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Characteristics and functional demands of patients at a local rehabilitation network: analysis from first contact

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Abstract *The cross sectional study aims to create the patients' profile and understand their demands for seeking public rehabilitation services from Belo Horizonte. Data were analyzed from 516 patients who gained entry into the health care system by means of the Protocol for Identification of Problems for Rehabilitation (PLPR). It allows for gathering information related to one's health and the social context, including a brief functional description (BFD) with 25 items. Most patients were females, mean age of 57 years, and 54% declared to be responsible for the family income. Severe or complete difficulty in at least one item from the BFD was reported by 87%. Pain and Mobility domains showed greater disability. The patient's demand for services referred them mostly to physical therapy (89%), and psychology (14%); 77% were referred to basic care (BC) and 21% to specialized care (SC). Those that started rehabilitation in SC were younger, had increased number of high ratings in item's qualifiers and higher total score in the BFD, indicating increased functional limitation and restriction. It is intended that the information provided by the PLPR may contribute to the organization of patients' flow and the planning of actions.*

Key words *Rehabilitation services, First contact, Health evaluation, Protocols, International Classification of Functioning Disability and Health*

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Introduction

The health of disabled people in Brazil has been receiving a lot of attention recently, particularly when one considers the increase in the number of public policies that cover functioning and disability models which provide guidance on organizing services of the Brazilian Unified Health Service (SUS)[1]. What is of particular note is the National Plan for the Rights of those with Disability, "Living without Barriers" (2011). This plan has at its core the development of policies for people with disabilities in the following areas: primary health care, access to education, social inclusion and accessibility. This plan has been developed by the Brazilian Ministry of Health through the creation of the Care Network for People with Disability[2]. In order to make the aforementioned official, in 2012 Ministerial Order nº 793 was decreed implementing the Care Network for those with a Disability. Then Ministerial Order nº 835 was decreed that set out the financial rules for the states and municipalities[3]. Lastly Resolution nº 452 established the use of the International Classification of Functioning, Disability and Health (ICF) to be used in SUS and Complementary Health[4].

The consolidation and strengthening of the health care network for those with a disability is a major challenge due to the complexity of the problems and the growing demands of this segment of the population. There is a lack of successful and innovative experiences in the country[5]. The network is made up of different services: primary health care, specialized services, and hospital services. Advances are necessary which involve articulating and aligning actions that have been developed in different points in the network. There is also a need to clearly define the responsibilities for each segment and patients' access flow. With the above in place, the first contact of the individual with a health service is an important moment to understand the patient's demands, for actions to be defined and for communication to be facilitated between the professionals and the local health care network services.

First contact and screening patients is a procedure from the National Policy of Humanization, which allows for this task to be organized in a appropriate manner. It has the objective of reducing queues and waiting times as well as widening and standardizing access. This approach allows for the stratification of demands which means replacing the traditional way of organizing the attending of patients based on the order in which someone arrives, to one which has a new logic grounded on the principle of equity[6,7].

In Belo Horizonte, the experience of rehabilitation in the public health network is relatively new[8]. The city currently has multidisciplinary teams in the primary health care network that are based in 58 Centers of Family Health Support (NASF) that are distributed in the nine Health Districts of the city. Approximately 400 professionals work in the NASF: Speech Therapists, Physical Therapists, Occupational Therapists, Social Assistants, Psychologists, Nutritionists, Physical Educators and Pharmacists[9]. Specialized rehabilitation is covered by the Specialized Rehabilitation Centers (CREAB) which are secondary services where the following treatments are done[2]: diagnosis, treatment, concessions, adaptations and the maintenance of assistive technologies. Belo Horizonte has three CREABs which have multi-professional teams that are made up of 100 rehabilitation professionals. The municipality also makes available: privately contracted out services, public services and authorized philanthropic services. Emergency hospital services in rehabilitation are responsible for initially receiving and treating people with disabilities in emergency situations. It also puts together teams of quality professionals and it guarantees the access to beds for rehabilitation hospitals[2]. The network of hospitals in Belo Horizonte has its own hospital and has about 30 contracted staff and services.

