CASE REPORT

A case formulation: Psychological assessment and treatment of a person with a Prader-Willi syndrome and hearing and visual difficulties

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ABSTRACT

Psychological treatment of a person with multiple difficulties due to syndromes or disabilities and possible additional diseases can be challenging because of the complexity of the problems. This case example presents a behavioural assessment and treatment of a client having Prader-Willi syndrome, hearing and vision difficulties, mild learning disability, diabetes, depression, chronic pain problem, and overweight problem. The case formulation showed that mood problems among multi problem clients are difficult to understand because of the complexity of the history and present problems. Clinical case formulation model such as the Functional Analytic Clinical Case Diagram can be a useful tool when selecting targets for the treatment, and when making other treatment decisions. This paper presents a long-term treatment of a multi-problem client. The treatment incorporated communication skills training, functional analysis, body awareness training and contextual principles and techniques. This case example shows that although there is no "cure" for some chronic and inherited disorders, psychological interventions can significantly increase wellbeing and quality of life of these clients. Thus, cognitive behavioural assessment and intervention procedures should be applied more in order to increase the quality of life of minority groups.

Introduction

There are approximately 150 persons who have Prader-Willi syndrome (PWS) in Finland.¹ Prader-Willi syndrome is a rare genetic disorder in which seven genes (or some subset thereof) on chromosome 15 are deleted or unexpressed on the paternal chromosome. Prader-Willi syndrome is traditionally characterized by ambiguous genitals, short stature, characteristic facial appearance, small hands and feet, abnormally increased appetite and obesity, diabetes, sleeping problems, behavioural problems (eg temper tantrums and compulsive traits), decreased functional activity of the gonads and mild mental retardation. Gross motor and language development are delayed.²⁻⁵

Most people with Prader-Willi are mildly mentally retarded the average IQ being around 70 or slightly lower. Some people have recorded IQs of 85 or above, while a minority have severe learning...
difficulties. However, studies made by Cassidy and Curfs & Fryns suggest that 50-65% of persons with PWS fall within the mild/borderline/low average intellectual range (IQ more than 70). Individuals may sometimes find it difficult to perform at their IQ level, as emotional and social skills are often less developed. Regardless of measured IQ, most people with PWS have multiple severe learning disabilities and poor academic performance. It has also been suggested that there is an association between PWS and comorbid psychiatric illness. In a recent study 63 out of one hundred and two individuals were screened positively on psychopathology. This included bipolar disorder with psychotic symptoms, psychotic illness, depressive illness with psychotic symptoms and depressive illness without psychotic symptoms.

People with PWS are individual in their growth pattern, and there is no set way in which they all develop. A minority start to develop sexually at a young age, but in the majority, puberty is delayed until the late teens. Prader–Willi syndrome is also frequently associated with an extreme and insatiable appetite, often resulting in morbid obesity. Behavioural and eating problems may become more challenging during the teens and early twenties. As adults, people with PWS have varying abilities in attaining independence, although all will need some form of support or monitoring to help with controlling their food intake, and thus their weight. Despite the fact that many individuals have the intellectual and physical ability to work, they are usually ill-equipped on an emotional and social level to deal with the stresses and demands of the ordinary workplace. However, they can make a positive contribution to society in many ways and may be involved in voluntary work, craft work, or have a part-time job. Many people live with their families, but an increasing number are living in residential homes, or being supported to live in the community. In the past, life expectancy was short because of health problems associated with massive obesity, but nowadays life expectancy is increasing because of better dietary management or mindfulness-based health wellness programs and better understanding of the problems associated with Prader-Willi syndrome.

Apart from various hormone treatments and some surgical intervention (eg. to bring down undescended testes), there is no "cure" for Prader-Willi syndrome. There have been many advances in the fields of genetics, but it will take several years before the genes that are involved in PWS are fully identified. To date no drug treatment has proved to be of lasting help with regard to suppressing appetite. Severe challenging behaviour and some mental health problems have responded relatively successfully to drug treatment, but dosages need to be carefully monitored. Many of the adverse effects of the syndrome can be lessened by good dietary management, exercise programmes, good general health care, and by good general management of behaviour and education. Use of cognitive behavioural approaches seems to be effective psychological treatment for challenging and mental health problems for persons with Prader-Willi syndrome.

