



Case Report

Improve Quality of Life Client with Visual Impairment

Katarina Galof*

Department of Occupational Therapy, Faculty of Health Sciences, University of Ljubljana, Slovenia

***Corresponding author:** Katarina Galof, Department of Occupational Therapy, Faculty of Health Sciences, University of Ljubljana, Zdravstvena pot 5, 1000 Ljubljana, Slovenia

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Abstract

Introduction: Blindness is considered one of the most serious diseases. Blindness causes mental and emotional problems in a person and is one of the most complex health problems in the world. Rehabilitation of blind clients focuses on independent performance of daily activities. The Kawa model in occupational therapy is a model that promotes better interaction between the client and the therapist and makes it possible to guide the client taking into account cultural factors. The model is used in different areas of occupational therapy and brings positive results. The purpose of this research is to learn about the Kawa model and apply it to blind clients. **Methods:** a qualitative research, a singular diachronic single case study was conducted. One case, which lasted 4 months, included a client who has been blind since birth. The occupational therapy process was conducted using Kawa's step-by-step models. A tactile picture and a tactile magnetic board were made to represent the models, which are an innovative occupational therapy medium. **Results:** The Kawa model is interesting due to a different way of handling and at the same time very easy for the client to understand. The tactile aids made also contributed to this. The use of the Kawa model is also interesting from the point of view of how the client applies the theoretical knowledge in practice. The client expressed satisfaction with the ease of use of the model itself. **Conclusion:** The used modified media magnetic board and tactile picture represent an important contribution to the treatment. The occupational therapist in the rehabilitation of blind clients contributes with her knowledge to the independence and quality of life of these clients. It would be useful to conduct further studies on a larger sample and to include more other occupational therapy assessments in the occupational therapy process.

Keywords: Blindness; Occupational therapy; Kawa model

Introduction

Occupational therapy is a client-centered medical profession and promotes health and well-being through occupation. Occupations are activities that the client wants, needs, or expects to be performed. This can also be accomplished by changing the environment or changing the way the activity is performed [1]. A client is also shaped by his experiences and interaction with his environment. In this way, the identity, purpose, and meaning of his work are developed [2].

Occupational therapy is based on the connection between a person, the environment, and an occupation. In the past, models were based on a failure-oriented medical model, but now more and more individually oriented, powerful occupational and collaborative models are being developed and put into practice. They take into account the aspect of the client, his or her role, and

the influence of the environment on the outcome of the process. Biomedical, biopsychosocial and socio-ecological models have been developed based on the relationship between the environment and the success of the occupation. Some of them are: the Person-Environment-Occupational Performance Model – PEOP [3], the Person-Environment-Occupational Model – PEO [4], the Ecology of Human Performance (EHP) Framework [5], the Canadian Model of Occupational Performance – CMOP and the Canadian Model of Occupational Performance and Engagement – CMOP-E [6], the Individual and Family Centered Model of Human Occupation – MOHO [7] and the Kawa Model [8-12].

The Kawa model [9] was developed to help occupational therapists work in a more culturally sensitive, individualised, and holistic manner [13]. In occupational therapy, it provides a model that promotes better client-therapist interaction and facilitates client-centeredness along with cultural context [14]. The psychological and ethnological roots of the Kawa model come

from the Japanese social and cultural context. The word Kawa means river in Japanese and represents the flow of life. The Kawa model attempts to explain the general purpose of occupational therapy, strategies for interpreting the client's circumstances, and the rationale and application of occupational therapy in a particular social and cultural context of the client [8,9]. The model assumes that the environment is an integral part of the individual in which activities are performed, unlike other occupational therapy models that assume that the environment can be changed and controlled [11]. The model provides therapists with a culturally appropriate framework for using metaphors and concepts to encourage clients to interpret a life story [13]. It is appropriate for all ages with various disabilities and barriers [9].