The public rehabilitation network organizes itself in a territorial manner. Each NASF is responsible for a specific group of health centers and each CREAB works as a reference service for the specific Health Districts. First contact to the network can occur in any point or service at the different levels where people are treated, respecting this territorial division in the municipality. Based on a referral from a doctor in the Family Health Care Team or from a specialist, the patient can get access to the rehabilitation network and be treated by NASF or directly by CREAB which is responsible for the area that covers their residencies.

However at the first contact moment, based on the demands and needs of each patient, decisions must be taken regarding the flow process for treating patients. This means which professionals will treat each patient and at what level in the health system (NASF or CREAB) will the process of rehabilitation take place. Therefore even if the patient is treated at the NASF he can be referred to the CREAB (or vice-versa). Adequate first contact favors the identification of the best flow process for treating patients and it also favors communication among all those involved in the care treatment: patient, family members, professionals

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and services. However when implemented in a non-organized way, first contact can cause: duplicated actions, unnecessary referrals among the different levels care and general fatigue for both the professionals and patients. This can compromise their potential ability to articulate and resolve issues which can in turn disrupt health care treatment.

In an attempt to enhance the network, the Municipal Secretariat for Health in Belo Horizonte since 2009 has been developing actions in the area of rehabilitation aimed at having integral health services through a multi-professional and interdisciplinary approach that is guided by an assistive model based on the ICF[10]. ICF provides for a standardization of concepts and language as well as a structure that makes possible a description of health and the states related to health in a universal way[11].

The ICF provides a theoretical mark that allows for the identification and description of the rehabilitation needs which permits the treatment of individuals in an integral way. The effective application of this theoretical perspective means that the instruments and tests used by the rehabilitation professionals during the decision making process can provide information on all of the ICF components[12].

Considering that the rehabilitation begins through the identification of problems and needs[13], and that this first step is fundamental in organizing the flow of patients between the public rehabilitation network, the PLPR (*Protocolo de Levantamento de Problemas para a Reabilitação*: Protocol for Identification of Problems for Rehabilitation) was developed. The PLPR is used to organize the first contact of the patient with the rehabilitation service. The idea is to collect important information for the clinical decision making. It will also allow for the creation of a database that permits health care professionals to understand the functional demands of the population that looks for the rehabilitation services[14].

The purpose of this study was to understand the profile of the patients and analyze their functional demands during the first contact in the rehabilitation public services in Belo Horizonte, Minas Gerais.

Method

We carried out an observational cross-sectional study, with 516 patients treated in the public rehabilitation services of Belo Horizonte, from August 2012 to June 2014. The study involved the use of the PLPR – a tool that was developed based on needs identified by the rehabilitation professionals in order to organize first contact and the flow of patients based on the ICF model[14]. Data was collected at different points in the rehabilitation network in the municipality: NASF or CREAB. Rehabilitation professionals and academics that were near to completing their undergraduate course on Physical Therapy at the Universidade Federal de Minas Gerais and who participated in the consultation, received prior training in the use of the PLPR in their daily practices.

The PLPR was developed aiming to be a tool that would permit the reaching of an individual's subjectivity and that would favor a more functional perspective of health and health related problems noted by patients[14]. The PLPR can be used by any rehabilitation professional who is responsible for the first contact with the patient, in other words provides the first consultation. Aside from systemizing the first contact, the PLPR aided the health care professional to identify: the principal demands of the individual, the specific health care professionals that were need to approach each case and the rehabilitation service where the initial treatment would take place.

The protocol permits the collection of functional, social and environmental information in accordance with the conceptual ICF model. It is divided into three parts that allow for the obtaining of: patient characteristic information on health and a Brief Functional Description (BFD: Body Functions, Activity and Participation). In the first part information related to the location of the first contact and the patient's health unit, was collected. In the section Summary of the Social and Health Information" allows the collection of the following data: sociodemographic data, the reason for seeking out rehabilitation, anthropometric data, risk factors, self-evaluations of physical/emotional health, the use of assistive resources, whether there was a need for help in order to carry out daily activities, the use of medication or other treatment and the presence of a permanent disability. The BFD is made up of 25 questions distributed in 10 domains: Mobility, Communication, Eutrophy, Self-care, Pain, Interpersonal activity, Energy and Sleep, Affect, General Tasks and Demands and Remunerative employment.