Persons with Prader-Willi syndrome may have other severe problems such as hearing and vision difficulties, learning disability or CP. In Finland there are approximately 800 individuals, who have dual sensory handicap- deafblindness. Although the term deafblindness refers to total deafness and blindness most individuals having these impairments still have residual hearing and/or vision. Deafblindness has been shown to have a particular effect on a person’s communication, moving and information acquisition. According to the revised Nordic definition hearing and visual disability (dual disability), limits activities of a person and restricts full participation in society to such an extent that it requires specific environmental and service arrangements from society. According to Hassinen and Olesen & Jansbol it often seems that the operational effects of the disability lead to so many problems in everyday life that the persons are unable to show their abilities. For example, the deafblind person’s intellectual or other mental capacity may be under-used, which can manifest itself in demands that persons with dual impairment set for the
environment. It is also common for surrounding people to be unable to truly understand the situation of the deafblind person and offer them the right kind of assistance in the right matters.

The changing visual and hearing disabilities often also require alterations the environment at home, at school and at workplace to better suit the current situation. In particular, lighting, adequate space, colour contrasts, the placement of objects and the tranquility of the environment need special attention. Difficulties moving in the dark can also hinder independent mobility. As Burfield & Casey\textsuperscript{18} and Stone\textsuperscript{19} point out hearing disability alone not only hinder communication but also functioning and participation in activities because it restricts social interaction. Persons with a hearing disability may isolate themselves, suffer from low self-esteem and the loss of autonomy and even lose the will to live. In particular, the constant stress in communication becomes chronic and creates anxiety and exhaustion. Listening and lip reading demand a great amount of physical and mental energy. The feeling of loneliness can be very powerful, even when the person is living in a social context. However, the symptoms caused by stress do not necessarily become overwhelming if the person is able to find constructive ways to cope with the hearing disability.

There is no precise information available on the psychological effects or problems of deafblindness. However, it is fair to assume that there are similarities. The psychiatric clinic of the Hospital District of Helsinki and Uusimaa (Hus) in Finland\textsuperscript{20} indicate that diagnoses and behaviour problems of deafblind do not differ from those of the deaf. The most common illnesses among the 44 deaf and deafblind individuals or persons with severe hearing impairment who were treated in the clinic between March 1996 and December 1998 were depression, anxiety, personality disorders, substance abuse, schizophrenia, bipolar disorder and psychotic behaviour. Additional diagnoses generally included epilepsy, intellectual disability, developmental disability or dysphasia or other linguistic disorders. On the other hand, eating disorders were not a major problem among the deaf.

The survey that described the psychic symptoms of Finnish deaf-blind or deaf persons using sign language was conducted between 2002 and 2004 using the following questionnaires\textsuperscript{21}: The Well-being Questionnaire, Life Situation Questionnaire\textsuperscript{22} (Pokkinen, 2001), The Target Complaint Method\textsuperscript{23} (Battle, 1996), and the GHQ-2 (General Health Questionnaire,\textsuperscript{24} Goldberg, 1972). About half of those the questionnaires were posted, attended the survey. The data suggested that most common psychological symptoms among the 213 participants were loneliness, depression and anxiety symptoms, which were estimated to be found in one in four respondents. This number is slightly higher than in the average Finnish population not having sensory disabilities. The need for therapeutic help associated with problems was significantly higher among persons who use sign language than among the, population in general. Help was especially necessary with relationship, and work-related problems.\textsuperscript{21} In a Nordic study\textsuperscript{17} over one-third of the 20 people interviewed reported having used the psychological services in order to cope with the emotional or other difficult reactions related to crisis.

Even though the psychological problems of deaf-blind persons do not differ from the problems of persons without sensory disabilities, there are some distinguishing features.\textsuperscript{16} Body tension and stress are often linked with deaf-blindness, because sensory disabilities require the person to be more aware of the surroundings. In addition, everyday life can cause fear and anxiety because of not fully being able to be aware of what is happening around you or how to cope with domestic duties, such as cooking, and shopping. Feelings of loneliness, and isolation caused by fear, and anxiety can easily lead to depression. Depression can also be caused by the deterioration of senses, as well as traumatising situations. Hearing and vision problems can cause dangerous ‘close calls’, for example in traffic, which can increase cautiousness and fear of moving about. Many deaf-blind persons have also been mocked at school or in the workplace because of their disability. This may lead to feelings of failure and
low self-esteem, and thereafter persons start to avoid certain situations.

