"Come Back to Community and Work After Traumatic Brain Injury"

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Traumatic Brain Injury in Brazil

In Brazil, the largest country in Latin America in terms of territorial extension, population, and gross domestic product (GDP) [1], an estimated annual number of 700 thousand to 1.1 million new cases of traumatic brain injury emerge (TBI). Of these, approximately 20% are characterized as moderate or severe [2].

The consequences of TBI are high rates of mortality and morbidity, mainly affecting young adults at a productive age. This may be verified when considering that in Brazil, the highest prevalence of TBI is in men in the age range of 15 to 24 years, with the main cause being automobile accidents [2, 3]. According to Brazilian Social Security data [4], in the year 2015, in total 4.654 benefits of the social security type for assistance with illness were granted to persons who suffered fractures of the skull and facial bones – the classification in which TBI is included.

Furthermore, around 500 thousand per year are hospitalized with brain injuries acquired after TBI, and from 70 to 90 thousand persons who suffered TBI evolve to irreversible loss of some neurological function [2]. Between January 2005 and September 2006, in São Paulo alone – the most populated city in the country – 48,872 persons were observed to be hospitalized because of TBI, and for these cases, a 9.63% mortality rate was verified [5].

These data are relevant on showing the individual and social burden of the problem: the first is directly related to the loss of functional and financial independence of the individuals and the impact on the capacity to reconstruct their social and work life. The second refers, above all, to the impact of expenditure on health assistance offered by the Brazilian Public Health System (SUS), and the benefits granted, under the responsibility of Assistance and Social Security [6].

Therefore, public expenditure on those who suffer TBI is significant and extrapolates to the field of health. These expenses involve not only the processes of treatment and motor and cognitive rehabilitation but also possible difficulties with inclusion in the work market, being laid off from work, sick leave, early retirement, and unemployment. This being so, these impacts result in the question being considered not only a serious public health problem but a social security and social problem as well [7].

TBI, Social Inclusion, and Work

Depending on the area affected, TBI may generate motor, cognitive, sensory, and behavioral sequelae. Cases of slight injuries may be completely asymptomatic with normal physical exam and without neurological changes. Of these, around 3% present worsening of the condition, with sever neurological dysfunction [8]. In cases in which the injuries are moderate, these sequelae may be reversible in up to 15% of cases; however, in the remainder, these are of a permanent nature [9].

The temporary or permanent incapacities resulting from TBI may interfere in the performance of daily life activities, work, and in living with other people, limiting social participation in a more far-reaching way and having drastic impact on the individuals' quality of life [10, 11].

Quite often, even if those who suffered TBI manage to achieve independence for daily life activities[1], [12], they

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[1]They refer to activities that demand more basic skills, such as self-care (personal hygiene, eating, dressing, etc.), mobility (mobility in bed, transfers, locomotion, etc.), and communication (oral language, written, use of amplification devices for communication, etc.) [13].

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come up against difficulties relative to social and/or inclusion in work [11]. The latter are considered complex activities because they involve skills that are more advanced: problem solving, social problems, and different environmental interactions [13].

Inclusion in work is important to the extent that in addition to being a source of income, it is a central element in people's lives and a significant space for social integration and self-fulfillment. Participating in the community is also considered to take place through work, as it generally involves living together with other people, the need to frequent certain spaces, and the possibility of coping with and resolving challenges and contributing to the society [10, 11, 14].

One study observed that 2 and 7 years, respectively, after the trauma, severe TBI victims who had made some type of social adjustment were mainly those that continued to work. At the same time, those who did not work demonstrated loss of structured daily life routine and a group of friends and lack of objectives to attain or opportunities to show competence [6].

Burt [10] affirmed that incapacity to work may generate difficulties with performing other social roles, such as roles played within the family circle. In addition to change in lifestyle resulting from financial problems, forced inactivity and dependence led to depression, a little psychosocial adaptation.

