made utilizing the hospital electronic health record system, reports of the staff in the referring department, and assessments by the para-medical specialties (physical therapy, occupational therapy, etc) in the referring departments

- When essential, an in-person evaluation is performed by one the rehabilitation physicians using appropriate protective measures
 - Minimization of any contact with other departments
 - Testing patients for COVID-19 prior to transfer from acute departments
2. Constructing a personal rehabilitation program in the crisis and the preferences of the patient and his family
 - Construction of a plan by an experienced rehabilitation specialist who is well acquainted with the most current status of national, regional, and local rehabilitation infrastructure
 - Maintaining continuous contact with funding agencies, rehabilitation centers and other relevant organizations for the purpose of building an individualized plan for the duration of the patient's rehabilitation
 - In mild cases, it is worthwhile considering initiating treatment (physical therapy, etc.) in the acute care ward under the guidance of a rehabilitation consultant and then transferring the patient directly to his or her home where he / she will then continue the regimen in a communal physical therapy/ occupational therapy center or as a home exercise program
 - For patients who refuse to pursue standard rehabilitation treatment even after receiving an explanation of the importance of the process, an alternative program should be adapted for performance in a community setting or as a home exercise program
 - For patients who return directly to the community without receiving initial rehabilitation care, care should be taken to transfer their information to the local clinic and attending physician. In addition, a remote rehabilitation regimen (including follow-up visits) should be developed with the relevant professional bodies
 - In situations where the waiting time is extended in an acute ward due to the absence of a vacant rehabilitation bed, it is important to develop and initiate treatment by the para-medical providers (physical therapy, occupational therapy, speech therapy). In complex cases, seek the guidance of a rehabilitation physician

Possible Challenges and Solutions in the Rehabilitation Department

1. Decreased numbers of professional personnel due to crisis constraints and protecting professionals from infection
 - Divide treatment teams into isolated workgroups in the department's ongoing activities whenever possible (i.e. "capsules" consisting of the same doctors, physical therapists, occupational therapists, speech therapists, and if possible, nurses and patient rooms).
 - Extending existing staff hours
 - Developing organized protocols and models for self-treatment
 - Reducing staff movement outside the department (such as consultants in other departments as mentioned above)
 - Maximum reduction in department visits, including family members
 - Cancellation of weekend home-visits by the ward's patients to minimize risk of them infecting the staff or other patients upon return

- In small departments, one of the senior physicians can be defined as “clean” - avoiding contact with the patients. This person concentrates on carrying out routine activities with the multi-disciplinary rehabilitation team in the department as well as other administrative functions. In the event that one or more doctors get exposed or infected, this non-exposed, “clean” doctor steps in to assume the clinical roles of those on isolation
2. Accepting patients with more severe disabilities than usual due to delayed presentation to the Emergency Room for fear of virus exposure
 - There is a need for reinforcement of the staff, especially nursing
 - Regulation of patients admitted according to their level of injury in order to maintain professional functioning in the ward. During the crisis, some patients with mild to moderate injuries, who would normally be referred from the acute ward directly to a rehabilitation day hospital, could not be admitted there due to the closure of many of the outpatient rehabilitation settings in the periphery. These patients can enjoy a relatively short period of inpatient rehabilitation. This can also balance the onus on the nursing staff
 - Shortening the trial period in the department to reach a professional conclusion regarding the rehabilitation potential of patients with severe injuries
 3. Breaking the “regular” rehabilitation continuum from inpatient hospitalization to rehabilitation day hospitalization and from there to completion of treatment at communal health care centers or home, secondary to the closing of day hospitals and reduced services in the community
 - Build a personalized rehabilitation plan, as early as possible during hospitalization, in full coordination with community agencies to plan for continued care after completion of hospitalization and rehabilitation goals have been achieved
 - Since the usual communal resources are unavailable, in some cases, it may be necessary to extend the hospitalization period to complete a plan, given the lack of an option for continuing rehabilitation in the community
 4. Difficulties in releasing patients from the ward due to the closure or reduction of some of the community support services, such as obtaining a home health-aide, domicile modifications (such as building a ramp), or obtaining appropriate equipment
 - Need early decision-making regarding special needs at discharge to give reasonable time for completion of these processes given the crisis
 - Establishing direct relationships with community “players” to find creative solutions to complete the processes
 - Possible challenges and solutions in community rehabilitation
 1. Reduced rehabilitation options in inpatient and ambulatory settings
 - Building an individual rehabilitation plan against the background of the crisis period as detailed above. Under these circumstances, the task of placing patients can be particularly difficult. As a result, the rehabilitation physician directing placement is required to have a thorough knowledge of the rehabilitation options in the area
 - Development and expansion of home and remote rehabilitation services
 - Develop protocols in constant collaboration with health-care institutes to find creative solutions on a mutual cooperative basis.
 - Collaboration with clinics and family physicians to design and build a rehabilitation program for patients who did not receive a formal rehabilitative treatment and returned home directly from the acute department.
 2. Decrease in the number of active rehabilitation staff in the region and the importance of decreasing the exposure of the existing staff to the risk of contracting the virus
 - Transfer most of the activities of the community rehabilitation system, including placement, control and certification processes, to virtual means over the phone or video
 - Developing dedicated mechanisms for collaboration utilizing available information systems between professional rehabilitation agencies such as clinics, continuing care units, and health care institutes in the region
 - Establishing relationships with non-medical support organizations in the area, such as patient associations, social clubs and others, to coordinate activities and prevent functional deterioration of chronically ill patients in poor functional condition

