

Vocational Rehabilitation in Italy, Potential and Limits

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Received date: November 28, 2018; Accepted date: December 10, 2018; Published date: December 12, 2018

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Abstract

The rehabilitation of aspects concerning the return to work is described in the literature as "Vocational Rehabilitation". This focus on the return to productive activities is early considered/ is early taken into account in most of the American and Anglo-Saxon rehabilitation models as an essential element to complete the return to the possible autonomy of the person. The concept has expanded with the extension also to "vocational" activities for the person, although not necessarily productive. In Italy there are few centers that deal with Vocational Rehabilitation systematically. This article aims to examine the concept of Vocational Rehabilitation and to place it as a necessity and urgency in the Italian rehabilitation paths. Italian legislation would allow routes that today are rare but necessary in the last part of the GCA's rehabilitation process.

Keywords: Vocational rehabilitation; Acquired brain injury; Italian network

Introduction

The rehabilitation of aspects concerning the return to work is described in the literature as "Vocational Rehabilitation". This focus on the return to productive activities, or at least centered on the individual vocational characteristics of the person taken into care, is early considered/ is early taken into account in most of the American and Anglo-Saxon rehabilitation models. The return to productivity is actively and precociously pursued both for economic reasons and for personal wellbeing. In fact it has been shown that work is a source of psychological wellbeing because it actively opposes anxiety, depression and behavioural disorders such as irritability and anger [1]. This approach finds positive feedback at every level of rehabilitation activities, in particular in the framework of severe disability involving cognitive-relational problems, as for example in the ABI.

In Italy there are few centers that deal with Vocational Rehabilitation systematically, but these models start also to be described into Italian texts of rehabilitative medicine and neuropsychological rehabilitation [2,3]. In Italy since then no efficacy study on these activities has been published. Many services have started experimental activities thanks to funding on projects that then failed to become services, therefore many good practices and activities have disappeared.

In Italy the rehabilitation path is always divided into 3 phases (ACUTE, POST-ACUTE and OUTCOMES) and also the Individual Rehabilitation Project for people with ABI applies the same approach: in the taking into care after ABI, for each of these phases are defined specific procedures on the basis of the international literature and in particular of the Consensus Conference to elaborate and share the best practices. As regards the Outcome's phase, which also includes hospital discharge and social and work reintegration, the Jury's documents were published in 2005: "The rehabilitative and assistance needs of people with severe acquired brain injury disability and their families in the

post-hospital phase. From this it was clear that: the sense of isolation that is common to households from the moment of discharge is increased by the fact that there are few day-time centers and facilities that can receive these people, even for short periods of time. One of the main problems occurs "at the conclusion of the hospital rehabilitation process, when it is necessary to plan the re-acceptance of the person in the extra-hospital environment. As there must be continuity and timeliness in the organization and management of the Acute and precocious Post-acute phase, just as much clarity and attention should exist in the transition to subsequent phases when the integration between medical rehabilitation and social rehabilitation is essential. Both the health and social components are in fact necessary to guarantee an optimal global outcome. In the same way it is important to define the type of interventions and the offer of the necessary services, which are much diversified and not always clearly identifiable in the early stages of the care path due to the characteristics of the reintegration phase (...). These interventions must consider the evolution over time, sometimes very slow but protracted, of the clinical picture and of the person and its context's characteristics. The interventions, addressing the dimension of social and work participation and in general the quality of life, necessarily are not exclusively of a health nature but provide for involvement of numerous new professional figures that must integrate and collaborate with the disabled person and his family". Among the recommendations of the Conference the one concerning greater integration between the services and the territory assumes particular importance and places the work reintegration among the main objectives of rehabilitation.