Due to their psychological problems, some deaf-blind persons may require professional help. The goals for psychotherapy with deaf-blind persons are similar to those for clients who are deaf or hard of hearing. However, there are some special issues that must be taken into consideration. For example efficient communication between a therapist and a deaf-blind client is essential, and the therapist must be able to create a warm, accepting and non-condemning attitude towards the deaf-blind client.

Psychological treatment of a person with multiple difficulties due to syndromes or disabilities and possible additional diseases can be challenging because of the complexity of the problems. Case formulation models might be useful when professionals working with individuals who have multimodal problems try to understand person’s situation. One of the case formulation models is the Functional Analytic Clinical Case Diagrams FACCD.26,27,28

In FACCD the case formulation is illustrated with a vector diagram that presents behaviour problems and goals, functional relations among behaviour problems, the relative importance of behaviour problems, the strength and form of causal and non-causal relations for behaviour problems, and the modifiability of causal variables. The functional analysis and FACCD are most useful in three contexts: (1) with complex clinical cases especially with clients with multiple problems areas and multiple, interacting causal variables, (2) with cases in which standardized treatment is failing, and (3) in treatment team settings in which treatment goals for a client are discussed. Thus, it could be argued that persons with multiple severe problems and professionals working with these problems may benefit of the FACCD. The purpose is to present a case with a very rare combination of problems including hearing and vision problems, a Prader-Willi syndrome, and some other severe health difficulties. The case is presented with the permission of the client, but some of the background information having less scientific importance has been modified in order to protect identity of the client. Furthermore, the aim of this work is to illustrate how behavioural science can increase the quality of life of the persons suffering with multiple handicaps when other treatments or interventions have a limited or no effect.

Method

Participant

The client was a 35-year old woman. She had poor vision and hearing, but could function with both senses. She could see in good lighting situations and move independently in familiar places. She used a white cane outside, and when travelling. She could also hear in quiet surroundings and when interacting in one-to-one basis. She had difficulties in noisy environment and group discussions. She lived alone, but had domestic help four times a week. She needed help especially for cleaning, shopping and cooking. She attended activities for deaf-blind people a few times a week. She had experienced several periods of depression during the last ten years, and during the last two years she had had periods when she had experienced psychotic symptoms, and she had been hospitalized twice for few weeks. She had suffered from overweight problem since her childhood, clumsiness as well as difficulties in moving because of pain problems in knees and back. The pain was sometimes very intensive. She was also diagnosed having mild learning disability. These difficulties were linked to Prader-Willi syndrome diagnosed during her adolescence. During the treatment she was diagnosed to have diabetes. She was referred to the treatment due to depression. However, it became evident that Prader-Willi syndrome had more impact on her problems than sensory disabilities. In summary, this case example presents as assessment and treatment of a client having hearing and vision difficulties, Prader-
Willi syndrome, mild learning disability, diabetes, depression, psychotic symptoms, chronic pain problem, and overweight problem. A more precise description of client’s problems is presented below.

Assessment

The client had been diagnosed having repeated depression periods. Diagnose of depression was done by a licensed psychiatrist before the treatment in order to get financial support for psychotherapy from the Government organized insurance system. At the beginning of the treatment the client’s situation was described using Functional Analytic Clinical Case Diagram FACCD26,27 On the basis of the interview a problem list was made, and a case model was formulated. This case formulation is presented in Figure 126. The problem list was made applying the behaviour analytic, and cognitive behavioural therapy –principles. Thus, the therapist made first a general description of the problems or issues as presented by the client. After the general problem listing, a more precise problem description was made in co-operation with the client. The therapist described with the client what emotional reactions, physiological reactions, thoughts and overt behaviours were associated with the presented problems. Because of the communication difficulties at the beginning of the treatment, the therapist and the client used approximately six months (10 sessions) to formulate the case model presented in Figure 1.

