



# **Research on vocational support for people with social behavioral disorder following acquired brain injury: Study on practices in medical institutions**

## **(Research Report No.139) Summary**

### **[Keywords]**

People with acquired brain injury, social behavioral disorder, rehabilitation, vocational support

### **[About this report]**

Research Report No.139 introduces research outcomes about people with social behavioral disorder after acquired brain injury conducted in Japan and overseas as well as practices to support them at medical institutions in Japan. This report will be helpful when considering an effective vocational rehabilitation support for people with social behavioral disorder following acquired brain injury.

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NATIONAL INSTITUTE OF VOCATIONAL REHABILITATION

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## 2. Research Period

FY2016 to 2017

## 3. Composition of the research report

Chapter 1: Background and Purpose of Research

Chapter 2: Literature review

Chapter 3: Interview

Chapter 4: Future directions

## 4. Background and Purpose of Research

Social behavioral disorder frequently appears following acquired brain injury, and it is assumed to significantly affect working life. National Institute of Vocational Rehabilitation has made efforts to support occupational issues related to social behavioral disorder, and more improved supporting methods are still in need. Upon the circumstances, National Institute of Vocational Rehabilitation Vocational Rehabilitation Center (department of development of technique) has been planning to develop effective vocational supporting methods for people with social behavioral disorder following acquired brain injury.

On the request by the Vocational Rehabilitation Center, this research aimed to collect information about supporting methods for people with social behavioral disorder following acquired brain injury so that it will help vocational rehabilitation.

## 5. Method

Literature published in Japanese and English languages was collected for review. To collect advanced practices that might not be obtained in detail by literature only, interview with institutions and professionals in the related field was also conducted.

## 6. Literature review

### (1) Research method

Literature was in relation to problems, symptoms, treatment and support of adults with social behavioral disorder after acquired brain injury in the field of medical, public welfare and vocational rehabilitation and was published mainly after 2000. Literature about pharmacotherapy was not included in the review.

### (2) Result of literature review

The literature review consists of six categories: A. social cognitive impairment, B. communication disorder, C. depression and anxiety, D. anger and aggressive behavior, E. apathy, and F.

comprehensive holistic rehabilitation program. Definition, characteristics, and intervention for each category are summarized below. Several intervention studies conducted in Japan and overseas are introduced in Research Report No. 139.

#### A. Social cognitive impairment

People with social cognitive impairment are difficult to perceive emotion of other people from their facial expression and/or tones of voices and also difficult to infer the intentions behind their behaviors. Social cognitive impairment can be caused by traumatic brain injury and cerebrovascular disease and affects clients' social behavior and social participation. Several studies reported practice effects on reading facial expression although the number of study is quite few.

#### B. Communication disorder

Communication disorder caused by cognitive impairment such as attention, memory and executive function is called "cognitive-communication disorder," and it appears to people with brain injury in high frequency. Research on improving communication skills has been conducted for clients (social skills training) and also for people around the clients (communication partner training). Both types of research have shown an effect of the training.

#### C. Depression and anxiety

Depression and anxiety appear to people with brain injury in high frequency. Other than pharmacological intervention, cognitive behavioral therapy seems popular recently and has been studied quite often. While some studies report its effect, others do limited or no effect at all. Accordingly, further research is necessary to explore what conditions are suitable for the therapy. For people with cognitive impairment, it is important to make some arrangement, such as preparing handout materials and summarizing and repeating key points, to apply cognitive behavioral therapy.

#### D. Anger and aggressive behavior

Frequency of anger and aggressive behavior among people with brain injury depends on research; therefore, it is not clear. Irritability and aggressive behavior may worsen when an appropriate intervention is not provided. Environmental modification, behavior therapy and cognitive behavioral therapy (anger management) have been studied and shown their effectiveness as intervention. In many cases, cognitive behavioral therapy is applied to people whose cognitive dysfunction is relatively mild.

#### E. Apathy

Apathy is a state that motivation is in decline, and it is distinguished from depression. It impairs person's social independence including work. Several studies reported successful cases on improving clients' independence with some arrangements. They included subdividing work process and introducing external tool such as checklists and reminders.

#### F. Comprehensive holistic rehabilitation program

The program integrates techniques of multiple professional areas. It includes group sessions dealing with awareness and acceptance of disabilities and communication difficulties. It also includes cognitive training and individual counseling. Some research reported an effect of the program for clients returning to work. This program is intensive in terms of frequency and period; however, it has been sometimes simplified in recent years.

### (3) Discussion of literature review

There seem two types of intervention methods that are suitable for vocational rehabilitation area

and are not suitable since they are for medical purpose. Classifying the intervention methods into three groups, it aims (i) to improve clients' symptom, (ii) to help clients obtain compensatory skills for their disabilities, and (iii) to approach environment surrounding clients. The method (ii) and (iii) seem to be suited for vocational rehabilitation.