It is important to point out that the types of capacity of individuals and the way they are affected by illness, traumatisms, or even aging differ. The term intrinsic capacity is used to deal with the set of physical and mental capacities, while functional capacity refers to the capacity for performing activities, considering intrinsic capacity added to the possibilities the environment provides and/or access to the use of auxiliary devices [15], whereas the term capacity for work is related to the type of work the person does; that is, it concerns the person's intrinsic capacity to interact with the organization (content, division of labor, hierarchical levels, rules and production procedures, rhythm and goals, etc.) and working conditions (materials and physical installations with reference to the work) available for performing the professional activities foreseen [16–20].

Therefore, although a subject has sequelae resulting from TBI (whether they are motor, cognitive, sensory, and/or behavioral), it is considered possible to maintain the capacity for work if the respective conditions and organization enable the development of activities that consider the individual's limitations.

However, in Brazil it is observed that the capacity for work is still seen as the subject's individual responsibility, with focus on his/her intrinsic capacity. Thus, the major portion of companies do not have an organization that allows the working participation of persons who have intrinsic difficulties. This reality affects a significant number of persons who suffered TBI, reconsidered incapable of working, according to the intrinsic criteria only [21, 22].

This may be observed when it is noted that the probability of returning to work after a TBI is related to the degree of compromise of the traumatism: the greater the extent of compromise, the lower the chance of returning to work. Studies have indicated that of the subjects who suffered a slight TBI (or, i.e., possibly present little or no sequela), around 80% usually return to work, whereas only 20% of persons who had suffered a moderate TBI and 10% of those who suffered a severe TBI return to their work activities [23].

O'Brien and Wolf [24] conducted a study in which they interviewed 98 men between 30 and 65 years of age, who suffered a cerebral vascular accident (CVA), another problem with the possibility of leading to significant neurological impairment. From the interviews, they were able to note that of the total number of participants, 63% returned to work without having gone through the professional/vocational rehabilitation program. Of these, 90% immediately returned to the jobs they held before the CVA. Of those who returned to work, 56% considered that they did not have their full capacity for work, but nevertheless, the majority felt that they were doing their work with the same quality as they had done it before the CVA and felt satisfied with their work performance. Therefore, once again it emphasizes that the degree of incapacity resulting from the CVA may have influenced their return to work, favoring those who have light to moderate compromised functions. Moreover, it should be considered that, among the interviewees, the accidents were recent (they had occurred 6 months previously) and that, before the CVAs, the subjects had worked full time, in different fields of activity.

In this context, an overall rehabilitation program that involves professional/vocational rehabilitation gains importance in the daily lives of those who suffer neurological disturbances, because it allows the individuals to completely or partially return to the activities they previously performed (such as work, studies, and/or daily life activities) in addition to assuring their engagement in significant activities that promoted their independence and personal growth [11].

Professional/Vocational Rehabilitation and Return to Work

At present, overall post-TBI rehabilitation involves three main stages, according to the period of occurrence of the trauma:

1. Acute stage (right after the trauma, in which the individual generally finds himself/herself hospitalized with the purpose of guaranteeing his/her survival and avoiding greater complications).

2. Subacute stage (still during hospitalization, with the aim of reducing the sequelae of TBI; increasing his/her physical, cognitive, and psychosocial independence; compensating for the deficiency; and minimizing suffering).
3. Outpatient stage (occurs in an extra-hospital context to provide continuity of the objectives established in the subacute stage, with focus on social participation, including reintegration into significant activities and maintenance of quality of life) [25].

Although professional/vocational rehabilitation should be understood as a constituent and undissociable element of the overall rehabilitation process, bearing in mind (as previously pointed out) the importance of work in people's lives, access to it is still limited. This is due to the little importance attached to this aspect, which results in few offers of jobs that offer this type of attention [11, 30].

Professional/vocational rehabilitation seeks to make the means possible to find a job that is compatible with and healthy for subject, in addition to making it easy to reduce or overcome his/her intrinsic, emotional, and social limitations, thereby enabling an increase in his/her capacity for work. By these means, this modality of intervention seeks to articulate the actions developed in the overall therapeutic process with those that are focused on the organization and working conditions that must receive the worker, with the end purpose of not only to return to work but above all to remain in the job [12, 26].