In order to classify the magnitude of the problem, a scale containing 11 points varying from 0 (no difficulties or disability) to 10 (complete difficulties or disability) was presented to the patient. A subsequent conversion of this scale for the ICF qualifiers was done.. Therefore the health care professional ought to register on the protocol

for each BFD question, the value that has already been converted in qualifiers from the ICF: 0 (no disability or difficulties), 1 (mild disability or difficulties), 2 (moderate disability or difficulties), 3 (severe disability or difficulties) or 4 (complete disability or difficulties)[11]. For the purpose of this analytical study the qualifiers 0, 1 and 2 were considered low while the qualifiers 3 and 4 were considered high.

The PLPR also provides a final score that is calculated based on a simple formula and weightings that are attributed to every one of the domains depending on the number of codes that each domain has. This permits a comparison to be made concerning the performance on the BFD between the patients. This final score can aid in the planning of rehabilitation services including the management of queues and regulatory actions based on the functional criteria. In order to finalize, the health care professional ought to officially note down: the principal demand given by the patient, the place where the initial treatment took place, who were the health care professionals that were involved and the coordinator for more complex cases that require different teams and places for treatment. These decisions are taken by the professional who provided the first consultation. This approach is based on clinical rational and expertise and was obtained from the information collected with the PLPR. In this initial pilot test, the time for the application of the protocol varied from between 15 and 30 minutes.

The *Statistical software Package for the Social Sciences – SPSS* version 17.0 was used to both manage and analyze the data. A descriptive analysis was carried out on the collected information using central tendency and dispersion measurements. Pearson's linear correlation coefficient was used to analyze the correlation between the self-rated physical health, the self-rated emotional health and the total BFD score. The student t test was carried out in order to compare the characteristics of the patients that were directed to start their treatment in their primary health care unit or with a specialist. The statistical level of significance of 5% was considered during the analysis. This study was approved by the Ethics Committee on Research at the Universidade Federal de Minas Gerais.

Results

516 patients were evaluated, the majority of whom were female (75%) with an average age of 57 years (SD =16); 47% stated that they lived with a companion and 54% stated that they were responsible for their family income. About 30% of the patients that sought rehabilitation treatment stated that they received the aid of other people in order to carrying out daily activities and 2%, despite needing help, did not receive any. With reference to the level of education, 51% of patients were either illiterate or had not completed primary school. Less than half (46%) were in active employment.

The principal risk factors were physical inactivity (65%) and being overweight (31%). In relation to the self-rated health, 41% considered their physical health as moderate and their emotional health as very good/good (43%). It was highlighted that only 17% were being medically monitored which was the reason given for searching for rehabilitation. Nevertheless, 19% were being medically monitored for other health problems and more than half of the participants used some type of medication (59%) (Table 1).

In the analysis of the BFD, 87% of patients mentioned having a disability or serious/complete difficulties (qualifiers 3 or 4 of the ICF) in at least one item. Among the patients that mentioned some degree of disability or difficulty (qualifiers 1, 2, 3 or 4) on the BFD, the sensation of pain was the item that was most frequently classified with disability or severe/complete difficulty (58%) followed by mobility of joint functions (45%) (Table 2). In the analysis of patients aged < 60, the main disabilities or difficulties (severe/compete) were: a sensation of pain (60%), mobility of joint functions (50%), remunerative employment (34%) and weight maintenance functions (33%). Among those that were ≥ 60 years old, the sensation of pain was classified as severe or complete by 54% followed by mobility of joint functions (40%), difficulties related to sleep functions (31%) and intimate relationships (30%).

The mean total score for the BFD was 23.89 (scale of 0 to 100). A calculation of the total score for each of the 10 domains showed that "Pain" presented a higher mean score (6.06, SD = 2.96) and on a scale from 0 to 10 it was followed by the domain "Mobility" (3.43, SD = 2.43) (Graphic 1).