ABI and Work

The reconversion and retraining of people who, at a young age, lose their jobs and acquire disability is a very important aspect of the last phase of rehabilitation. The effectiveness of the rehabilitation process is complete when the person is reintegrated into the community through the re-acquisition of a social role. In fact, work is a source of wellbeing for the person, the main means for pursuing economic independence and which restores a social role to the individual, all factors that

promote individual empowerment, which increases the ability to actively control one's own life. Studies on the work outcome after acquired brain injury are many and, as we have seen, they lead to conflicting results because of the many variables that come into play such as the severity of the trauma, the different type of work, the absence of follow-up long-term. Already since the 90s the need to document the incidence of return to work begins to emerge; factors such as age, sex, educational level, qualification and type of pre-trauma work are important predictors of returning to work together with the importance of emotional, behavioral and personality disorders [4-6]. For many years, performance at neuropsychological tests was used as the main predictor of job reintegration, despite the emergence of evaluation problems in front of the variety of consequences of the injury. One study Ryan et al. [7], for example, showed that on 80 people who had undergone a neuropsychological assessment before the insertion of the pre-vocational path, 73% of them participated in the program and among them, in 77 % of cases neuropsychological assessments were correct predictors of the ability to complete the vocational program. In fact, it was difficult to evaluate the hemiplegic and aphasic with the classic neuropsychological tests. Other studies in literature show more and more that, in addition to the obvious difficulties of hemiplegic or aphasic patients to perform the classic neuropsychological tests, the latter do not take into account many other factors that do not arise in laboratory situations but that emerge in everyday life. For example, another study by Teasdale et al. [8] performed on 55 non-aphasic people, evaluated before and after an intensive rehabilitative path and then at 18 months and at 5 years on the outcome, showed how the improvements to the pre and post tests were not predictive of the outcome; the authors therefore hypothesize that the global outcome is also determined by other factors that cannot be investigated through the classic neuropsychological tests. The loss of social autonomy that involves the ability to administer oneself by managing money, organizing one's travel by car or public transport and planning the week and the possibility of returning to work are mainly associated with disorders of executive functions and psychomotor retardation. The need to implement these skills using concrete situations is therefore highlighted [9]. It becomes more and more important, therefore, to pay attention to the real environment of the subject in the moment of the neuropsychological evaluation that becomes increasingly "ecological" or carried out in the real world, with tests that recall activities necessary in daily life. Since 2000 many studies have increasingly taken into consideration the emotional experience of the person, bringing positive experiences of vocational rehabilitation courses that take into account the real needs of the person, his personal characteristics and those of his environment.

People with acquired brain injury can show a series of possible consequences, secondary to the injury suffered, which can cause difficulties in performing a job task. The possible consequences of acquired brain injuries found in the performance of a job task are illustrated in detail in the following table.

Possible and more frequent consequences of acquired brain injuries that can be found in the performance of a job task

Neuropsychological Consequences

Difficulty of memory: People may have difficulty learning new things, remembering what they learn and remembering information and experiences that occurred before the trauma

Difficulty of attention: People are no longer able to perform two or more actions at the same time (like answering the phone and writing a message); difficulty concentrating on one thing in the presence of distractions; difficulty in staying focused for a certain period of time

Difficulty to recognize objects: People may not recognize objects, shapes or some of their parts, colors, or they can see double

Communication difficulties: People may have difficulty speaking or understanding what is being said to them. Even when the language is understandable, these people may have other problems, such as that of never arriving at the "point" of a speech, or not finding the right word to explain, problems that generally cause difficulties in communicating with others.

Deficit of executive functions: People may have difficulty PLANNING and PROGRAMMING a sequence of actions to achieve a goal, such as correctly performing the phases of a job; they may have difficulty performing LOGICAL REASONS; how to do logical-mathematical operations; they may have difficulty in solving problems, even those that concern the management of everyday life and may no longer be able to do ASTRAYCTIONS, such as understanding jokes and double meanings; or to GENERALIZE how to have difficulty moving from one job assignment to another

Slowness: people are generally slower in reasoning, giving answers and performing a task or a shift

Motor consequences

Problems of MOTOR COORDINATION and WIDESPREAD TREMOR, which limit the walking and the ability to speak and carry out other activities concerning personal care