Kawa or the river is a metaphor for the current picture of a client's life. Using the river and structural elements, the person analyses individual factors and allows the therapist to learn about their life history and the elements where intervention is needed [9]. The client presents a subjective view of themselves, their life, their well-being, and the importance of employment [11]. Using this model, the occupational therapist creates an occupational profile of the client, which provides an understanding of the extent to which the client wants to participate in activities by themselves during treatment. However, it also identifies areas where intervention is needed [15]. In most cases, the client draws his or her own flow and all the structural elements of the flow. The structural elements of the model are the water, which represents the life energy or flow of life. The sides and bottom of the river represent the client's environment. This includes both the social and physical environment. Stones are a metaphor for the client's circumstances or situations that impede the flow of the river. This category is used to define problems and obstacles in performing activities or to discover opportunities for occupational therapy interventions. For example, larger stones represent problems that are currently more important and stressful to the client, while smaller stones represent problems with routine and daily activities. The driftwood in the river represents the client's characteristics, such as Values, character, personality traits, certain qualities, intangible and tangible, property and living conditions. All of these qualities can have a positive or negative impact on a person's circumstances and life path [9].

Blindness is considered one of the most serious diseases. The definition of blindness is something different from the view of it. As Kačič [16] describes in his article, we know the medical, functional and psychosocial view of blindness. From the medical point of view, the degree of visual impairment is determined by the remaining visual acuity and the width of the visual field, which is determined by the perimeter. This means being able to read text at a certain distance with a certain font size [17]. From a functional perspective, blindness is determined in terms of the ability to develop compensatory techniques so that a blind person can successfully achieve results seen by a sighted person. This

functionality may change over time, depending on development, skill learning, adaptation to the environment, etc. [18]. In 2001, the International Health Organization added to the International Classification of Functioning, in addition to sensory impairments, assessments of other physical and psychosocial circumstances that affect a person's ability to function. In this way, it added a psychosocial perspective to the definition of blindness [16].

Blindness causes mental and emotional problems in a person and is one of the most complex health problems in the world. Factors that influence the occurrence of emotional behavioural problems in a person are participation in daily activities, dependence on other people, high control in the family, negative attitude towards attractiveness and many others [20]. Rehabilitation of blind people focuses on independence in daily activities. They learn strategies to perform and integrate activities that are important to them as effectively and independently as possible. These include audio and Braille materials, a computer that converts printed materials into accessible formats, tactile markers in the kitchen and home, a way to raise money to determine value, and the use of a guide dog. In recent years, however, the development of smartphones has also contributed to independence [21]. According to Baldwin [22], social support, the environment, and the aspect of user acceptance and coping with blindness are also important in occupational therapy treatment.

The Case Study

Professional profile of the client

The user, a 62-year-old woman, continued her education at the Institute for Blind and Visually Impaired Youth after graduating from elementary school. At birth, she was diagnosed with blindness with minimal residual vision in her left eye (vision of light, outlines of objects, colour contrasts). She has horizontal nystagmus and squints inward with her right eye. Her eye condition is stable.

She lives with his family in a two-story house to which they recently moved. She has an apartment on the second floor, but it does not cause her problems to move around the house because she has an adapted environment and is well oriented. Her roles are daughter, sister, friend and roommate.

Her favourite leisure activities are socializing, walking, swimming, biking, singing, dancing, crafts and learning. The client is very communicative and has a positive thinking. Her desire is to be independent enough to be able to live alone in an apartment and be self-sufficient. She is independent and can manage basic daily activities well. She requires assistance with mobility - transportation by city bus, walking, cooking, preparing breakfast, cleaning and other advanced daily activities.

In her youth she was introverted, distrustful, afraid of people, she was alone, she was not aware that she could not see

well. Although she realized that she is different from others, she has become a very positive, open-minded, kind and sincere person, always ready to help. She says that it was mainly through the experiences she had unaccompanied that made her integrate into society and develop resourcefulness and independence. The person who has the most influence on her is her mother, who taught her to cook, bake, help with cutting, clean vegetables, and make pancakes, so mainly with housework. Other family members do most of the other chores at home.

Measures

Measurements included the demographic profile (gender, age, diagnosis, etc.), the Kawa model [9] interview, and the COPM [23].

The COPM is a personalized, client-centered instrument designed to identify the client's occupational performance problems. Using a semi-structured interview, the therapist initiates the COPM process by asking the client to identify activities of daily living that are important to her that she wants to perform, needs to perform, or expects to be able to perform. Areas of daily living explored during the interview included self-care, productivity, or leisure.

Problems were defined, importance was rated, problems were selected for evaluation, and performance and satisfaction were assessed. Results are shown in Table 1 before (Time 1) and after (Time 2) the intervention.