Maeno and Vilela [26] pointed out that this is a complex approach and demands that the person being rehabilitated, professional rehabilitation team, and the company assume their responsibility in the process. As this involves changes in the work itself, diverse aspects must always be considered, such as the context of the work, its organizational characteristics, and the various actors of which this scenario is composed.

Therefore, the professional/vocational rehabilitation must help the individual recover or develop skills, to maintain and encourage social relations and encourage the development of new ties, promoting the return to daily life activities, to daily life activities, and to work. Moreover, follow-up and mediate the return to work, including proposing adaptations when necessary.

Foy [27], for example, observed that over half of the young adults with TBI who participated in the long term, in a neurological program integrated into a professional/vocational rehabilitation in England, managed to insert/reinsert themselves into remunerated or voluntary full-time or part-time work.

However, other studies have affirmed that a large proportion of individuals with brain injuries are unemployed and underemployed and have low rates of returning to work after sustaining the injury [21, 22]. O'Neill and Wolf [28] affirmed that the programs of rehabilitation for work are designed mainly to help persons with musculoskeletal disabilities, and there is a need to adapt the theoretical models for the return to work of persons with cognitive deficiencies. In this context, those who have studied this field have made an effort to contribute with methodologies that promoted the inclusion/reinsertion of persons who had suffered a TBI or any other neurological problem [12, 21, 24, 27–31].

The authors affirmed the need for the interventions directed to the return to work to be instituted early, because the longer the time off work, the lower the probability of returning to work or remaining in the job [31–35]. Moreover, they pointed out that although the actions in this sphere have a general flow of referral and attendance, they must be molded according to each patient's demand [31].

With the purpose of determining the capacity for work and subsidizing recommendations to make their development feasible, Kita et al. [21] presented the following guidelines for professional evaluation of persons with TBI:

1. Identification of who made the request for the evaluation and the subject to be evaluated (obtain the consent of the person evaluated and collect demographic and health data, educational and work history, and information about present social situation of the person evaluated).
2. Evaluation of the individual perspective of the subject (interests, objectives, and meaning attributed to pre- and post-lesion work; individual self-perception of the capacity for work, considering strong and weak points and compensatory strategies; evaluation of the costs and benefits of working).
3. Evaluation of the domains (physical, neuropsychological/cognitive, psychosocial, communication, functional state/level of independence, general behaviors, skills/behaviors related to work).
4. Evaluation of the working conditions and organizations.
5. Analysis and synthesis of the information to draw the conclusion and recommendations of the evaluation.

These guidelines may be used by health professionals, those in the area of human resources, and employers and other individuals involved in planning and decision-making related to work, with a view to facilitating return to work, particularly of persons who had suffered TBI at an economically active age [21].

Another study by Kita et al. [30] discourses about identifying the main factors that must be considered in the professional evaluation of the individual who suffered TBI to return to work, with findings similar to the previously cited study. In this study, seven key points were identified as relevant to the professional evaluation:

1. Identification of the purpose and rationality of the evaluation.
2. Processing of the admission (demographic data, prelesion history, educational and work history, compromise resulting from the lesion).

3. Evaluation of the person (evaluation using the following domains: Physical, neuropsychological/cognitive, psychosocial, communication, functional state/level of independence, general behaviors, and individual perspectives).
4. Evaluation of the working conditions and organization.
5. Evaluation of the occupation/work requisites.
6. Analysis and synthesis of the results of the evaluation.
7. Development of recommendations.