- IMPOSSIBILITY TO MOVE ARTS, amputations
- LOSS OF SENSITIVITY (smell, taste, touch ...)
- TIREDNESS/WEARINESS: people get tired more easily and have longer recovery times
- EPILEPSY

Consequences on behavior

- DIFFICULTY TO REGULATE YOUR OWN EMOTIONS AND TO UNDERSTAND THE CONTEXT: people may have inappropriate reactions to the context (eg, embrace the particularly nice boss)

- IMPULSIVE: a person says or does what he thinks
- IRRITABILITY and EMOTIONAL LABILITY: emotions are felt in a more extreme and dramatic way (eg if the person loses the office key, it is possible that they burst into tears or become angry exaggeratedly)
- APATHY and LACK OF INITIATIVE, which result in the absence of emotional reactions, lack of curiosity and interest, loss or reduction of voluntary movements

Consequences at the level of emotion

- DIFFICULTY OF CONSCIOUSNESS of one's own troubles: it is possible that the person does not recognize the changes that occurred after the event (eg he manifests evident problems of memory but says that his memory works very well). There may also be difficulties in understanding one's own emotions and those of others (eg, she makes numerous pauses when she is busy performing a difficult task, which is not successful and therefore she feels frustrated, feeling that she does

not recognize, she finds difficult to understand if a colleague is sad or angry)

- **DEPRESSION:** it is generally linked to the increase in awareness of change and of one's own difficulties and difficulties of acceptance.

- **INSECURITY, FEAR, ANXIA:** the person can prove anxious and insecure at the beginning of a job, or when the task seems complicated

- **EGOCENTRISM:** the person has difficulty "putting himself in the shoes of others" to recognize their rights and needs

An aspect that is always very important in the ABI is Awareness. It has a purely neuropsychological component, there are multiple brain areas dedicated to the consciousness of oneself and of the other and of the reality that surrounds us. Psychological suffering and fatigue to integrate a great change like the one that happens with an ABI is also very burdensome. Psychological distress is often seen in the medium and long term after the injury, when it comes to the realization that something has changed forever and that it is necessary to face it. In this regard, the literature on the psychological consequences of acquired disability is flourishing [10-14].

Vocational rehabilitation's models

There are many models of vocational rehabilitation and in the literature there are many studies on them, but these models of intervention for the rehabilitation of people with acquired brain damage can be classified according to three main methodological and organizational styles that have been described, used and whose effectiveness has been assessed [3]. The first model is based on holistic rehabilitation programs that are performed within a center (Centred based model) that applies its intervention programs to all aspects of the individual, such as the NYU Medical Centre Head Trauma Program by Yehuda Ben-Yishay [15], or the Adult Day Hospital for George Prigatano's neurological rehabilitation program. In these centers the subject is prepared for work through the training of work tasks, he is prepared for group work and he is accompanied by the real work alternating the work inside and outside the center. The main feature of these programs is their long duration (from a minimum of 16 weeks to a year), the person attends the center daily and a lot of attention is paid to the emotional aspects. People attend psychotherapy groups, cognitive rehabilitation groups and group training of various kinds. In this model great attention is paid to the work that takes place before the professional insertion and the monitoring studies after the return to work are poor.

Another important model is that proposed by Kreutzer and Wheman who have identified vocational rehabilitation programs in which the work placement is accompanied by an expert professional figure who assesses the person's abilities directly at the workplace and, always in the workplace, takes care of to teach the tasks and is a facilitator in relationships with colleagues. The difference with the previous model is immediately evident: in the Kreutzer and Wheman model the work takes place immediately on the place in charge, a training in which the "tutor" gradually reduces his presence but the maintenance of the workplace is controlled with long monitoring.

The third model is called Case Coordination [16] because the main figure is a Case Manager that combines the work of job placement services with those of medical rehabilitation.