Pearson's linear correlation coefficient index revealed a moderate and significant correlation between self-evaluation of physical health with self-evaluation of emotional health ($r = 0.450$, $p < 0.001$) and with a total BFD score ($r = 0.419$, $p < 0.001$). In the same way the self-rated emotional health showed moderate and significant correlations with a total BFD score ($r = 0.469$, $p < 0.001$). These values showed that the worse the self-rated physical health is or for that matter the emotional

health related by the patients, the worse were their functioning capabilities, in the other words, there is a moderate tendency for a high BFD total score.

Among the 516 patients that were treated during the period that they were analyzed, 374 (73%) were referred to start treatment with only one of the professionals that was a part of the rehabilitation teams in public health in the municipality. 117 (23%) patients demanded two professionals and 16 (3%) were monitored by the different professionals. The distribution of the demand for professionals after the first contact was the following: Physical Therapists (89%), Psychologists (14%), Nutritionists (12%), Occupational Therapist (6%) and Speech Therapists (2%).

With reference to the place, 398 patients (77%) were directed to start treatment at the primary care and 109 (21%) to have treatment with a specialist. The place to start treatment was not specified by the professional that carried out the first contact in nine protocols. Three cases taken on by the primary health care center did not show any demand to continue treatment for rehabilitation and in those cases patients only received guidance.

Table 3 shows the mean patients' age, the number of high qualifiers and the BFD scores comparing the patients referred to start rehabilitation at the primary care and those referred to start at the specialized care. Those that started the rehabilitation at the specialized care were younger (mean age=51 years old, SD = 12.51), corresponding to the productive age range. They had the highest number of high qualifiers (8.16, SD = 5.28), in other words, severe/complete disability or difficulties in the BFD items. They also showed a high total score on the BFD (34.81, SD = 15.58), indicating the highest limitations and functional restrictions. The patients that started the rehabilitation at the primary care were, on average, older (mean age=58 years old, SD=16.05) and showed a lower number of high qualifiers (5.22, SD = 5.35) and they showed a lower total score on the BFD (26.00, 17.16). The differences among the variables means were significant ($p < 0.001$) considering a confidence interval of 95% (Table 3).

Table 1. Participants' sociodemographic and health profile. Belo Horizonte, 2014.

Variable	n (%)
Sex (n = 516)	
Female	385 (75)
Marital Status (n = 513)*	
Single	122 (24)
Married/Living common law	243 (47)
Divorced	55 (11)
Widowed	93 (18)
Educational Attainment (n = 493)*	
Illiterate	23 (5)
Primary School Incomplete	231 (46)
Primary School Complete	69 (14)
High School Incomplete	23 (5)
High School Complete	118 (24)
College Incomplete	5 (1)
College Complete	24 (5)
Employment Status (n = 455)*	
Active	211 (46)
Absent from work	41 (9)
Unemployed	44 (10)
Retired	159 (35)
Risk Factors (n = 512)**	
Physical Inactivity	334 (65)
Overweight/Obesity	160 (31)
Smoking	74 (15)
Alcohol abuse	72 (14)
Self-rated health (n = 511)*	
Good/Very good	171 (33)
Moderate Physical Health	208 (41)
Poor/Very poor	132 (26)
Good/Very good	220 (43)
Moderate Emotional Health	179 (35)
Poor/Very poor	112 (22)
Age (years) (n = 516)	Mean: 57 years (SD = 16)

* Percentage values were calculated excluding protocols with incomplete data. ** To calculate the percentages for the variable "risk factors", all the factors that applied to the patient were considered.

Discussion

This study revealed the functional profile and socio-demographics of patients treated by the public rehabilitation services of Belo Horizonte. The patients had the following profile: the majority were female, had a mean age of 57, were married, with an incomplete primary school education and they were responsible for their family income. Many of them did not work, were sedentary and they were taking at least one type of medication. They considered both their physical and emotional health to be very good, good or moderate and these are correlated to the level of functionality documented through the BFD. They stated that they had severe or complete difficulties in at least one of the BFD items and they identified the domains of pain and mobility as the major disability. Such patients received referrals to start rehabilitation treatment at the primary care through being monitored, firstly, by a Physical Therapist.

