



Neurological Diseases and My Experience in the Physiotherapy Internship-Part 2

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Editorial

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Abbreviations: FHP: Family Health Program; UBS: The Basic Health Unit; PNAB: The National Primary Care Policy; WHO: World Health Organization; APAE: Association Of Parents And Friends Of Exceptional Children; DS: Down Syndrome; ID: Intellectual Disabilities.

Editorial

In the experience I gained during my internship in Physiotherapy, I conducted numerous treatments on neurological patients, including Stroke, Down Syndrome, intellectual disabilities, cranial trauma, among others. In this present study, I will discuss neurological diseases.

In Brazil and worldwide, neurological diseases have a high prevalence. To ensure effective rehabilitation, it is essential to conduct a comprehensive initial assessment, considering aspects such as disability, impairment, muscle tone, strength, balance, and kinesthesia. The physiotherapeutic assessment aims to accurately identify the patient's real condition in order to establish therapeutic goals based on their clinical conditions [1].

One of the commonly explored internship fields is the Basic Health Unit (UBS), through the Family Health Program (FHP). Since its creation in 1994, the FHP has gradually become the main strategy to expand access to primary care and promote changes in the care model. About a decade after its implementation, it was transformed into the Family Health Strategy, established by the National Primary Care Policy (PNAB) in 2006 and subsequently revised in 2011 and

2017 [2].

By embracing Family Health as a strategy, the 2006 PNAB strengthened the shift in the care model, establishing multiprofessional teams as the preferred point of entry and coordinators of care in the network. This approach represents a significant innovation, as health systems with an organized "point of entry," supported by a solid and strengthened primary care network, tend to achieve better outcomes.

The "gatekeeper" function has been recognized by various authors as an important strategy for the hierarchical organization of health systems, ensuring greater effectiveness. Some countries have adopted this concept since the 1960s, where the UBS is mandatory as the first point of access to the system, functioning as a filter for referrals to specialized services and acting as the first hierarchical level of the health system. In Brazil, primary care is still characterized by defining an assigned population in a geographically delimited territory, unlike European countries that work with lists of users assigned to doctors and nurses, although they also consider housing and geographical proximity when choosing the UBS by users [2].

The Family Health Program refers physiotherapy interns to home care services, where we can assess if the patient has any physical complications such as pain, muscular atrophy, pressure ulcers, respiratory infections, intestinal constipation, incontinence, and urinary infections, which are common in bedridden patients.

Immobilization syndrome affects those who have not been able to achieve their full neuromotor development or

who have their functional capacity compromised at different stages of their lives. Examples of these conditions include perinatal diseases that cause serious motor impairments, such as cerebral palsy, as well as other conditions associated with cognitive and sensory dysfunctions. In addition, the progression of neurodegenerative diseases such as muscular dystrophies, sequelae of trauma caused by urban violence or traffic accidents, a large number of people with sequelae from cerebrovascular diseases, obesity, degenerative joint diseases, frailty, and the epidemic of dementia syndromes in countries with rapid population aging, such as Brazil. For many patients receiving home care, the presence of comorbidities is common, not limited to just two or three clinical conditions, but rather a combination of multiple “minor” problems that can result in dysfunctionality [3].

Other conditions commonly addressed in home rehabilitation include gait and motor function: functional gains and prevention of complications, playful, artistic, and work activities.

When a patient is admitted to home care, it is necessary to assess the need for rehabilitation and prognosis. It is essential for the interdisciplinary team to identify the conditions that can be targeted for intervention and select which patients should receive intensified rehabilitation, especially in cases of worsening conditions or referral to medium and high complexity centers. The discussion about prognosis occurs after assessing the potential for rehabilitation, stimulating existing abilities, overcoming limitations, and recognizing physical, emotional, educational, and professional boundaries in collaboration with the patient and their caregivers [3].

One of the patients we are treating at home has suffered a cranial trauma following a traffic accident. It is important to initiate physical rehabilitation for this patient as early as possible to minimize the detrimental effects of immobility, which not only cause joint restrictions but are also associated with clinical complications (respiratory, circulatory, skin lesions) and have a negative impact on prognosis. Additionally, promoting neural readaptation is crucial for recovering lost sensorimotor functions [4].

In home care, we also attend to patients with Stroke, which occurs as a result of cellular damage caused by ischemia or hemorrhage in the brain tissue. Stroke is considered the leading cause of disability in adults worldwide and involves a range of clinical challenges related to the sensorimotor system [5].

According to the World Health Organization (WHO), Stroke is defined as the interruption of blood supply to the brain, caused by a blockage (ischemic stroke) or the rupture

of a blood vessel (hemorrhagic stroke), resulting in brain damage. This condition affects both sexes, with ischemic stroke accounting for 80% of cases. Stroke is one of the major causes of mortality and permanent disability in adults, representing a significant public health problem [6,7].

When a stroke event occurs, it is crucial to intervene within four and a half hours from the onset of symptoms, as recovery is subject to limitations if this time is exceeded. If neurological symptoms disappear spontaneously and completely within less than 24 hours, it is referred to as a transient ischemic attack [4,8].