There are now many models of vocational rehabilitation internationally and, despite their specific characteristics and the different ways to accompany the subject to work, have the elements

that unite them. The first element common to all models of vocational rehabilitation is the importance that everyone gives to a multi-professional job that includes daily treatments (comprehensive day treatment program) on many areas depending on the needs and times. These programs range from cognitive and/or motor rehabilitation, to psychological support, to family support, to social counseling, to guidance and monitoring of employment. Another element that unites these programs is the importance given to the personalization of the paths and dedicated services that have specific programs, methodologies and tools that help and support the person in orientation during the work placement phase. All these programs also pay close attention to the delicate process of change that is faced by the person and his family and consider the collaboration and involvement of the family very important. Finally, the timeliness of the intervention that helps to prevent the creation of dysfunctional dynamics is also very important.

From what has been said, the importance of a holistic approach to the person in the field of rehabilitation and job reintegration becomes increasingly evident since a serious cerebral injury upsets the whole organization of life of the person and his roles in society.

In Italy rehabilitation is guided by laws and social and health agreements. An important document is the Italian Rehabilitation Guideline Plan [17] which establishes the principles of multidisciplinary and interdisciplinarity, the biopsychosocial model, in chapter 4 point a we read that "in the context of health rehabilitation interventions must be guaranteed: provision of technical assistance to the services responsible for professional qualification and retraining and social service, for the social and professional reintegration of the person with disabilities and related problems" and again "principals/heads deputies to the provision of health rehabilitation interventions that constitute the own and privileged interface between health interventions and social reintegration activities as an indispensable condition for the optimization of interventions and the achievement of results, especially in the most serious disabilities secondary to neurological damage. "(...) and again in chapter 6 of expense(?): "The data highlight the overabundance of beds, admissions in the area of acute and modest offer, moreover with strong territorial differentiation, in the area of disability with inevitable inappropriateness in hospitalizations and care processes. The Understanding of the Health Pact Region 2010-2012, in the definition of the new parameters and the hospital offer reduces beds for acute patients to 3.3% and establishes 0.7% inhabitants for rehabilitation activities. This creates the conditions for a thorough reorganization of the hospital network, freeing up resources for rehabilitation and the territory."

The working issue in Italy: the law 68/99

Targeted placement: The new legislation assigns a prominent role to targeted placement: professionals in the sector and trainers, who are part of commissions pursuant to art. 18 of Law 104/92, have the task of assessing the real capabilities of the disabled worker and the characteristics of the available places, identifying personalized routes for inclusion; this involves the analysis of jobs, the implementation of forms of support, also in the workplace and the solution of problems related to environments, tools and interpersonal relationships in the workplace. To prepare the person with a disability to perform a job, the team of experts has the task of preparing functional training courses to the needs of people and job market; therefore, the activation of information channels for mutual knowledge between companies and

the disabled becomes essential. The application of the new law 68/99 promotes the creation of professional figures who have the objective of facilitating the job placement of the disabled person, working simultaneously with the client, the latter's colleagues and employers, in a collaboration optics. The purpose of this reference figure is to reduce the stress that arise from all situations of relationship with the diversity that disability brings with it, as well as, consequently, the maintenance of the workplace by the disabled person. One of these figures is the Job Coach.

Legal aspects, contributions, tax exemption and penalties: The new law 68/99 is aimed at the insertion and work integration of people with disabilities, through targeted support and placement services. In accordance with the law 626/94 on the safety and accessibility of the workplace, it promotes the improvement of conditions and working environment, by removing architectural barriers, adapting the times and methods of work and developing aids and methodologies, including distance learning. All this aims to facilitate the performance of all those work activities that, in the past, were considered incompatible with the state of disability.

Law 68/99 identifies the categories of disabled people that can be inserted into work; it is about (a) all those who are of working age and who are affected by physical, mental and intellectual disabilities, which result in a reduction in work capacity above 45%, (b) disabled of work, with a disability of more than 33%, (c) people who are blind and deaf and dumb, (d) disabled persons of war and civilians of war, with minorities mentioned in the D.P.R. December 23, 1978 (915).