Culler et al. [29] conducted a study to identify the factors that facilitated the return to work of persons who had suffered CVA, or made it difficult for them to do so. From the point of view of the subjects affected, the following are considered factors that made it difficult to return to work: intrinsic (motor, perceptive, psychological, cognitive, and communication) and extrinsic difficulties (lack of social and environmental support). Professional/vocational rehabilitation professionals have described the following barriers to return to work: lack of knowledge about the deficiencies by the subject who suffered the CVA, the need for follow-up surgeries, prolonged time elapsed since the last job, lack of support from the spouse/family, lack of motivation, unrealistic expectations, and lack of professional experience, whereas facilitators cited flexibility, motivation to work, having a realistic work objective, and being aware of one's limitations. The employers mentioned that the deficiency had no impact on the hiring process, but the characteristics of the subject did have impact, and they described the facilitator aspects as follows: having the support of professional/vocational rehabilitation specialists and the ability to interact with these specialists during the hiring process.

Although studies in the field of return to work and remaining in the job were not specifically focused on persons with TBI, they found that success or failure in this process would depend on diverse aspects: working conditions and organization, interpersonal relations (e.g., the resistance of colleagues to receiving a worker with deficiencies), and professional training (the presence or absence of training and education for the development of a new function, if necessary) among others. This would also depend on the way the return is conducted by the various actors involved: health services, professional rehabilitation team, employers, and the workers themselves. All of these aspects show that success in action in this sphere is related to the involvement of diverse bodies, fields, professionals, and social actors that must direct their actions toward a common and collectively predefined objective.

Brazilian Context

Brazil has legal particularities that may influence the processes of professional/vocational rehabilitation of those who suffered TBI and need to be elucidated for greater understanding by the reader.

In Brazil, the Federal Constitution of 1988 established the concept of social security that integrated the actions that assure the rights relative to health, care, and social security. Health care, provided by the Brazilian Public Health System (SUS), is free with universal and full access to cover. Social security refers to a social insurance, of a contributory nature by and mandatory affiliation of workers in the formal work market, assuring cover for medical leave of absence due to illness and retirement by age, time of work, and invalidity, whereas social assistance (Lei Orgânica da Assistência Social – LOAS) is provided for whoever may need it, whether the subject is a contributor to social security or not [12, 36, 37].

In this context, there are some benefits directed to persons that are considered "inept" to work; these benefits, however, cease if the individual goes back to work. One of these is the continuous provision of this benefit ("Benefício de Prestação Continuada (BPC)) by social assistance, destined for persons with deficiencies who are unable to insert themselves into the work market and who prove that they have no means of providing their own subsistence or that of their family [38].

Another benefit is the *aid in cases of illness* ("Auxílio-Doença"), destined for individuals who contribute to social security, who were affected by some disease or accident, and who are temporarily unable to perform their work activities. This benefit is provided by the National Social Security Institute ("Instituto Nacional do Seguro Social (INSS)), which is the Federal agency belonging to the Ministry of Social Security. When the INSS evaluates an individual as being permanently incapable of exercising any labor activity and unable to be rehabilitated in another profession, the person receives an invalidity pension [38].

In addition to these benefits, there is the law of quotas: Companies are obliged to hire a percentage of persons with deficiency, according to the number of employees they have [39].

Professional/Vocational Rehabilitation in Brazil

Some Brazilian studies have revealed that persons who suffered TBI and had a job before the trauma returned to productive activity in up to 1 year after the accident, even without having gone through a professional/vocational rehabilitation program. However, a portion of these persons do not or did not return with changes in their work activities and/or with a feeling of worse performance in these, demonstrating the difficulty of transforming the work situation to receive the individual in conditions differing from those of the period before the accident [6, 40].

In Brazil, professional/vocational rehabilitation is still a challenge, both with reference to integrating affected persons to work and to the question of the burden that falls on the state, either through the Brazilian public health system (SUS) or social assistance [26].

There are few initiatives related to professional/vocational rehabilitation, especially those directed toward specific pathologies. The existent programs are generally destined to the return to work of individuals with osteomuscular and mental health diseases resulting from the work itself. Therefore, the rehabilitation is frequently directed only to the pathology and does not involve the possibility of access to work, for example, of individuals who had not worked previously.