The case formulation presented in Figure 1 indicated that in addition to depression, the main problem of the client was the experiences associated with mocking and negative comments from others. According to the client mocking had been going on over several years. In fact, it seemed that mocking and the consequences of mocking had been present most of her life. The client reported that the worst mocking experiences had been at school, but she had experienced mocking also later in life. This seemed to be due to looking and behaving differently than others due to Prader-Willi syndrome (obesity, clumsiness, difficulties with studying due to mild mental retardation). On the basis of the case formulation mocking experiences and problems associated with mocking became the main theme for the treatment. The analysis indicated an association between mocking, negative self-thought, fear of negative evaluation and depressed mood. A closer description of the mild learning disability showed that the client had difficulties to understand some words and terms, she had some deficiencies of common knowledge and communication skills (for example, she had difficulties to have conversations). Because of her obesity she had been called “fatty”. She had been left out of groups and group activities, and she had been treated badly by others (for example, her classmates had stolen, hidden and damaged her belongings). The case formulation indicated that because of these earlier experiences the client reported during the treatment experiences of shame because of looking different, feelings and thoughts of being worse than others, and feelings

Note. Physical handicaps due to PWS: short stature, short extremities, frail knees and back

Figure 1. A Functional Analytic Clinical Case Diagram of the client
of anger because not knowing Prader-Willi diagnosis earlier. She reported thoughts such as “Why I was treated so badly? Did I do something wrong? Could I have done something differently?” She reported fear of being mocked when participating in group-activities for deaf-blind people. She reported that she experienced difficulties when having contact with the opposite sex. She described herself of being very shy, she did not know what and how to start and keep a conversation going. She experienced also feelings of disappointment and guilt for not being able to be as active as she would like to be, and fear in new situations and in situations where she had to meet new people.

The case formulation suggested that in addition to these difficulties or experiences, depression was also affected by social avoidance and distress as well as minimal physical activity. The reduced physical activity, on the other hand, was probably associated with or affected by several factors such as sleeping too many hours, medication for pain problems and overweight. It was hypothesized that social avoidance was affected by her communication difficulties and social skills deficits, and these difficulties were associated with her learning disabilities. Thus, the case formulation suggested that there were several factors associated with depression, and these factors interacted with each other.

During the treatment depression was assessed with BDI and overall symptoms with SCL-90. Beck Depression Inventory (BDI) is a widely used self-report questionnaire with 21 items measuring the severity of depression. The BDI has good reliability and validity in both nonclinical and clinical populations. The Symptom Checklist-90 (SCL-90) is a broad self-report checklist of psychopathological symptoms. SCL-90 has been validated for the Finnish population. In this study the scores from SCL-90 are reported as General Severity Index (GSI) describing the amount of the symptoms. The GSI index (SCL-90-GSI) is calculated by dividing the client's scores (from 0 none to 4 extreme) by the number of questions (90). The SCL-90 consists of the following primary symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Each of the nine symptoms dimensions comprises 6-13 items. The scores on each dimension are means of the scores of all items of the dimensions. According to Holi SCL-90 is useful in clinical settings, as it performs well as screening instrument and is sensitive to change over time. However, subscales scores should be used as a basis for discussions about a patient’s symptoms, not for diagnostics and interpretations.

**Treatment**

The intensive psychotherapy lasted for three years. The treatment was done every other week (20 sessions per year, altogether about 60 sessions), and each session lasted 90 minutes. The goals for the treatment were formulated after the assessment phase. The main goal of the treatment was to affect the client’s mood problem, and to increase her quality of life meaning that she could be able to continue independent living, and avoid treatments in psychiatric hospital, that she could be able to do her household duties as well as leave home and go out shopping, attend activities for deaf-blind persons, take a walk etc. The case formulation in Figure 1 suggested that there were several treatment alternatives. The treatment below describes the alternatives that were used in this case.

