



# Cognitive milieu therapy and physical activity: experiences of mastery and learning among patients with dual diagnosis

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## Accessible summary

- Cognitive milieu therapy, including physical activity, promoted mastery and learning in inpatients with dual diagnoses. Physical activity was an important source for personal learning.
- The learning climate was created through the proactive attitude of staff, including the application of an educational process, a focus on cooperation on equal terms between patients and staff, and a professional methodological approach through cognitive milieu therapy.
- The cognitive method was sometimes experienced as too theoretical and difficult to understand, and it was a challenge to achieve an optimal balance between staff-induced activities and patient initiatives.
- Patients highly appreciated learning from other patients.

## Abstract

During the last decade, there has been a growing interest in implementing cognitive milieu therapy (CMT) in psychiatric institutions. However, there is a lack of systematic evaluations from patients' point of view. The aim of this study was to explore and describe patient perceptions of essential experiences of mastery, learning alternative ways of thinking, and acquiring new skills through CMT and physical activity in an inpatient setting. Qualitative interviews were carried out with 20 patients with dual diagnosis. A hermeneutic – phenomenological approach was used in the data collection and analysis. The results showed that the learning climate in the unit was important. This included a proactive attitude from the staff, focusing on cooperation on equal terms between patients and staff, and a professional methodological approach through CMT. The optimal balance between staff-induced activities and patient initiatives was not easy to obtain. Patients appreciated both the education provided by the staff and learning from other patients. The cognitive method was sometimes experienced as too theoretical and difficult to understand. Physical activity, however, was experienced as 'concrete' and providing practical knowledge. It motivated patients to establish new habits and provided opportunities for the development of mastery together with other patients.

## Introduction

This paper is a qualitative study reporting on how patients with severe mental illness and substance use

disorders (dual diagnosis) experience mastery, learn alternative ways of thinking, and acquire new skills through cognitive milieu therapy (CMT) and physical activity.

## Treatment of dual diagnosis

Dual diagnosis implies substance abuse and/or dependence in addition to a serious mental disorder, particularly schizophrenia, delusional disorder, or bipolar disorder with psychotic features. The concept 'complex disorders' is probably more accurate, as these persons also struggle with other mental problems and, in addition, have vocational, social, economic, and housing-related difficulties, as well as somatic disorders (Kavanagh & Mueser 2007). The combination of substance misuse and severe mental illness has negative consequences for the delivery and effectiveness of treatment. Patients have a high risk of dropping out, less motivation to change, are difficult to engage in treatment, and make slow progress. Treatment services need to be flexible, and may also include inpatient treatment (Horsfall *et al.* 2009).

Historically, treatment for mental health problems and substance misuse has been delivered in separate systems (Drake *et al.* 2004). Mueser *et al.* (2005) describe two traditions in the treatment of combined disorders. Sequential treatment implies that one disorder is treated at a time, while parallel treatment implies that the mental disorder and the substance misuse are treated simultaneously by different therapists.

Integrated treatment aims to offer simultaneous treatment of both disorders by the same therapists and tends to show better outcomes (Drake 2007). An important element of this, when applied in an inpatient setting, is that both individual and milieu therapists have developed a common treatment plan in cooperation with the patient. Drake *et al.* (2004), outlined principles for an integrated service and specific psychosocial interventions which are essential for effective treatment, such as a variety of engagement strategies, group interventions, cognitive behavioural therapy (CBT), motivational counselling, stage-wise interventions, active treatment, long-term programme retention, and relapse-prevention strategies. Family education and interventions, housing and vocational rehabilitation, should also be available.

CBT was initially developed as a form of individual psychotherapy for depression and anxiety (Beck 1995). It is now also applied in the treatment of psychosis and substance abuse. It is useful also in inpatient settings (Perris 1988, Wright *et al.* 1993), and a further development of this is cognitive milieu therapy (Holm & Oestrich 2006).