Moreover, it must be considered that in Brazil there is a lack of articulation between the areas of health and social security and between these and companies, an aspect that configures as a barrier to the effectiveness of professional/vocational rehabilitation programs [26, 41].

Based on the foregoing presentation, a lack of effective professional/vocational rehabilitation programs in Brazil was verified, considering the complexity of the process and the need for integration among the various stages of treatment (post-trauma assistance and physical, cognitive, psychosocial, and professional rehabilitation).

The Pilot Professional/Vocational Rehabilitation Program (PPVRP)

The "Hospital das Clinicas" of the University of São Paulo Medical School (HCFMUSP) is one of the main hospitals with highly complex facilities, directed toward care, teaching, and research in the State of São Paulo, Brazil. The cognitive rehabilitation outpatient clinic ("Ambulatório de Reabilitação Cognitiva" (ARCO)), linked to the Neurological Department of HCFMUSP, provides pioneering services directed specifically toward patients who have suffered TBI and have reached a stable health condition, that is, a chronic stage as far as the sequelae left by the trauma are concerned.

The patients attended in this service have gone through the physical rehabilitation process, and the main focus of attention in this stage of treatment is cognitive rehabilitation with emphasis on functional independence. The outpatient clinic team is composed of doctors, neurologists, ophthalmologists, speech therapists, psychologists, neuropsychologists, nurses, and occupational therapists.

Over the years of operation of ARCO, the team has observed that the patients who attended brought demands, desires, and needs related to work: return, inclusion, and remaining in jobs. Having detected the need to add a professional/vocational rehabilitation program to the services already offered, the coordinators of ARCO sought the investigation and intervention in health and work laboratory ("Laboratório de Investigação e Intervenção em Saúde e Trabalho (LIIST))"[2] of the occupational therapy course of FMUSP, in 2014, requesting partnership for the development of a professional/vocational rehabilitation program. LIIST has a wide experience in the development of programs of return to work and remaining in the job, particularly with workers who suffered work-related accidents or illnesses. In view of the demand put forward by ARCO, LIIST accepted the challenge and broadened the scope of action of the occupational therapy area present in the outpatient clinic which, up until then, had focused its actions on cognitive rehabilitation, to include a pilot project of professional/vocational rehabilitation, during the period from August 2014 to November 2015.

In view of the entire abovementioned context, the purpose of the present chapter was to present and discuss the experience of this pilot project with regard to an axis of action of the overall rehabilitation plan for individuals who had suffered TBI, in addition to analyzing the potentialities, limitations, and challenges based on the experience of the program.

Process of Education and Initial Proposal of PPVRP

In Brazil, occupational therapy is recognized as one of the main professions that develop professional/vocational rehabilitation programs [41–44]. This is because, on the one hand, the aim of the study of these professionals is to evaluate the work the subjects effectively do, by means of analyzing the activities and listening to accounts of the patients' professional experience. On the other hand, it is to evaluate the working capacities (fundamental for subsiding the possibility of remaining in a job) and to help with intermediating the return and/or inclusion in the work, by providing bosses and peers with guidance, favoring the reception of the worker and processes of cooperation. Thus, the occupational therapists are educated to favor dialog and achieve compatibility between the demands of the work activity from the physical, cognitive, and psychic point of view and the subject's health conditions, with a view to making possible adaptations and providing guidance in the work environment [14, 24, 41–45].

The PPVRP must attend the patients referred to it by members of the outpatient clinic's multiprofessional team, according to the following eligibility criteria: the patients' interest in working, the team identifying that the patients have the motor

[2]LIIST, existent for over 15 years, is responsible for research, extension, and teaching activities of the occupational therapy course of FMUSP. It is composed of professors and occupational therapists who are specialists in the field of "health and work," with wide experience in the specific area of "return to work," mainly with workers with reduced working capacity and/or work-related diseases.

and/or cognitive capacity for this purpose, and whether or not the patients have any ties to previous work situations – in this case, return or entry into the work market.