Conclusion

The ongoing COVID-19 crisis presents different challenges to regional rehabilitation systems, especially at the periphery of the country. Our solutions, presented here, showed their effectiveness in our regional rehabilitation network, and can be helpful to our colleagues in different places in the world, facing the same or similar problems of system management.

References

1. Kakodkar P, Kaka N, Baig MN (2020) A comprehensive literature review on the clinical presentation, and management of the pandemic coronavirus disease 2019 (COVID-19). *Cureus* 12: e7560.
2. Stam H, Stucki G, Birkenbacher J (2020) Covid-19 and Post Intensive Care Syndrome: A Call for Action. *J Rehabil Med* 52: jrm00044.
3. Lew HL, Oh Park M, Cifu DX (2020) The War on COVID-19 Pandemic: Role of Rehabilitation Professionals and Hospitals. *Am J Phys Med Rehabil*.
4. Sheehy LM (2020) Considerations for Postacute Rehabilitation for Survivors of COVID-19. *JMIR Public Health Surveill* 6: e19462.
5. Negrini S, Ferriero G, Kiekens C, Boldrini P (2020) Facing in real time the challenges of the Covid-19 epidemic for rehabilitation. *Eur J Phys Rehabil Med*.
6. Ceravolo MG, De Sire A, Andrenelli E, Negrini F, Negrini S (2020) Systematic rapid “living” review on rehabilitation needs due to covid-19: update to march 31st 2020. *Eur J Phys Rehabil Med*.
7. Carda S, Invernizzi M, Bavikatte G, Bensmail D, Bianchi F, et al. (2020) The role of physical and rehabilitation medicine in the COVID-19 pandemic: The clinician’s view. *Ann Phys Rehabil Med*.
8. Boldrini P, Kiekens C, Bargellesi S, Brianti R, Galeri S, et al. (2020) First impact on services and their preparation. “Instant paper from the field” on rehabilitation answers to the Covid-19 emergency. *Eur J Phys Rehabil Med*.

9. Brugliera L, Spina A, Castellazzi P, Cimino P, Tettamanti A, Houdayer, et al. (2020) Rehabilitation of COVID-19 patients. *J Rehabil Med* 52: jrm00046.
10. Boldrini P, Bernetti A, Fiore P (2020) Impact of COVID-19 outbreak on rehabilitation services and Physical and Rehabilitation Medicine (PRM) physicians' activities in Italy. An official document of the Italian PRM Society (SIMFER). *Eur J Phys Rehabil Med*.
11. HuatKoh GC, Hoenig H (2020) How Should the Rehabilitation Community Prepare for 2019-nCoV? *Arch Phys Med Rehab* 6: 1068-1071.
12. Treger I, Lutsky Treger L, Friedman A (2020) Organization of acute patients' transfer to rehabilitation services during COVID-19 crisis. *European Journal of Physical and Rehabilitation Medicine*.



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