## Cognitive Milieu Therapy (CMT)

During the last decade, there has been a growing interest in the implementation of CMT in psychiatric institutions in

the Nordic countries. CMT aims to achieve a more comprehensive and integrated treatment approach in interdisciplinary settings. It is based on the principles of individual CBT, psycho-education, and psychosocial intervention (Holm & Oestrich 2006). The main principle is to teach the patients how their thinking and behaviour affect their feelings and how they can cope better with negative feelings by being aware of their thinking and change their behaviours. The efforts of various professionals are integrated so that patients can relate to a treatment plan which is developed cooperatively between the patient and the interdisciplinary staff. This makes it easier for the milieu therapists to use everyday situations on the ward as part of the therapy. The approach incorporates motivational strategies and offers patients a range of cognitive and behavioural strategies, enabling them to deal with their mental health and substance misuse problems. This makes it easier to engage patients in active participation in addressing their problems (Perris 1988, Lykke *et al.* 2010). CMT emphasizes the Socratic dialogue, which is inspired by the Greek philosopher Socrates, and involves a guided conversation using open question. Commitment, respect, and equal partnership (collaborative empiricism) are important elements in the therapeutic relationship (Beck 1995).

There are few studies examining CMT however positive results from its use have been reported with a more integrated approach in the interdisciplinary collaboration, better utilization of resources, more discipline and better structure, and clearer documentation of treatment efficacy being described (Holm & Oestrich 2006). We have only identified one study evaluating CMT for inpatients with dual diagnosis. In a prospective study without a control group, Lykke *et al.* (2010) found that patients experienced significant reductions in substance abuse, anxiety and depression during inpatient treatment. The authors recommended that future studies should not only focus on outcomes, but also try to understand how patients with psychotic disorders and substance-related problems experience the different processes in the treatment. Holm & Oestrich (2006) emphasize the importance of psycho-education and physical activity as part of the treatment.

## Physical activity

An important element in CMT is behavioural change. Most patients with substance misuse and mental disorders are physically inactive and have reduced physical fitness (Scott & Hapell 2011). Regular exercise may be viewed as a behavioural intervention for sedentary patients within the framework of CMT (Martinsen 2008). There is some evidence that physical exercise is associated with a reduction

in negative symptoms in schizophrenia (Beebe *et al.* 2005) and reduced relapse rates in substance misuse (Mamen *et al.* 2011).

### Patient experiences

Most studies in this field have used quantitative methods, and the perspectives of those involved in care and treatment have been ignored (Coombes & Wratten 2007). We conducted searches on Ebsco, Medline, and PsychInfo for all years indexed in the databases by using combinations of words for CMT, dual diagnosis, CBT, inpatients treatment, physical activity, and patients' experiences. Studies addressing patient experiences living with mental disorders have been conducted (Zolnieriek 2011), but there is a lack of systematic evaluations from the patient's point of view. Patients generally have reported that they wish to encounter professionals who clearly invite them to establish a relationship, by reaching out and articulating care. Relational factors, such as empathy, interest, and understanding, in addition to a safe therapeutic environment, have been viewed as the most important aspects of care (Hansson *et al.* 1993, Letendre 1997, Cleary & Edwards 1999, Johansson & Eklund 2003). However, we have not identified any studies addressing patient experiences following CMT for dual diagnosis. In a study of five inpatients who received CBT for psychosis, Messari & Hallam (2003) found that a trusting relationship between therapist and patient was of utmost importance. Patients also emphasized the importance of the educational component of therapy.

Carless & Douglas (2012) focused on people with severe mental illness and their experiences of physical activity. The participants emphasized the role of the activity leader, and suggested that the relationship between the activity leader and the activity group member is no less important than the therapist–patient relationship.

The scarce research on patient perspectives, and experiences from therapy, stands in contrast to the potential value of in-depth analysis of patient's experiences from therapy (Messari & Hallam 2003). More attention needs to be given to the social and interpersonal perspectives through personal learning and mastery in CMT. Qualitative methods focus on meaning and interpretations, and investigations of patient experiences of treatment are useful contributions in this context (Malterud 2001).