The authors point out that a professional/vocational rehabilitation with this population is unprecedented in Brazil and was developed to be of an experimental nature. Other professional rehabilitation and internal readaptation programs, which were developed in other services directed toward workers affected by work-related illnesses or accidents, were taken as reference.

The program was also based on experiments conducted in other countries, with emphasis on Canada. Part of these experiments were focused on the process of return to work, directed toward persons with musculoskeletal disturbances [46, 47] and part directed toward persons with mental health problems [48, 49]. In both cases, it was shown to be a program in which the return to work occurred gradually and progressively, with adequacy of the workplace, workload, and activities of the worker. In addition, as key points to its success, there were notes to provide the bosses, peers, and management of the company with support.

Initially, the program was conceived by means of the following actions:

1. Anamnesis, that is, an interview with the purpose of finding out and understanding the patients' possibilities, their activities of interest, their educational and occupational history, and their possibilities of returning to work and employability.
2. Preparation of individuals for returning to work, discussing their limitations to work and fears, understanding the dynamics of the work, and relating it to the patients' health possibilities.
3. Moreover, whenever it was the case, expect to make contact with the company of origin to facilitate the return and professional accessibility, intermediate the relationships with bosses and peers, analyze the content of work activities and proposals for suiting these to the patients' needs, and, in addition, periodically follow up the individuals in the process of return to work.

Characterization of the Population Attended

In the PPRVP, nine patients were attended, of whom four were women and five men, in the age range between 17 and 61 years. They studied from 8 to 11 years and the time of injury of TBI was of at least 9 months and maximum of 5 years. There were no data about the etiology of the TBI of all the patients, but many of them were known to have resulted from being run over or automobile accidents.

Furthermore, of the total number of patients attended, the majority had cognitive sequelae, although there were those who also had motor sequelae. Relative to work, one of the patients was a student and two had never worked before. The remainder used to work formally before the TBI, performing activities in the service sector (civil construction, transport, education, among others). However, after the trauma occurred, these patients were dismissed or resigned from their jobs because of the difficulties resulting from the sequelae of the traumatism.

Implementation and Development of the PPRVP

Throughout the implementation and development of the PPVRP, the patients attended presented different demands. Therefore, although the initial proposal of the program concerned the return to work, the attendances varied according to the demand of each individual. Anamnesis was an important time to learn of these demands and thus define the patients' follow-up in the program.

Three subjects presented demands that were mainly directed toward clearing up doubts related to labor and social security legislation in a broader manner. Therefore, some attendances were conducted to provide information and explanations about vacancies for disabled persons in the public and private work market, support and incentive to enter the work market, retirement due to invalidity, and social security benefits. In these cases, attendances were made by appointment, without follow-up afterward, and by choice of the patient and/or family member, without the presence of family members at the attendances.

The program also performed follow-up directed toward the patient in higher education. This follow-up covered the following: attendances at the outpatient clinic with the patients and family member who accompanied them, to understand their desires and difficulties; follow-up in one of the classes to observe the context and day-to-day study dynamics; discussion with the board of the teaching institution about the question of including the patient; and the ways in which the professionals of the educational institution dealt with the difficulties that arose.

Two of the patients demanded actions with the purpose of inclusion in the work market, as they had no previous work experience. In their case, anamnesis was performed, their résumés' were prepared, and the possibilities of their inclusion in the work market were jointly evaluated.

With the three patients that had work experience before the TBI, anamnesis was performed to understand their demands and make a joint evaluation of the possibilities of reinsertion into the work market. In addition, attendances

were held to deal with the emotional and motivational questions pertaining to their return to work. Furthermore, the program created a partnership with an institution that maintained a database of employment vacancies for disabled persons. Some of these patients were referred to seek a vacancy by intermediary of this institution.

Difficulties Found and Outcome of Cases Attended

Through implementation of the PPRVP, the professionals identified the difficulties present in the process of including the patients attended in the work market. Some of these difficulties were perceived through the understanding of the occupational therapists who were members of the program team, some were mentioned by the subjects themselves, and others were related to the return to work itself of persons who had suffered TBI.