**Communication and social skills training**

The first year of the treatment concentrated mainly on increasing client’s communication skills. The combination of Prader-Willi syndrome, poor vision and hearing, and mocking experiences had probably affected her ways to communicate with other people. For example, she had a tendency to answer questions with yes and no answers, and it was difficult for the therapist to obtain information of her thoughts and emotional reactions. Thus, one of the aims of the treatment was to increase her communication skills in order to have an effect on her mood problems, and it was also hypothesized that better communication skills were needed for successful treatment.
process. During the treatment she was practiced to have a dialogue and to speak more than just answer the therapist’s questions.\textsuperscript{33} The therapist used verbal prompts such as “Tell more about it. When did this happen? How did you feel?” during the sessions. During the discussions the therapist encouraged the client to tell her needs in a way that she was being understood (e.g. what she wanted home-help people to do and what not). The therapist validated the client’s experiences as being a handicap person with certain strengths, such as being able to live independently and moving outside without a guide. Naming (“tacting”) feelings (such as shame, guilt and sorrow) was practiced when mocking experiences were discussed. For example, the therapist asked what feeling the client was experiencing when they were discussing of a specific mocking experience or alternatively the therapist suggested a feeling or emotional experience to the client who either verified or denied it. Client's assertiveness skills were increased using both instructions and direct skills training. During the assertive training difficult situations were first identified and described.\textsuperscript{34} Then, skills to express own opinions were trained using role plays during which the client was instructed to change her non-verbal communication style, and try out different ways how to express opinions verbally.\textsuperscript{33,34} For example, the therapist trained client to express her opinions to home assistants.

\textit{Specific functional behaviour analysis}

During the treatment several specific functional analysis or descriptions of behavioural chains (describing 6-7 specific situations) were done in co-operation with the client. Interactions between specific actions, thoughts, emotional and physiological reactions, contextual cues as well as their consequences were presented to the client and they were discussed with her using a white board. The therapist presented behavioural chains on the board on the basis of client’s descriptions. The purpose of these descriptions was to help the client to understand the causal relationships associated with her problems and wellbeing (for example, to understand the effect of Prader-Willi syndrome). These descriptions were primary used to describe her mocking experiences. These descriptions offered also a possibility to deal with emotions and thoughts associated with past mocking experiences and current situations. For example, the therapist asked the client to describe a situation where she had recently experienced emotional reactions similar to earlier mocking experiences. An example of these situations with a behavioural chain is described below. With others, somebody laughed at her\textsuperscript{□} remembered the past experiences \textsuperscript{□} anxious \textsuperscript{□} thoughts: “I am not as good as others” \textsuperscript{□} withdrew from the conversation. This mocking experience as well as other experiences were analysed several times during the treatment.

\textit{Body awareness training and behavioural activation}

The case formulation indicated that the client’s physical activity level was associated with physical handicaps due to Prader-Willi syndrome as well as with difficulties of hearing and vision. The client also reported body tension, which she especially experienced during social situations and while travelling. Body tension increased also the likelihood for panic symptoms. Several exercises were done in purpose to affect her body tension. The client practiced deep breathing and taiji, and she was instructed to mindfully observe her body postures while she was doing the exercises.\textsuperscript{35} These practises were also used during a break within the 90 minutes sessions, because especially at the beginning of the treatment, the client was too tired to work the whole 90 min session without a break. In order to help her to deal with social situations she was instructed to use deep breathing and attention focusing skills learned during the body awareness training exercises in social situations, for example when travelling by bus. The client and the therapist made also weekly plans (e.g. they went through client’s schedule of doing household duties with domestic help and by herself, and made plans attending activities outside home such as deafblind meetings) as well as identified past and coming events causing tension. Problem solving strategies were also used in order to find alternative ways of behaving in situations associated with high tension. She was
also informed how panic symptoms develop and how she could cope with them.\textsuperscript{34}

\textit{Psychoeducation}

The therapist educated the client about different symptoms associated with depression and traumatizing experiences, such as mocking. Psychoeducation was used in some form during every session. As a consequence of communication training, the client became verbally more active during the treatment, and started to ask more questions when she noticed that she did not understand something.

\textit{Value work and acceptance exercises}

Value work\textsuperscript{36,37} (Hayes, Strosahl & Wilson, 1999; Hayes & Smith, 2005) indicated that safe home environment and good relations with her childhood family members as well as attending events for deaf-blind people were especially important to the client. During the sessions several experiential exercises and metaphors based on Acceptance and Commitment Therapy were done such as the observer exercise, and the physicalization exercise.\textsuperscript{36,37} The aim of these exercises was to increase client’s skills to accept her thoughts and emotional reactions associated with her life history and limitations caused by her handicaps and diseases. The purpose of experiential exercises and value work was to increase motivation and willingness to take new actions.