Although empirical studies support the usefulness of integrated treatment, there remains scope for improvement. Systematic evaluations of patient experiences are one way to move the field forward. Thus, there is an obvious need for studies examining patient experiences with CMT in inpatient settings for dual diagnosis.

### Theoretical perspectives

The present study is inspired and influenced by various sources of knowledge: cognitive milieu therapy (Wright *et al.* 1993, Holm & Oestrich 2006), cognitive social learning theory (Bandura 1997), and experiential learning (Dewey 1938, Kolb 1984). A milieu created by interpersonal relationships and the impact of the environment can be understood in a sociocultural perspective (Vygotsky 1978). From this perspective, the activity of the learner is viewed as essential for the generation of knowledge and learning. Patients' subjective experiences are the basis for the therapeutic activities (Beck 1995). When patients are met individually with maximal flexibility, they will more easily become active participants in their own treatment.

### Aims of the study

The study was conducted in order contribute to the limited knowledge in this field. The primary purpose was to explore and describe patient perceptions of essential experiences of mastery, learning alternative ways of thinking, and acquiring new skills through CMT and physical activity in an inpatient setting.

### Method

We applied a hermeneutic – phenomenological approach to the development of knowledge, focusing on the lived experiences of patients and their interpretations of learning and mastery (van Manen 1997). The study design was exploratory and descriptive, using individual interviews (Hummelvoll & Barbosa da Silva 1998).

### Context and treatment model

The study took place in an interdisciplinary 12-bed unit, offering pre-planned admissions for patients with dual diagnosis. The average length of stay was 3 months. The interdisciplinary staff consisted of nurses, social workers, occupational therapists, psychiatrists, and psychologists, who developed a cognitive treatment plan together with the patients (Larsen & Berge 2011).

The treatment model was integrated dual diagnosis treatment, and the same team members addressed substance misuse and other mental health problems. Medication was used when necessary, and some patients received opiate substitution treatment. CMT was a key component, including elements from motivational interviewing, social skills training, education, and physical activity (Holm & Oestrich 2006, Kavanagh & Mueser 2007). Patients met weekly in an educational group,

focusing on substance misuse, other mental problems and nutrition. A health sport pedagogue offered daily, 2-h long, physical activity to all patients. Indoor activities included physical training in health studios and swimming. Outdoor activities included walking, hiking, skiing, biking, canoeing, riding, and golf. Some activities were individual, but activities in groups were more common. All activities were directed by the health sports pedagogue. The interdisciplinary staffs had regular and close supervision to learn the principles of the treatment model, and great efforts were made to develop a well-functioning therapeutic milieu. The staff aimed to correct the negative and inappropriate self-perceptions, increase patient reflection and sense of achievement. The treatment facilitated patients' learning of alternative ways of thinking helped them to develop skills to handle problems in more functional ways and to increase their ability to achieve important goals in their lives.

### Sample

All patients were assigned an individual therapist and a primary contact who invited patients to participate in the study. Purposeful sampling was used to obtain material with sufficient depth and breadth to answer the research questions (Malterud 2001). The interviews took place in a period between 2 days and 4 weeks before discharge.

A total of 20 patients, 8 women, and 12 men, who were admitted to the department in the period November 2009 to May 2011, participated in the study. The average length of stay was less than 3 months. Their mean age was 40.2 years (range 28–55), and all but three were ethnic Norwegian. The ICD-10 diagnoses were paranoid schizophrenia ( $n = 11$ ), delusional disorder ( $n = 1$ ), schizoaffective disorder ( $n = 2$ ), bipolar disorder ( $n = 1$ ), borderline personality disorder ( $n = 2$ ), ADHD ( $n = 1$ ), recurrent depression ( $n = 1$ ). One patient received no additional diagnosis. Regarding substance-related disorders, 13 were dependent on, or abused, multiple drugs, while four patients used only alcohol, two only opiates, and one only amphetamine. Twelve of the patients had their own place to live when they were admitted to the hospital. The other eight patients were homeless. Four of the 20 patients lived with a partner when they were admitted to the hospital. The other 16 patients lived alone.