Employers of all companies, both public and private, are subject to the obligation to hire disabled workers as follows:

No. of employees	% disabled worker	Type of assumption
Companies with more than 50 employees	7%	60% nominative request
Companies that have between 36 and 50 employees	2 People	50% nominative request and 50% from list
Companies that have 15 to 35 employees	1 person (Since 2001 only in the	Nominative request

Type of incentive	%work invalidity	How long?
total de-taxing of social security and welfare contributions	reduction in work capacity above 79%	for a maximum duration of 8 years
total de-taxing of social security and welfare contributions	Disabled persons with intellectual and mental disabilities, regardless of the percentage of disability	for a maximum duration of 8 years
tax exemption of 50% of social security and welfare contributions	Reduction of working capacity between 67% and 79%	for a maximum duration of 5 years

Table 2: Types of incentive for the employers facing disability.

Partial flat-rate reimbursement is foreseen for the expenses necessary for the transformation of the job place to make it suitable for the operational possibilities of disabled people with a 50% reduction in working capacity or for the preparation of teleworking technologies

	case of new hires)	
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Table 1: Statistics of both public and private companies' employer.

Companies that have multiple locations on the national territory can benefit from territorial compensation, i.e. to hire more people in one location and less in another. Companies that carry dangerous, weary jobs can ask for a reduction in the number of people with disabilities they have an obligation to hire.

Political parties, trade unions and non-profit organizations are also subject to this obligation (only in the case of new hires); in these cases the request for employment is always nominative. Police, civil protection and national defense services are also subject to this (although only in administrative services).

In the public sector, recruitment takes place in accordance with art. 36, D. lgs. 29/1993; only in the case of people with a mental disability, the goodwill must take place on a nominative request.

The new law also establishes the time and methods of employment, including the carrying out of traineeships with training or orientation purposes, the employment with a fixed-term employment contract, the development of more extensive test periods than those envisaged from the collective agreement.

The law also provides for the possibility of stipulating special working integration agreements with the employment centers, for the start-up of people with disabilities who have characteristics that make difficult to place them in the ordinary working cycle; in this case the training periods cover the places that the company must reserve for the obligatory placement of disabled persons. Companies that find themselves obliged to hire one or more disabled people can choose to commission work from a type B cooperative that receives them (having as their object the carrying out of agricultural, commercial, industrial or service activities, aimed at the employment of disabled persons with a disability of more than 45%) for a maximum of 2 years, after which they are obliged to hire the disabled person in their staff.

It is very important that the person hired is seen by the Company Doctor.

For employers who hire people with disabilities, the law grants some important incentives.

The law 68/99 provides:

and for the removal of architectural barriers that limit in anyway the work integration of the disabled person.

Lump sum

Article 8 of Regional Law 45/96 provides for a one-time financial contribution for the company that hires up to £ 30,000,000 for full-time permanent employment.

The sanctions, if the obligations are not fulfilled, the law 68/98 provides:

The impossibility to participate in public tenders

Administrative sanctions according to the following scheme:

Breach	Administrative sanctions
Failure to send the periodic report	£ 100,000 plus £ 50,000 for each day of delay
Failure to hire the disabled person after 60 days from the date on which the obligation arose	£ 100,000 per day for each disabled person who is not employed on the same day

Table 3: Administrative sanctions.

Over time, each region has implemented applying decrees and therefore different modalities to carry out the assessments of the disabled and to use of funds allocated to these activities.

In 2017 the abolition of the Provinces has further modified the governance of the Targeted Placement for disabled people and the effects on services have not yet been clearly observed.

The Italian reality of vocational rehabilitation

Although the legislation is clear in this regard, the territorial rehabilitation services dedicated to ABI that deal with Vocational Rehabilitation in a professional and specific manner are almost absent. Few realities, concentrated especially in the central north of the country, exist and each one is organized around its own idea and with its own financing channels, the sanitary one (one center in Italy-in Arezzo), the social-health one, the private one. In almost no reality there is already a constant collaboration with internal protocols and procedures for the provision of the full range of services on the network that would allow the realization of a real vocational path. In most situations, the active network is the one for general disability and often the evaluation and rehabilitation or reception services in daily or residential centers are suitable for people with mental illness or congenital disability. Often, therefore, people with ABI do not in these services and the operators they do not have specific skills for understanding the peculiarities and management of people with ABI.