When completing the COPM, the client indicated that she would like to improve the performance of advanced daily activities, which would allow her to care for herself independently and contribute to a higher quality of life.

The Kawa Model elements

The Kawa Model [9] is a guide for practice, develops a therapeutic partnership between the client and the clinician, and facilitates collaboration with the entire family. The Kawa Model is an effective guide for client-centered, individualized interventions to support aging in place and improve psychosocial well-being [24], so we chose to apply the Kawa Model in a case study with a blind client. The usual application of the Kawa model by drawing a river with a blind client was not feasible, so we focused on a customized implementation and the inclusion of individual elements of the Kawa model based on recognition and perception with the other, such as the sense of type.

The occupational therapist guides the client to gradually draw her current two-dimensional river with bank and bottom, representing her social and physical environment. To create a tactile model, we used a magnetic plate and magnets in different shapes. She then placed round magnets (rocks) in the picture representing her current problems in life. Depending on the magnitude of the problem, choose the size of the rocks accordingly. She then places

driftwood in the form of elongated magnets that symbolize her positive and negative personality. Place them on the rock with which this driftwood is most closely associated. The last element added to the model is fish-shaped magnets that represent the positive elements in her life. Each magnet placed in the model was labelled with Braille.

The water

The river that represents the life energy or the life flow is the water. Iwama [9] highlighted that water is considered pure and purifying and is often associated with spiritual, culturally specific meanings. Spirituality is also a very important part of the client and is considered in various occupational therapy models, such as CMOP-E [6]. The Kawa model provides a variety of perspectives on these metaphors. The occupational therapist's role is to look at all aspects of the client's life and facilitate a better flow of life. The occupational therapist can use all the elements of flow to promote life flow.

The therapist talks with the client about her flow and possible options for occupational therapy interventions. The client's history was also taken based on informal conversations between the client and the therapist at the time the therapist came or left for the hearing. New issues were uncovered during the therapist's revisits to the client in her home environment. A positive therapeutic partnership between the client and the occupational therapist [25] was strengthened, which had a positive impact on the course of treatment. The content that the client confided in the therapist during the interview is integral to the resulting flow model and is highlighted below. The words the client used to name the individual magnets in her picture of the flow are indicated below in quotation marks.

River walls and river floor - social and physical environment (environmental factors)

The depth and width of the river represent the river walls and the floor of the river. In the Kawa model, this refers to the context surrounding the clients, their social and physical environment [12]. For the men of Iwama, these are the main determinants of a person's life flow in a social context.

For the client, the river bottom is represented by a "house", "stairs" and a "messy environment" that is difficult to walk on, so she avoids it. This leads to her having less and less contact with friends and neighbours, which means a decline in social interaction skills.

The client is communicative, but when she visits friends, she rarely speaks because they communicate loudly and confidently. At such meetings, on the one hand, she feels comfortable and on the other hand, she is annoyed that she hardly says a word. So we have a magnet with the word "communication" among the elements of social environment.

“Shopping” is no longer possible for her because she moved to a new house with her family. The way to the shop is not suitable for her because of the unadapt and unregulated wider environment, and the “bus” runs too rarely. Due to the physical barriers in the environment, there are disadvantages not only in grocery shopping, but also in going to the “pharmacy”, “restaurant” and “clothing shop”.

Rocks - living conditions that are perceived as problematic by the customer.

Rocks can disturb the water because of their shape, size, and placement in relation to the walls and floor of the river. One of the examples of rocks in our Kawa model relates to impairments in body structures and functions, such as sensory functions like blindness [19] and performance problems like difficulties with activities of daily living and self-care [12].

She perceives “blindness” as a limitation in daily integration and adaptation to new situations, which moving to a new house and the associated change in familiar surroundings definitely is. She also associates blindness with dissatisfaction with the furnishings of her bedroom.

The “physical weakness” associated with the physiological changes of old age prevents her from independently performing important and cherished activities of daily living, such as walking.

The client’s socioeconomic situation is associated with insufficient “financial resources” for her own survival, so she made a difficult decision and moved into her sister’s house.