### Procedure

The first author conducted tape-recorded qualitative interviews of 25–60 min duration. The first author was not employed at the institution. A second researcher took part

in the development of the interview guide and conducted some of the interviews. Interviews were audio recorded and transcribed verbatim. Written notes were taken during the interviews of two patients who did not wish to have their interviews audio recorded and transcribed thereafter as accurately as possible. The interviews were conducted as a dialogue, and began with the open question 'tell me about your experience in the unit. What has been especially important to you?' Patients were encouraged to talk about positive, as well as negative, experiences. Examples of the themes that emerged are: the learning and mastery achieved due to participation in CMT, the cognitive treatment plan, everyday life at the hospital with other patients, attitudes from the staff, physical activity, the impact of social support, and other contextual factors.

### Analyses

The analytic process recommended by Malterud (2001) was utilized. The analysis began with the following: (1) reading all interview transcripts to achieve a comprehensive understanding, and a search for meaning units of different learning experiences from the hospital stay. Relevant themes were condensed by using the respondents' own words; (2) meaning units (headings and quotes) were identified and grouped in themes. The content of individual meaning units were then abstracted but remained based on the patients' own expressions. A systematic decontextualization was carried out by cutting and pasting text segments and quotations under the various themes. These two analytical steps were performed by the first author, validated by an external consultant and then validated by the other authors; (3) the material was sorted into main themes and sub-themes. At this stage, the text was interpreted according to our theoretical perspective, comprising cognitive milieu therapy, cognitive social learning theory, experiential learning, and sociocultural perspective; (4) finally, the refined categories were synthesized, and the essential contents of the phenomena were formulated (re-contextualization). These four analytic steps comprise the main structure of the method known as systematic text condensation (Malterud 2001). The process made it possible to identify five major themes. A table was worked out with themes, contents, and examples of quotations (Table 1). Validation of the findings was done by systematically comparing contents and categories to the original material throughout the entire analytic process (Graneheim & Lundman 2004). As all interpretation of data was done within a scientific perspective to find the essence of meaning and not the singular person's meaning, respondent validation was irrelevant (Giorgi 2000).

**Table 1**  
Factors enhancing patients' learning and mastery during cognitive milieu therapy and physical activity

Theme	Content	Examples of quotation
Learning climate	Safety and warmth	■ It was a very warm and safe environment
	Respect and equality	■ They treat me as a human being, with respect.
	Cooperation and participation	■ Yes, the staff make you feel as an active participant.
	Engagement and care	■ Here I felt that people actually care, they aren't just doing their job to get paid. They are engaged and do care.
	Proactive staff	■ They push us and motivate us. It is important that they do this, if they didn't one would never start to trust oneself.
Relation and mastery	Building of relations	■ The staff focuses on the positive and not the negative. That gives me hope and a feeling of competence.
	Structured activities	■ Every hour there is some planned activity. I need it. It structures my day in a good way.
	To get tools	■ Theory functions as a tool.
	To understand the method	■ The cognitive model made me tired. I am a practical person. I found the thinking difficult. It is hard to understand it in practice.
Tensions in the learning-climate	Balance between boredom and activity	■ Sometimes it is boring. We play yahtzee a lot.
	Balance between freedom and control	■ I miss jogging on my own. I feel quite locked up.
	Motivation and demotivation	■ Our motivation could disappear if we are left alone too much.
Collaborative learning	Ambivalence	■ It is difficult and demotivating when other patients have relapsed and used substances. . . . I also struggle with the same problems.
	Co-learning	■ We patients learn from one another. That is also a form of therapy.
Physical activity as personal learning	Education	■ I took part in the education and I enjoyed it.
	Family/network	■ My parents are invited, but I don't want them to be involved too much.
Physical activity as personal learning	Substitute	■ Activities clearly contribute to distraction of thoughts.
	New habits	■ When you sit and stare at the wall, of course cravings arise [. . .]. So then to plan the day, find something to do, find activities.
	Freedom	■ I can leave the ward for one hour, and then I can jog.
	Meaning and mastery	■ It helps me to keep going.
	Personal motivation	■ That it is exercise, that you have to force yourself, it is voluntary here [. . .].
	Meaningful social community	■ We do not use substances together, but we do activities together.