Based on what was said above on the characteristics of the Vocational models, applying this to the Italian operating methods, the Services network would be as follows (Figure 1).

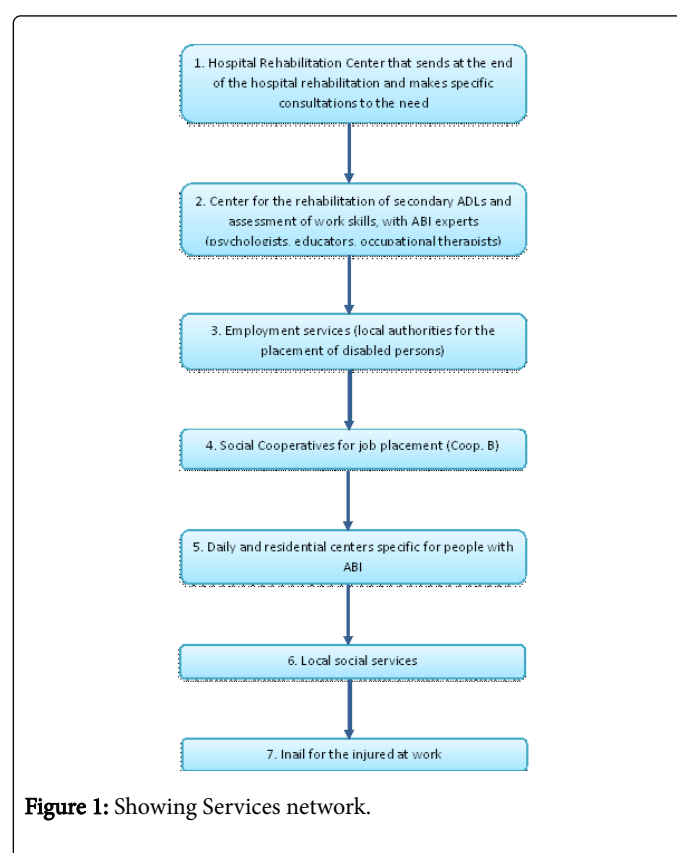


Figure 1: Showing Services network.

The vocational rehabilitation in arezzo

In Arezzo city the Agazzi Rehabilitation Institute, an accredited body for extra-hospital rehabilitation, has promoted a Vocational Rehabilitation Program that accompanies people with ABI from discharge from intensive rehabilitation to work placement or employment, including the residency if necessary.

In accordance with the health system, with a multiplicity of bodies and agencies of the community and with the support of the social private, a network of services and rehabilitation activities have been set up aimed at giving people with these problems concrete opportunities to return to relationship and work life.

These paths are first funded by the health system with renewable treatment plans of 6 months once. As a rate they are equivalent to DH plans with half fare. A Vocational Rehabilitation laboratory is active 5

days a week every morning, from 8.30 to 13.00. At the end of the course - usually 12 months - the possible general outcomes are:

- relocation to workplace with job adjustments
- relocation to the workplace with professional reconversion (another task, often a re-engagement with law n. 68/99)
- placement in a new company (both in the market and in the cooperation's area)
- placement in a company through training internship (in collaboration with employment agencies and local social services)
- Placement in an ABI-specific employment center (activated through a Social Promotion Association "La Tartaruga" joining the FNATC circuit)
- Residential placement in assisted flats (activated through a Social Promotion Association "La Tartaruga" joining the FNATC circuit)
- Possibility of social inclusion and comparison of peers with group and recreational activities (activated through a Social Promotion Association "La Tartaruga" belonging to the FNATC circuit)
- The reacquisition of the ability to move in the environment (driving license or public transport), the reacquisition of a family and social role supported by a growing awareness, the return to perform motor activity (and no longer physiotherapy) and the possibility of having places of socialization and recreation are among the other growth and change parameters recorded in all the paths.