The difficulties mentioned by the patients during the process of inclusion in work were insecurity and functional limitations resulting from the sequelae of the TBI (motor, visual, behavioral, and cognitive), difficulty in dealing with and accepting these limitations, mistakenly associating them with the incapacity to do the work, family problems not related to the patients, scarcity of work vacancies, and the fact that they resided far from the city center, an aspect that limited traveling to places that offered most employment vacancies. Apart from this, although they showed interest in returning to work, some patients reported lack of motivation: they felt "discouraged about everything."

The difficulties observed by the occupational therapists who were members of the program team were Brazilian legislation, low educational level and professional inexperience of the patients, absence of support or family protectiveness, and lack of independence for performing daily life activities. Brazilian legislation was considered a barrier because in acquiring an employment tie, the patients would lose their financial benefits assured by the social security system, which generated worry in the patients, and frequently, they desisted from returning to work. The low educational level and professional inexperience determined a smaller range of possibilities of employment vacancies, because for many of these, some education or experience was demanded. The absence of support or excessive protectiveness and the lack of independence to perform daily life activities were also considered difficulties, because these difficulties limited patients' self-confidence in relation to work and their mobility to go to possible places of work.

Up to November 2015, only one patient continued in the program in search of a work vacancy. Three patients were considered concluded cases, because they mentioned that the attendances were for the purpose of obtaining information and clearing up doubts. The other five patients abandoned the program before conclusion of the process for the following reasons: loss of interest, lack of family support, fear related to returning to work, and loss of the continuous benefit provided ("Benefício de Prestação Continuada").

Limitations, Potentialities, and Adequacy of the PPVRP

Because it concerned a pilot program, the authors verified potentialities and limitations that needed to be better developed and overcome. One of the limitations was related to the incompatibility between the objectives previously elaborated by the program (return to professional activity developed before occurrence of the trauma) and the demands of some of the patients attended. This mainly resulted from the fact that the majority of the patients attended had no work ties before the TBI and their demands were directed toward explanations about access to social security benefits and the inclusion of disabled persons in the work market.

Thus, with development of the program, the authors noted that this should change the scope initially foreseen to a practice more related to the concept of professional/vocational rehabilitation because, in many cases, there was more concern about thinking of a program of professional development than of rehabilitation.

From this aspect, it was necessary to seek new areas of interest, compatible with the new health condition presented by each of the patients attended. For this purpose, when discussing inclusion in work, it was important to consider aspects such as professional history, educational level, interests, limitations, competences and skill, as well as the possibility of changing the work activity.

The profile of patients attended, Brazilian legislation, the lack of family support, and dismotivation (cited by patients in the program) led to the occupational therapists reflecting about the scope of the program and seeking to readjust it to the reality found.

The fact that many patients did not have a job before the TBI probably made it even more difficult for them to find a job after the trauma. Moreover, the lack of previous work experience related to the age of patients and low educational level possibly restricted the possibilities of working [29]. Another important aspect was the mean time after the TBI to being with the program, since it is known that the earlier this began, the better would be the results [31–35]; that is, the program must be part of the early attendance of TBI victims.

With further regard to the patients' profile, the authors point out that the presence of motor and particularly cognitive deficiencies has been pointed out in the literature as being a factor that limited the engagement in work of persons who have suffered neurological pathologies. These studies

affirmed that these limitations could be attenuated by means of other points, such as awareness and emotional acceptance of the deficiencies and the existence of a realistic work objective [29, 45].

The Brazilian legislation, created to protect disabled persons financially, was shown to be a barrier to the process of inclusion in work, because, as previously mentioned, it generated fear of replacing the guarantee of receiving the social security benefit with the possible instability of a job. Another aspect verified was the patients' feeling of being unprepared for work activity, due to the difficulty of coping with the competitive work market and the work relations that involved processes of evaluation and relationship with peers and bosses, among other factors [50].