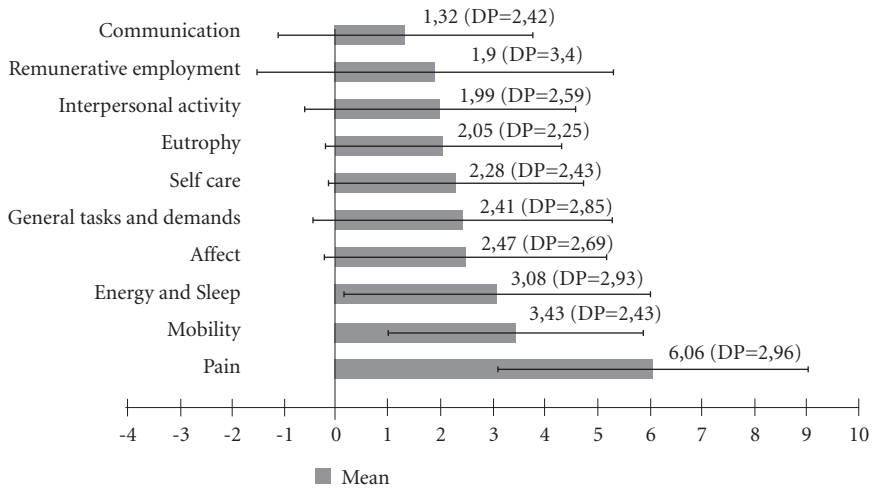
Table 2. Percentage of patients that mentioned a severe or complete disability/difficulties on the Brief Functional Description items, by age group – Belo Horizonte, 2014*.

Brief Functional Description	< 60 years old	≥ 60 years old	Total
Mobility			
b455 Exercise tolerance functions	32	21	27
b710 Mobility of joint functions	**50**	**40**	**45**
d410 Changing basic body position	30	26	28
d450 Walking	25	26	25
d470 Using transportation	24	27	25
Communication			
d330 Speaking	8	13	10
d350 Conversation	10	11	11
Eutrophy			
b510 Ingestion functions	4	9	6
b530 Weight maintenance functions	**33**	27	30
Self-care			
d510 Washing oneself	19	19	19
d530 Toileting	11	22	16
d540 Dressing	24	20	22
d570 Looking after one's health	26	21	24
Pain			
b280 Sensation of pain	**60**	**54**	**58**
Interpersonal activity			
d710 Basic interpersonal interactions	6	14	10
d920 Recreation and leisure	30	25	28
Energy and Sleep			
b130 Energy and drive functions	24	23	24
b134 Sleep functions	32	**31**	31
Affect			
b152 Emotional functions	21	23	22
d240 Handling stress and other psychological demands	22	25	24
d770 Intimate relationships	20	**30**	24
General tasks and demands			
d230 Carrying out daily routine	20	20	20
d640 Doing housework	27	26	27
d660 Assisting others	18	19	18
Remunerative employment			
d850 Remunerative employment	**34**	20	29

* Percentage values of "severe or complete disability or difficulties" (qualifiers 3 or 4 of the ICF) were calculated considering only the protocols of patients that mentioned some level of disability or difficulty on the BFD items (qualifiers 1, 2, 3 or 4 of the ICF).

Their behavior in relation to using health services is a result of various factors that cover health care organization and the sociodemographic and epidemiological profile of the patients[15]. In Brazil there is a higher prevalence of females searching for health assistance even though many are advanced in their ages when supposedly their care needs are wider at this time of life, irrespective of age[16]. This study confirms the differences between the sexes showing the percentage to be three times higher for the women that seek out rehabilitation treatment in comparison to men. Among the explanations for the imbalance are principally questions related to gender and factors such as opening hours for the services and prioritization of work related activities among men[16,17].

The presence of a disability or a severe/complete difficulty (qualifiers 3 and 4) was seen in almost all of the patients in this study. In these services the referral criteria for rehabilitation treatment for patients was adopted which presented qualifiers 2, 3 and 4. The elevated percentage of the highest qualifiers demonstrates the real need for treatment and monitoring of



Graphic 1. Mean Scores on the Brief Functional Description domains (n = 516). Belo Horizonte, 2014.

Table 3. Patients' characteristics according to place defined to start rehabilitation treatment (n = 507). Belo Horizonte, 2014.