The methodology developed for the Extensive Rehabilitation Service brings together important elements of national and international models:

1. It intends to use work in a center and in a small group as a facilitating environment in promotion of awareness and development of skills
2. It intends to involve the family to share the phases of the journey
3. It considers fundamental the contribution of the experience of internship done in the company with support of the job coach to promote real skills, up to the accompaniment -for someone- to the creation of a business, where the market does not offer useful resources
4. Accompany people in the life project with a multi-professional team able to respond to various needs or to move towards the most suitable paths
5. It uses the ICF classification system [18] and its experimental application carried out together with the provincial Employment Centers in some Italian cities in the ICF Project and work policies.
6. It works with the local services network to optimize resources and provide the best possible answers to the different needs of the people in charge

The general approach derives from the biopsychosocial model, i.e. a vision of the person that considers his physical characteristics (structures), abilities (functions) and the fallout of abilities in daily and social life (activity and participation), taking into great consideration Environmental Factors. In this regard, the Personal dossier is built on the classification system that the WHO has designated the ICF.

In particular, occupational rehabilitation work with people with acquired disabilities is inspired by existing models, published in the

literature. The common factors to job placement models following the acquisition of disabilities are:

1. To be able to gain experience to get back into play in real and stimulating situations
2. Facilitating environment in which the operators (multi-professional equipe) are experts in the field of Equipe: 1 doctor (neurologist-physiatrist), 1 Neuropsychologist, 1 clinical psychologist, 3 professional educators, 1 graduate in physical education.
3. Customized and customizable times and methods (the ideal frequency for an intensive journey is daily, but the design must be personalized according to the characteristics of the person, his place of residence and the family nucleus)
4. The relationship created with the operators and into the peer group facilitates and supports people
5. Work trials in ecological situation (always real works, sometimes carried out directly in Social Cooperatives)
6. Rehabilitative activities of secondary ADL performed outside (for example for using public transport, money, planning and execution of shopping.
7. Adapted Motor Activity and Sport with the Special Olympics circuit
8. Paths of psychological support for individuals, couples and families
9. Paths of psychological support in groups

This entails the fact that the person, while increases and compares himself with work skills, also becomes aware of the new physical and cognitive dimension, as well as social.

In this phase it is often useful for the person and for the family to be able to compare an expert consultant (psychotherapist) in order to elaborate the frustrations and the successes. Even group activity for many-but not all-users is important to be able to process their own changes: the group's dynamic often supports the ability to share with others the painful experience freely and allows reprogramming themselves even learning from others new strategies and methods of coping.

Conclusion

In conclusion, there are concrete experiences, scientific "know-how", legislative prerequisites and socio-health agreements so that Vocational Rehabilitation services can be, for people with brain injury acquired, the last phase of rehabilitation and also significant in terms of effectiveness: unfortunately in Italy not only these services are not present in all the territories, but rather they are a rarity. Furthermore, they are always fruit of particular local experiences and often they cannot be reproduced in other realities.

We hope that more and more attention is given to the rehabilitation of the outcome phase, but perhaps more rightly we should say "of the relationship and community life"; we hope that Italian rehabilitation can implement the training of operators in this direction; we hope that research can be carried out to highlight the benefits that activating Vocational Rehabilitation pathways bring both in the quality of life of people and families and in the results of rehabilitation performance obtained; we hope that it will also be possible to demonstrate social and health savings for the community in the medium and long term.

In fact, it is well known that Vocational Rehabilitation courses improve and above all maintain long-term performance of people in primary and secondary ADL and in Employability, in communication, in the management of emotions and behaviour. These paths are therefore easily supported by loans mainly private and social and they maintain themselves with lower costs than those of rehabilitation activities conducted with traditional methods.

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