The TBI also had impact on the patients' families and respective financial situation, frequently leading to other members of the family experiencing depression, social isolation, stress, anxiety, and consequent reduction in quality of life [51]. For this reason, the family must not be left out during the professional/vocational rehabilitation process. Studies have shown that the acceptance and support of the family for the work are considered essential factors for the process of inclusion and reinsertion in work [29, 45, 52]. Therefore, the authors considered involvement of the family members in the support for work to be another important point that must be inserted in the development of the program.

Frequently, the dismotivation, cited by patients, was a reflection of the difficulties they found. These were mainly related to family questions, the sequelae of TBI, and difficulties of resuming the projects of life, including insertion in the work market. However, professional/vocational rehabilitation specialists have affirmed that the lack of motivation is considered an important barrier to the process of return to work of persons who have neurological pathologies. In addition to the abovementioned barrier, they mentioned the lack of knowledge about the deficiencies, need for surgeries and follow-up, time elapsed since the last job, the spouse/family, unrealistic expectations, and the lack of professional experience [28, 29].

This demonstrated the need for attendance by a multidisciplinary team and integration between the program of inclusion in work in conjunction with the overall rehabilitation treatment (conventional neurological and educational, etc.) of patients with TBI [27].

The awareness of the importance of work in a cognitive rehabilitation outpatient clinic was one of the major gains of the program. However, the authors perceived that this awareness attained the multiprofessional team to a greater extent that it did attended the patients and their families. As potential aspect of the program, we also have discussion with the outpatient team about the criteria for referral for professional/vocational rehabilitation, creation of an individual space (OT and patient) for receiving the questions related to work, and creation of partnerships with institutions that could help with seeking work vacancies.

From the pilot program, on the one hand, the intention is to improve it, suiting it better to the profile of patients attended. On the other hand, by means of demonstrating the possibility of the patients acting in concrete work situations, the purpose would be to make them and their respective family members aware of this possibility, so that they would be more active and participate in the process of return to work.

The following were among the changes required in the program:

1. Broadening its scope: Return to work, professional/vocational training, and rehabilitation.
2. By the multiprofessional team performing more adequate triage to include patients with interest in the proposal offered by the program.
3. The need for forming a group of patients (and family members) with the purpose of raising awareness of the importance of work as a strong element of participation in society and sharing fears, insecurities, and solutions of problems.
4. Raising awareness and explanation about the program, the Brazilian laws, and the quota laws.
5. Providing the family with guidance about the benefits linked to work and encouraging adhesion to and participation in the process of including patients in work.
6. Raising the awareness of companies for effectuation of follow-up of workers in the place of work, including guidance for bosses and peers.
7. Increasing partnerships with institutions that work with supported employment programs, training and education, and government (state and municipal) programs.

Conclusion

When considering that the subjects who suffered TBI commonly have difficulty in being included in the community and that work may be a way to make this inclusion possible, the authors understood that the development of professional/vocational rehabilitations directed toward persons who have suffered TBI was of utmost importance.

Post-TBI inclusion in work was a complex process, since it did not depend only on the health (physical, emotional, and/or cognitive) conditions of subjects but also on other factors, such as sociodemographic characteristics (age, educational level, type of previous occupation exercised, level of income before the trauma), work market, and social support that the individuals receive, in addition to participation in an overall rehabilitation program that involves professional/vocational rehabilitation [53, 54].

To illustrate a model that could be one of these professional/vocational rehabilitation programs, in this chapter, the authors presented the process of development of the PPRVP performed in Brazil in a pioneering manner. The authors considered that it presented limitations and potentialities that could guide the respective improvement and help with the construction of other programs of this nature.

The proposal of insertion/reinsertion of patients into the work market after TBI was recent in the cognitive rehabilitation outpatient clinic of HCFMUSP; however, it represented significant advancement with reference to the integral care of persons who experienced a situation of TBI and had potentially incapacitating sequelae. Therefore, receiving the demands that transcended the original scope of the program proposal became a challenge and has been understood to be a qualitative gain in the actions developed.

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