	Place to start the rehabilitation treatment	N	Mean	SD	Confidence Interval (95%)
Age (years)	Primary health care	398	57,81	16,05	[3,90 : 9,62]
(p < 0.001)	Specialized Care	109	51,04	12,51	
Number of high qualifiers	Primary health care	398	5,22	5,35	[-4,07 : -1,81]
(p < 0.001)	Specialized Care	109	8,16	5,28	
Total Score on the BFD	Primary health care	398	26,00	17,16	[-13,34 : -6,23]
(p < 0.001)	Specialized Care	109	34,81	15,58	

the patients with important functional demands. Among the domains that received higher numbers of high qualifiers (3 and 4) were pain and mobility. Upon analyzing these high qualifiers for two patients groups in the age range (< 60 and ≥ 60), both pain and mobility remained as the first and second domains with the greatest importance among the cases, respectively. These are domains that can negatively influence the social participation of individuals which include work related activities and daily life activities. This can be seen in this study, in which approximately a third of the respondents stated that they needed help to carry out their daily life activities. However this need did not materialize in an obligatory way through the receipt of help, which increased the role and weight of these activities in the daily lives of the people[18]. In spite of the similarities among the groups, one can observe that the demands of the younger patients were different to those of the older people. While among the individuals that were less than 60 years old their remunerative employment and weight maintenance functions were the third and fourth domains with the greatest frequency of the highest qualifiers, among those that were 60 or older, sleep and intimate relations were the most frequent demands. Recognizing these differences in the demands of patients aids in the planning of actions to be implemented by the services and provides guidance for individual centered interventions.

Even with functional restrictions, almost half of the patients considered their physical health to be moderate (41%) and their emotional health as very good/good (43%) which shows that other aspects of their lives such as well-being and satisfaction with their own lives[19] and not just the presence of an illness, interfered in the eval-

uation of such questions[20]. Despite being subjective in nature, self-evaluation of one's health is widely used in surveys on populations due to its relative ease in its application and its validity in predicting morbidity, the use of health services and mortality[19,21]. Pollard et al.[22] and Silva[23], analyzed the ICF model and its relation with perceptions on health. They concluded that the self-evaluation of one's health was the best predictor of functioning than clinical diagnosis. The reality is that in the ICF conceptual model the same clinical condition can affect, in a distinct way the functioning of different individuals. With this perspective in mind, an evaluation of the individuals that looking for rehabilitation services becomes important as well as placing the evaluation in functional parameters. This is due to the current network being overloaded which reinforces the need to establish fluxes having an efficient level of treatment and also having new parameters that set out priorities.

Based on the above, the total scores created in the BFD can be an innovative and coherent resource for defining priorities on the attending patients in the public rehabilitation network. The mean total score of 23.89 (on a scale from 0 - 100) presented by the population that was analyzed was very significant, in view of the fact that these individuals, invariably presented some difficulties in their lives that drove them to seek out the services. This means that, among these patients there were no points on the BFD that could not be considered. Although increased points means worse functioning, that fact of showing a score of zero on the BFD does not mean that the patients do not have any problems to be tackled. It means a better functioning in the face of a group that had access to the rehabilitation service. The BFD can be used to place individuals in a continuum of priorities based on functioning. Expressed in another way, even being the average for the total BFD score that is in the first quartile in the scoring, it is expressive and translates the need for a therapeutic approach for patients.

Considering the results of this and of the other studies, we analyzed a possible correlation between the self-perception in health[22,23] and the BFD score[24]. The patients that stated that they had good physical health conditions, in general, also stated that they had good emotional health. Both the perception of physical health as well as the perception of mental health showed moderate correlations, with the final BFD score showing that the more functional the person was in relation to their activities, better was the perception they had of their state of health. The fundamental implication of this information is related to the professionals, as decisions related to rehabilitation ought to take in consideration the idea that the main difficulties and complaints of the patients can be centered on the consequences of the clinical diagnosis in all areas of their lives and not necessarily in the clinical state in itself[20]. Approaches that influence functioning can have impacts on one's perception of health and can provoke changes in the standards of morbidity and even mortality[20].