\textit{Exposure procedures}

The client was very shy with opposite sex and in intimate relationships. This was due to lack of communication skills, lack of information of intimate relationships, and because of her mocking experiences. During the third year of the treatment the therapist applied exposure procedures that included for example imaginary and in vivo exposure procedures.\textsuperscript{38} The exposure was done with pictures during therapy sessions and TV-programmes at home presenting couples hugging or kissing and evaluate her anxiety level between 0 – 100. The anxiety level of the first pictures presented during the session was 80. As the exposure procedure continued the anxiety level decreased to 0-5. The client was also instructed to observe and notice couples when walking in the city.

\textit{Home visits}

The therapist made two home visits. The purpose of the visits was to collect information of the context where the client was living, and to encourage the client to use methods used during the sessions at home. During the second visit the rehabilitation counsellor and home help advisor were present.

\textit{Results}

On the basis of BDI and SCL-90 the client’s psychological symptoms decreased during the treatment. According to the SCL-90 the client reported relatively large number of psychological symptoms before the treatment started (Figure 2). The SCL-90 measured 10 months before the treatment started showed GSI = 1.82. Thus, the client’s symptoms were at the same level as reported by a Finnish psychiatric outpatient sample (mean GSI = 1.56, sd = 0.61, n = 249\textsuperscript{32}). At the beginning of the treatment the GSI value was 1.22 and 10 months later GSI was 1.16. Figure 2 shows that psychological symptoms had decreased after about one and a half year from the beginning of the treatment. At this point (Figure 2), the level of symptoms was equal to or at lower level as compared to a Finnish community sample (mean GSI = 0.60, sd = 0.44, n = 337\textsuperscript{32}). However, at the end of the treatment the client reported very few symptoms (GSI = 0.18, Figure 2). At the beginning the measures of the SCL-90 subscales were at the same or higher level than psychiatric outpatient subscale measures except paranoid ideation and psychoticism (Figure 3). During the treatment client’s somatic symptoms decreased less as compared to the other scales (Figure 3). This was probably due to Prader-Willi syndrome. The client was able to complete the BDI questionnaire for the first time after 14 months from the start of the treatment. At this time, the client reported mild depressive symptoms (BDI = 17) according to the BDI
As we can observe from the figure, at the end of the treatment she reported very few depressive symptoms (BDI = 1). During the follow-up measurement six months after the treatment had ended (about 3 years and 6 months after the treatment started) the client did not report any depressive symptoms (BDI=0) and she had very few psychological symptoms (SCL/GSI = 0.24). Both measurements showed some increase during the first year of the treatment, when the client’s grandfather died.

After the treatment chronic pain problems were still present but the client reported that the effect of pain was different. According to her the pain was less disturbing and she did not experience the pain as strongly as previously. The client reported improvement in social skills and social relationships. She actively took more initiative in social relationships, for example she contacted deaf-blind friends by phone. She had learned to defend herself and present her opinion, even a different one. She was also satisfied with her increased activity level. For example, she started to attend tailored excursions for deaf-blind persons, and she attended rehabilitation courses for deaf-blind persons at the end of the treatment. The client also paid more attention to her home environment. She was actively involved in home making, for example she bought new furniture.

According to the client many people around her commented the positive changes in her behaviour.

As observed by the therapist client’s cognitive skills e.g. ability to notice relationships between different variables, making conclusions, comparing events during her life history and ability to see their impact in her present situation increased during the treatment. It was hypothesized that the increase of these skills was mainly a result of repeated use of the situation specific chain analysis.