Driftwood - personal characteristics and resources, values

A life of “faith” gives the client meaning, hope and spiritual nourishment. In the current situation, the client is unable to participate in religious ceremonies, which saddens her and negatively affects the flow of her life [12]. Spirituality is sensitivity to the presence of spirit, is shaped by the environment, and gives meaning to the pursuit [6].

Fish

The fish in the user flow life model represents “own family”, “sister” and “priest”.

She sees her sister as her protector, for which she is grateful, but on the other hand, she does not want to burden her with her own problems and feels uncomfortable about having moved into her house, albeit at her invitation. The social environment is complex, multi-layered and dynamic and includes social groups with different contemporary models of social performance such as CMOP-E [6].

Occupational therapy intervention

The Kawa model improves client-therapist interaction and creates more meaningful engagement in occupational therapy [14]. Occupation is life flow and the occupational therapist facilitates the client’s life flow through the intervention [9,11].

In the intervention process, we used some strategies such as:

1. Structuring the client’s daily routine.
2. Analysis of social interaction skills using activity analysis.
3. Visiting friends and discussing the client’s priorities.
4. Assessing the home environment and arranging room furniture.
5. Assess the environment and look for a safe way to walk.
6. Go shopping with the client and discuss with staff what options are available to help the client with weekly shopping.
7. Go to the bus, meet the driver, and make a plan to use the bus occasionally.
8. Contact a local association that helps the client with social contacts and shopping.
9. We visited the pastor and agreed to find a volunteer for her to accompany her to Masha once a week.
10. We agreed with the sister that the client would prepare her own breakfast and dinner and go down to her family for lunch.

The treatment itself lasted 4 months, twice a week for 2 hours in the client’s home environment. For each of the strategies implemented, we first talked with the client, created a plan, and then executed it together. Before completing the treatment, we made an assessment of what had been achieved and agreed on the way forward.

Evaluation and Conclusion

The decision of the client and the therapist is the conclusion of the relationship between the client and the therapist. The client became more and more independent in her daily activities, was more and more satisfied with her life and engagement, and was able to engage in meaningful occupations.

Before the completion and end of the intervention process, reassess the COPM (Table 1) and use the Kawa model to remove obstacles that were changed with the smallest magnets when they were smaller and no longer important in the client’s life.

Occupational performance problem	Time 1		Time 2	
	Performance	Satisfaction	Performance	Satisfaction
Transport by city bus	1	1	7	9
Cooking	4	5	8	9
Walking	2	1	6	8
Shopping	1	1	6	8
Visit to St. Waves	1	1	8	9
Hanging out with friends	4	4	8	9
Total score	13	13	43	52
Average score	2.2	2.2	7.2	8.7
Change scores	Performance		Satisfaction	
(Time 2 - Time 1):	+ 5		+ 6.5	

Table 1: The COPM.

Previous manuals on the COPM stated that a change of 2 points or more represented a clinically important difference [23]. However, now an important change of at least 3.5 points is recommended for both performance and satisfaction [26]. The client scored 5 points for performance and 6.5 points for satisfaction. These results (Table 1) reflect a clinically important change for performance and satisfaction.

Some statements from clients after some occupational therapy interventions: ... My flow seems nice, which is progress. I also like the model, which is not complicated. I have really improved in cooking and shopping; I know things now that I did not know before. However, I cannot say that those two stones have completely disappeared. They are still there because I am not quite as independent as I would like to be, but now they have become smaller stones. Like, really small. My life has changed for the better, especially when it comes to social interactions with family and friends. However, I seem to have a fear of loneliness. When anxiety gets the best of me ... that's why I am constantly involved in something. I have also created a notebook in which I write positive thoughts, words, praise that others have said to me. Then I read them and calm myself down...

Discussion

Kawa is a metaphor for life and just as we cannot influence the course of life, the exact use of the model is not fixed. There is no right or wrong use, because the point is that the model is adapted and used as the client presents his or her life at a particular time and place. Iwamma [8,9] presented a kind of general framework

in his book, but it is not universally applicable. Each occupational therapist can modify the model and metaphor in his or her own way, and in a way that is understandable to the client [8,9]. No assessments are used during the reading, everything is based only on the initial and final conversation and drawing of the flow. Also, in a study conducted by [27], of the 15 occupational therapists using the model in practice, only one additionally used the GAS scale (Goal Attainment Scale) [28]. None of the published studies also described the progression of the model as a function of which therapists delivered the treatment [28]. The metaphor of flow is questionable because it is a feature of the model that everyone interprets it in their own way. And for this very reason, differences in culture, age, beliefs, gender, etc., can lead to discrepancies [14]. Therefore, it is difficult to compare individual studies with different occupational therapists.