The intervention methods for social cognitive impairment are considered as (i) and (ii). Although it has not been pointed out in past studies, practice creating thoughtful environment that caregivers clearly give necessary information to clients rather than expecting them to speculate may be possible in the vocational rehabilitation field as practical methods of (iii).

As interventions for communication disorder, social skills training for clients is considered (ii), and communication partner training for people around the clients is considered (iii). Social skills training has been widely practiced in the vocational rehabilitation field in Japan; however, the communication partner training has not prevailed; therefore, it should be investigated in Japan in the future.

Cognitive behavioral therapy is applied to people with depression and anxiety. Cognitive behavioral therapy adopts a wide range of techniques. They include methods of (ii) and can be practiced in the vocational rehabilitation fields as well. For example, support to obtain coping skills for stress such as relaxation has been already implemented in the vocational rehabilitation. However, treatment for depression and anxiety should include medical care including pharmacological intervention, and so it would be important that psychological and medical supports cooperate with one another.

Cooperation with medical institutions is also vital for anger and aggressive behavior since medical care sometimes precedes psychological intervention. Among the psychological interventions, time out and assertiveness training in behavior therapy and cognitive behavioral therapy are considered as (ii) and can be taken into practice in the vocational rehabilitation. Modification of surrounding physical and communication environments may be also important supporting methods in the vocational rehabilitation.

The case studies for apathy showed an effect of using a checklist or reminder as external tools for improving clients' independence in everyday life. This method seems to have elements of both (ii) and (iii). The external tools are often used in the vocational rehabilitation and considered as an intervention method that the vocational rehabilitation workers can implement their expertise.

Comprehensive holistic rehabilitation program integrates various supporting methods and emphasizes as it functions as whole, so it may not be appropriate to examine applicability of each element to the vocational rehabilitation field. The program is designed to support clients by grasping their characteristics and closely exchanging opinions between professionals in different fields. This approach would serve as a valuable reference.

## 7. Interview

### (1) Interview method

Interview was conducted from October 2016 to September 2017. Below are the institutions and professionals for the interview;

### List of interview

Dr. Atsuo Naya and health care professionals at Naya clinic
<ul style="list-style-type: none"><li>• Approach to treatments and supports for people with social behavioral disorder</li><li>• Day care for people with acquired brain injury</li><li>• Group treatment of Social Cognition and Interaction Training</li></ul>
Dr. Keita Kondo and health care professionals at Hiroshima Higher Brain Function Center
<ul style="list-style-type: none"><li>• Approach to treatments and supports for people with social behavioral disorder</li><li>• Practice of group training (e.g., simulated working groups)</li></ul>
Dr. Shigeharu Aoki and health care professionals at Kanagawa Rehabilitation Hospital
<ul style="list-style-type: none"><li>• Practice of "a comprehensive day treatment program"</li></ul>
Dr. Mamoru Hashimoto and health care professionals at Kumamoto University Hospital
<ul style="list-style-type: none"><li>• Approach to treatments and supports for people with social behavioral disorder</li><li>• Practice of anger management</li></ul>
Prof. Yoko Okamura, School of Human Sciences, Senshu University
<ul style="list-style-type: none"><li>• Practice of Social Skills Training for persons with irritability</li></ul>
Dr. Keita Ueda at Kyoto University Hospital
<ul style="list-style-type: none"><li>• Medical roles (especially psychiatric) and regional collaboration on supporting people with acquired brain injury</li><li>• Approach to treatments and supports for people with social behavioral disorder</li></ul>
Mgr. Kentaro Inaba, Employment Support Section at Nagoya City Rehabilitation Center
<ul style="list-style-type: none"><li>• Practice at Employment Support Section</li><li>• Employment support coordination with sections and institutions inside and outside of the center</li></ul>
Dr. Yuko Urakami at National Rehabilitation Center for Persons with Disabilities
<ul style="list-style-type: none"><li>• Approach to treatments and supports for people with social behavioral disorder</li><li>• Practice of Feeling-Focused Group Work</li></ul>

Contents of interview varied depending on characteristics of the institutions as well as expertise of the professionals regarding approach and practice about treatment or support for people with acquired brain injury prior to employment.

## (2) Results of interview

Information obtained by the interview ranged widely according to the characteristics of the institutions and the expertise of the professional fields. It was classified into three sections: A. Assessment, B. Treatment and Support, and C. Care for supporting staff.

### A. Assessment

It is important to recognize for each client when and what situations inappropriate behavior occurs and how to deal with those situations. Listening to the client is essential. However, some clients may be difficult to be aware of or explain in language about the cause and situation for their inappropriate behaviors; therefore, it is vital to gather information through observation and from people around them.