Physiotherapy treatments have shown effectiveness in rehabilitating patients with brain injuries as they stimulate neuronal plasticity. It is believed that the human brain is a dynamic and adaptive organ capable of modifying itself in response to new environmental conditions or functional limitations imposed by brain injuries [9].

Another institution where we undertake internships is the Association of Parents and Friends of Exceptional Children (APAE), a philanthropic civil organization focused on cultural, educational, and welfare aspects. APAE plays a unique role in society, serving approximately 250,000 students with disabilities throughout Brazil through its 2,171 units, providing social services in the areas of education, health, and assistance, aiming to improve the quality of life of people with disabilities [10].

Social inclusion and quality education are extremely important tools to improve the quality of life for people with disabilities, enabling them to access opportunities that promote their development, citizenship, and autonomy [10].

APAE provides access to knowledge, established rights, qualification for inclusion in the job market, rehabilitation, and promotion of autonomy for the full exercise of citizenship for people with intellectual and multiple disabilities, seeking to provide independence and autonomy to students [10].

At APAE, we serve some patients with Down syndrome (DS), a genetic alteration caused by the presence of an extra chromosome, pair 21, also known as trisomy 21. This genetic alteration affects the individual's development, resulting in specific physical and cognitive characteristics. The majority of people with this condition have simple trisomy 21, which means that an extra chromosome is present in all cells of the body due to an error in the separation of chromosome 21 in one of the parents' cells, known as chromosomal dysfunction [11].

Physical therapy plays a fundamental role in the care of individuals with Down syndrome, as many pathologies,

mainly those related to motor impairment, can be treated through it. The goal of motor physiotherapy for children with Down syndrome is to reduce delays in gross and fine motor development by stimulating the necessary postural reactions to achieve normal developmental milestones, as well as to prevent joint instability and bone deformities [11].

The physiotherapeutic treatment is tailored to the individual conditions of the patient with Down syndrome. In the case of motor delays, physiotherapy carries out exercises such as gait training, postural changes, static and dynamic balance, using specific techniques and resources in the therapeutic environment [11].

In addition to these resources, hippotherapy is a therapeutic and educational approach that involves the use of horses in conjunction with a multidisciplinary team in the areas of health, horseback riding, and education.

This approach aims to promote the biopsychosocial development of people with disabilities or special needs [11].

At APAE, we also serve individuals with intellectual disabilities (ID) who face various limitations in the areas of language, self-care, communication, social adaptation, education, and work, as well as restrictions in their functional abilities. These individuals deserve and require specific attention and care, not only due to aging but especially due to their particular needs. Unfortunately, elderly people with intellectual disabilities face a range of more significant problems due to the stigmas and discrimination associated with old age [12]. Individuals with mild intellectual disabilities have the most significant limitations, including difficulties with abstract, metaphorical, and categorized thoughts, action planning, consequence prevention, and learning from mistakes. As intellectual disability becomes more severe, there is an increased association with neurological, neuromuscular, visual, auditory, cardiovascular, and other diseases [12].

Physiotherapeutic intervention plays an indispensable role in the aging process of people with intellectual disabilities since these individuals, in addition to socio-educational limitations, have varying degrees of functional disability that tend to manifest with advancing age. The geriatric physiotherapist, due to their sensitivity and understanding of aging as a gradual, progressive, and multifactorial process, can develop appropriate techniques to promote the health of these individuals, maintaining their autonomy and strengthening social relationships, as observed in group activities [12].

Furthermore, we also serve athletes and para-athletes at the Municipal Sports Gymnasium José Maria Paschoalick,

known as Mostrinho, in Ourinhos- SP. This location has a structure of approximately 100,000 square meters, which includes a gymnasium, ample parking, two swimming pools (one of them semi- Olympic), a covered court (with lower seating capacity), a soccer field (Djalma Bahia Stadium), and an athletics track, all available for use by the municipality [13].

The role of the sports physiotherapist is fundamental in the context of Paralympic sports, from the introduction and presentation of adapted sports to people with disabilities to the patient's rehabilitation process. In the sports field, the physiotherapist performs functions such as assessment, prevention, and treatment of musculoskeletal injuries resulting from sports practice, as well as contributing to the area of functional classification [14].

The involvement of physiotherapists in the healthcare team of the Paralympic Games was first documented in the literature during the 1992 Barcelona Games. At that time, the delegation from England, composed of 205 athletes, had a healthcare team consisting of 12 professionals, including 7 physiotherapists. It was reported that the work of the physiotherapists was intense, with emphasis on the use of therapeutic massage as a widely employed resource for athletes before and after competitions, followed by electrothermotherapy techniques [14].

Thus, internships provide value to the processes of personal and cognitive development of the individuals involved in the teaching and learning relationship. It is essential to train a professional who is in line with the entirety of the practice experienced in their field of knowledge. Consequently, the idea of productive work meets the demands and needs of the field of knowledge while emancipating the individual and placing them as a protagonist in the historical choices of their insertion, both in the world of work and in the possibilities of reconstruction [15].

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