**Discussions**

Cognitive behavioural assessment and intervention procedures can be applied in order to increase the quality of life of minority groups. The aim of this paper was to describe how behavioural case formulation and cognitive behavioural therapy approaches could be applied to a client with multiple problem areas including Prader-Willi syndrome, hearing and vision problems, mild learning disability, depression, diabetes, overweight problems, and traumatic experiences. Psychological problems among multi problem clients having communication difficulties or limitations are challenging to treat because of the complexity of the problems and problem history. This case example shows that a psychological intervention including behavioural case formulation and several cognitive behavioural
procedures can have a positive impact to client’s mood, quality of life and psychological wellbeing although the client has several handicaps including an inherited Prader-Willi syndrome (PWS), and poor vision and hearing. Although there is no "cure" for PWS neither for the hearing and vision difficulties, this study shows that psychological interventions can significantly increase wellbeing and quality of life of these clients and possibly of clients having other handicaps. There are a few other case studies indicating that cognitive behavioural methods similar as applied in this study showed positive changes in health habits with Prader-Willi Syndrome.10

This case example showed how the intervention process of a person with communication difficulties and large number of additional problems could proceed. Behavioural case formulation model was applied as a tool in order to understand and summarize client’s complex situation. Case formulation is a practical way to summarize the assessment information both for the therapist and for the client. Functional Analytic Clinical Case Diagram (FACCD) used in this study, is especially useful when a client has large number of problems and when they interact with each other. Also, a more specific behavioural functional analysis was integrated to the other intervention procedures throughout the whole treatment process.

In this case example the target of the treatment at the beginning was to increase client’s communication skills. On the bases of this case it could be argued that integrating communication skills training with intervention procedures from the beginning of the treatment could be important for clients with sensory disabilities. Increased communication skills may be crucial for example in order to get knowledge of client’s thoughts and emotional reaction associated with specific situations and symptoms. In fact, in this case the treatment incorporated communication skills training, functional analysis, body awareness training and contextual principles and techniques to help the client both to increase effective communication and to increase skills to manage with psychological symptoms.

On the bases of this case it could be hypothesized that during client’s life history the impact of a person’s problems may in some cases increase in a cumulative way. This may be a consequence of not been able to receive psychological treatment for her difficulties early enough. Thus, one personal problem increases probability for another problem. For example, difficulties and limitations in communication skills and cognitive functioning may increase probability that the person has not possibilities to discuss and share her life experiences with others. “Being different” because of the handicaps may increase probability of negative comments from others. All these experiences may increase avoidance of social situations, and may affect negatively person’s ability to use her or his cognitive skills effectively. This view is supported by general knowledge about Prader-Willi syndrome. Individuals with the PSW may sometimes find it difficult to perform at their IQ level, as emotional and social skills are

SCL-90 dimensions: 1 somatization, 2 obsessive-compulsive, 3 interpersonal sensitivity, 4 depression, 5 anxiety, 6 hostility, 7 phobic anxiety, 8 paranoid ideation, 9 psychoticism

Figure 4. SCL-90 dimensions in the beginning and at the end of the treatment compared to Finnish psychiatric outpatient sample and community sample (Holi 2003)
often less developed. This case example suggests, that psychological interventions can have a positive impact also to cognitive skills as well as communication skills.

The data of the number and the type of psychological problems among persons with sensory disabilities is relatively limited. However, it is possible that the number of problems is slightly higher than in the average population not having sensory disabilities. Furthermore, this case example indicates that persons with multiple disabilities may need support when they experience emotionally challenging events. In this case the client’s grandfather’s death caused her emotional distress. In a Nordic study over one-third of the 20 people interviewed reported having used the psychological services in order to cope with the emotional or other difficult reactions related to crisis. Possible increased vulnerability for life stressors could be associated with limited social interaction and limited communication skills. As Burfield & Casey and Stone have pointed out, hearing disability alone not only hinder communication but also functioning and participation in activities because it restricts social interaction. Thus, it could be hypothesised that if a person has visual problems and possible other physical restrictions, social avoidance and distress are more likely to occur.

Lack of professionals, who have communication skills needed for working with sensory disabilities or knowledge of sensory and other handicaps as well as knowledge of psychological interventions methods, prevents clients with special needs to get proper psychological interventions. As observed in this study, these interventions can have large impact to these individuals’ quality of life, wellbeing and significant skills needed to be adapted to the society. This is also true for individuals having learning disabilities.

We will argue that a combination of a clinical case formulation model and cognitive behavioural intervention methods are useful tools for increasing the quality of life of minority groups with multiple disabilities when no other methods available. We need more knowledge of methods that are effective for these groups. One of the challenges is that it is very difficult and in some cases impossible to run controlled clinical trials with these populations. We need other methodological approaches.

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