### B. Treatment and Support

Treatment and support should be provided as a combination of pharmacotherapy, environmental

modification, and psychological supports, such as psychological education and social skills training, in accordance with the clients' states. In order to deal with changes of their states, a long-term intervention is necessary.

a. Pharmacological intervention

Pharmacological intervention is essential for some symptoms such as exceptional irritability, aggressive behavior, depression, and apathy.

b. Treatment and support except medication

While group intervention can be effective as it improves clients' awareness toward their problems by mutual observation and psychological support, it is also required to organize a group carefully, allocate a sufficient number of supporting staff, and provide a careful individual follow-up before and after the group session. Failing to meet the conditions may cause them to confuse. When organizing an appropriate group (i.e., matching a level of disability) is difficult, an alternative such as making a small group of two or three people or setting an interpersonal exchange situation as a part of working activity is taken. Assessment of intervention needs to be done carefully as there are individual differences among clients, valid assessment tools are limited, and effect of the intervention may emerge long after the intervention.

C. Care for supporting staff

In order to prevent overload for supporting staff, it is important to get involved in a client by several supporting staff and to have a good relationship each other for exchanging information and consultation.

### (3) Discussion of interview

Following is discussion as practical implications for the vocational rehabilitation.

A. Assessment

Observing behavior and gathering information from people around clients are recognized as important assessment methods in the vocational rehabilitation. In order to do it effectively and efficiently, knowledge about characteristics of disabilities are indispensable. Although vocational rehabilitation workers must make an effort to enrich their knowledge about the characteristics of disabilities, having expertise in every single disability may be limited since many vocational rehabilitation institutions and workers are not specialized in specific area of disability. A close cooperation with other institutions which own specific expertise is important to provide clients an appropriate support based on accurate assessments.

B. Treatment and Support

a. Pharmacological intervention

When clients show prominent problems in working life and seem to need medical cares including pharmacological intervention in the vocational rehabilitation, they are recommended to visit medical institutions. However, vocational rehabilitation workers may sometimes have difficulty to decide whether the doctor visit is necessary. In order to deal with such situations, establishing a system to receive advice from experts in a timely manner is necessary. Regarding the cooperation between the medical and vocational rehabilitation, mutual interaction is important although one way transfer from the medical to vocational rehabilitation tends to be focused.

#### b. Treatment and support except medication

The vocational rehabilitation can refer to use small groups or interpersonal exchange in a working activity. Objective assessment tool to measure intervention effect is a common critical issue in the medical and vocational rehabilitation since an effectiveness of intervention based on scientific evidence is pointed out in the field of vocational rehabilitation.

#### C. Care for supporting staff

Although it may be difficult to establish a system that consists of multiple professions within a single institution in the vocational rehabilitation fields, it may be possible to do so when several institutions work together.

### 8. Future directions

#### (1) Cooperation with related institutions

Through the results of the literature review and the interview, importance of cooperation with related institutions including medical institutions was recognized. National Institute of Vocational Rehabilitation has conducted several researches on cooperation between medical and vocational rehabilitation institutions for supporting people with acquired brain injury. The cooperation has been advanced in some extent as “A five-year model project for supporting persons with higher brain dysfunctions” and “A higher brain dysfunction support promotion project” were developed. However, because some issues still remain, more specific exploration will be necessary. Examples are (1) to identify obstacles for implement of effective cooperation, (2) to collect successful cases that resolved obstacles, and (3) to quantify the effects of cooperation. While the researches by National Institute of Vocational Rehabilitation focused cooperation with rehabilitation department of medical institutions, the present research suggests the importance of psychiatric care as well. Moreover, cooperation with welfare institutions as well as other vocational rehabilitation institutions is also necessary. Therefore, considering cooperation based on the supporting network with multiple institutions will be essential.

#### (2) Practice in vocational rehabilitation fields

Regarding the employment support for people with social behavioral disorder due to acquired brain injury, approach to practice the expertise of the vocational rehabilitation as well as cooperation with related institutions is important. For example, a communication partner training which was reviewed in the present research might be applicable in the vocational rehabilitation field. In order to improve communication in workplace, an intervention to colleagues, managers, and others around people with acquired brain injury should be a good practice in this field. Also, an importance of long-term support was pointed out in the present interview. In many cases, vocational rehabilitation institutions are closely engaged in clients after medical and welfare institutions. Collecting and analyzing information about practices and features of clients who could easily accommodate to a workplace or who needed much support would be helpful for not only vocational rehabilitation institutions but for medical and welfare institutions that make an effort for clients to return to work. Such information would tell which point supporters should focus on, and this is an important research topic for the field of vocational rehabilitation.