The outcomes that were hoped for after the application and interpretation of the PLPR were: an understanding of the principal demands of the patients, professionals more adept to start and coordinate health care, and a place for rehabilitation that was available in the public network to start treatment. The absolute majority of the first contact patients with PLPR started their treatment with just the participation of a rehabilitation team. The fact that the protocol aids in the determination of the rehabilitation needs (both singular and multiple), one can optimize the use of the network of services and the productivity of the professionals. It is important to reiterate that the treatment started by just one professional does not bring with it an approach that is far from the principles of integrality and the tools that may be possibly used for work in interdisciplinary teams such as for example in situations where different medical teams work together on a specific case. On the contrary, it establishes priorities and makes viable a coherent and parsimonious way. This fact is confirmed when we evaluate the average total score for the BFD among the patients to which indicated one, two and three professionals with reference to the approach of their case (data not presented). We noted an increasing gradient in the scores: 20.46, 32.74, and 51.02 respectively. This shows that the patients that demanded a higher number of professionals in relation to their case, were those with an even worse functional situation. This demonstrates the sensibility of the PLPR to reach one of the three objectives.

Among the professionals that were indicated for the start of the treatment, the Physical Therapist was the most mentioned professional. This can be justified by the highest quantity of complaints related to possible muscular-skeletal questions which can be seen through the domains of pain and mobility which was predominantly mentioned limiting agent for functionality. Aside from this, the Belo Horizonte rehabilitation network relies on a proportional high number of Physical Therapists in comparison to the rest of the rehabilitation professionals.

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Primary health care was the preferred level that was chosen for the start of the rehabilitation process. This reinforces its role in the coordination of health care and its solvability for the questions related to this area. The potential of primary health care has been recognized in resolving approximately 80% of the population's[25] health care problems and it is the preferred base for accessing specialist services. According to Campos et al.[5], based on the old perspective on rehabilitation networks, specialist services were exclusively geared towards the supply of equipment to the population in need which constituted in itself an insufficient strategy for the integral treatment of the individual. Another perspective highlights that specialized care ought to be understood as an application point for specific actions and for articulations between the other points of attention in the system. In other words, at the specialized care, treatment priority should go to the most complex cases that require more resources for a more agile resolution of cases.

Two distinct groups can be characterized from the PLPR results: those whose referrals for the start of treatment was to primary health care centers and those in which specialist service units were chosen as the most adequate place to start treatment. The patients who commenced the process of rehabilitation in specialist units were in the productive age range and they represented the greatest number of high qualifiers in the BFD items. They were referred to a service equipped with hard technology[26] with the meaning that it adequately catered for these demands permitting greater agility and speed in returning to their activities and to the work place. Taking into account the characteristics of the specialist services offered and what is advocated for in respect of its functions inside the network of services, we can consider that the PLPR was assertive in conducing the local decision making process for the start of treatment. This was demonstrated by the adequate nature of the profile of the patients for this level of care and attention. The patients that started their rehabilitation in the primary health care centers were, on average, older and had fewer problems in relation to the BFD items. These patients, due to being less complex cases, can be treated with quality and with a less specialized service as what is found in the primary health care centers.

The implementation of a protocol grounded in the ICF for first contact in public rehabilitation services can favor improvements in communications between professionals and services. This is a crucial condition for the efficient working of a network that is truly integrated. Its use systematizes the collection of information where there is first contact with the health care user in the network. This will permit the identification of their most relevant functional demands and can contribute to adequately shaping the therapeutic flow, which includes identifying the place and the professionals that should be involved in the treatment. We hope that the PLPR can be dispersed as important information in this area and can be adopted by public rehabilitation network. It will organize the access flow of patients as well as making more agile the transition between services at different levels of complexity. It will also unlock the potential of the equipment to be used and the health care professionals who are available for providing rehabilitation treatment.

Collaborations

MAP Souza, FR Ferreira, and RF Sampaio were PLPR the authors (*Protocolo de Levantamento de Problemas para a Reabilitação*), and participated in the conception, design, analysis, interpretation of results and preparation of the article. JF Dias accompanied all phases of the study as a student of Scientific Initiation, participating in the data collection, analysis and interpretation of results. MC Mancini and RN Kirkwood participated in the interpretation of results, writing and critical review of the manuscript.

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