The advantage of the model is also the mobile application, which was developed to facilitate adaptation in the home environment. Information technology is increasingly being incorporated into the development of health care systems to assist in the daily care of clients or to research revolutionary new therapies. Mobile health applications allow clients to leave the home environment early, but still have a secure communication link with the therapist. Because the application can be used in the home environment, it is appropriate for occupational therapists whose goal is independence in the home environment. The application would facilitate the process of occupational therapy treatment, especially for clients who have certain functional limitations, such as physical or cognitive. The application provides a panoramic and

a transversal view of the flow, and on both the client can add all the elements of the flow. The file can be saved and sent directly to the client's folder [29].

Loss of vision affects independence, mobility, and performance of activities of daily living [30]. This is precisely the domain of occupational therapy, so treatment can contribute to the quality of life of clients with visual impairments. In rehabilitation of the blind, we focus on independence in performing activities of daily living through learning strategies [21]. We considered the Kawa model appropriate for the blind client because of its specific approach to improving the client-therapist relationship and because it is interesting and at the same time very easy to understand due to the different nature of the treatment. As also noted in the review of the literature, the model contributes to relaxed life storytelling, and the client found it easier to talk about his problems or obstacles. We saw the advantage in the fact that the treatment was led by the client and we followed her. This suited the client because despite the obstacles, she was highly motivated and wanted to achieve certain goals. In all activities, the client had to acquire strategies to work independently.

When working with blind people, it is important to plan the work systematically, gradually adding steps and repeating the same process over and over again. It is also desirable to analyse after each treatment and talk about the progress of the work before the treatment. Performing a certain activity takes longer for blind people due to the disability, so it is necessary to repeat the activity until the duration of the performance improves.

The author of the Iwama model [8,9] writes in his book that no estimates are used in the model and that the treatment is guided by the client. She also evaluates the success of the intervention after the hearing and notes what goals were met. Baldwin [22] believes that even goals that cannot be assessed or measured by an expert are very important in the rehabilitation of people with visual impairment. A case study showed that it is important for the client to determine when a goal has been achieved. Observation of the activity revealed that the occupational therapist believed that a particular goal had already been achieved. Although the client performed the activity independently, successfully, and safely, he was not satisfied with the performance and wanted to repeat the activity several times. It would be useful for the therapist to incorporate assessments into the treatment itself, which would also allow the occupational therapist to assess progress and success at the end of the treatment. In the last interview, the client said that she is very satisfied with the treatment and the model and that she finds it simple and easy. The client and we think that it is suitable for people with blindness because it is easy to understand and follow with a tactile picture and a model of the river.

Despite the positive response of the client and the occupational therapist, our results cannot be generalized to all people with blindness, as this would require a larger sample. It

would be useful to include the assessments in further studies.

Through treatment, we found that we incorporated into the occupational therapy process, for example, knowledge and content from the Activity Analysis, COPM, Daily Structure Questionnaire, Interest Checklist, etc. We must be aware of the importance and necessity of evaluating the situation and the results obtained, because this gives validity to the occupational therapy profession and its implementation is based on performance supported by evidence. Occupational therapy has operated in the shadow of the medical model for many years, and its use will add more value and validity outside the profession [15]. The inclusion of other assessment tools will also be welcome for clients with intellectual disabilities, which are often associated with blindness.

Conclusion

Occupational therapy is important for the rehabilitation of blind people. With their knowledge, occupational therapists contribute to a more independent and better quality lifestyle for people with blindness. A case study has shown that the Kawa model, which is used in different areas of occupational therapy, is also suitable for clients with blindness. The modified occupational therapy media used magnetic board and tactile picture, made an important contribution to the treatment and proved to be innovative tools for working with blind clients. In the stepwise treatment according to the Kawa model, it would be useful to include additional occupational therapy assessments, such as COPM, analysis of activities, and checklist of interests. It would also be desirable to conduct more such assessments in this area in the future.

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