## Ethics

Patients received written and verbal information about the study. It was clearly stated that participation was voluntary, that they could withdraw at any time, and that this would have no negative consequences for their current or later relationship to the unit. Assurances were also made that all information given was confidential, and that anonymity would be preserved when the results were published. Written consent was obtained at inclusion. The project was approved by the Norwegian Data Inspectorate and the Norwegian Regional Committees for Medical Research Ethics (ref: 2009/1006).

## Findings

The patients had previous experiences from other institutions. They were vulnerable and, in general, were not hopeful of gaining a place to live, work, and, or a social network. Help with basic needs was essential to be able to establish stability in daily living. Five major themes emerged from the data. The table illustrates the scope, variation, and decision trail of themes and content (sub-

themes). Patients' voices emerge through the quotes in order to support the themes and content, and are followed by comments and interpretive discussion.

## Learning climate

Themes related to learning climate were safety and warmth, respect and equality, cooperation and participation, engagement and care, and a proactive staff.

The institution was described as markedly different from other institutions to which the patients had previously been admitted. Within the unit they received simultaneous treatment for their mental disorders and their addiction. They considered the staff to be competent and providing safety, warmth, and a good atmosphere. There were considered to be good collegial relations between the staff who were not considered to be talking behind the patients' backs.

Something is different here from other places. There is something about the atmosphere; it seems very well worked through. They know what they are doing. . . . we are more equal. . . . We discuss and talk and share experiences. They are curious. There is no such attitude

like 'we are the best'. It is very nice that they are competent both in psychiatry and addiction treatment. The staffs are very qualified for their job. (Female patient, 48 years old)

The meeting of equals, cooperation with the staff, and being offered to be active participants in their own therapy were the aspects highlighted by the patients. This seemed to facilitate development of skills and the acquisition of knowledge, trust, and hope. The engagement of the staff gave them necessary motivation as one patient said:

They respected me. They cared for me, more than normal I would say. That people care for me means very much to me. I become important in this life. This gives me hope. (Male patient, 55 years old)

Engaged therapists, who stimulate and have good attitudes, promote hope and self-efficacy among patients (Bandura 1997). The respect and engagement of the staff was reflected in their flexibility; that they did not rigorously follow the rules and did 'the little extra things'. The professional and humane approach of the staff was especially important when patients experienced relapse into drug abuse during the stay, which occurred with several patients. The experiences of not being discharged or punished after a relapse were described as turning points in therapy:

A turning point for me was when I left the ward to abuse substances, and how warmly I was met by the staff afterwards. Then I dared to let myself loose. (Female patient, 43 years old)

These experiences may contribute to experiences of being seen, understood, and respected. To be met in this way is important in helping patients experience that they are respected and have value as human beings. When patients experience the milieu as stimulating and accepting, the learning climate is experienced as meaningful, and this contributes to patients' motivation and experiences of learning and mastery.

## Relation and mastery

Themes related to relation and mastery were building of relations, structured activities, acquiring tools, and understanding the method.

Patients particularly emphasized the special experience of being met as individuals.

There [other institutions] all patients have to go into the same program. I didn't like that. . . . I think it is demotivating and hopeless that all patients have to go the same route. (Female patient, 52 years old)

The individualized treatment programme was conducted by one primary contact in the unit and a therapist. This facilitated safety, trust, and continuity. The patients emphasized the importance of good, trusting relations with

a professionally competent staff, but the answers were nuanced; 'There are always black sheep in the family', and some staff could be 'unprofessional'. The good relations during CMT were based on the experiences of being met individually, flexible, seriously, and on equal terms:

Therapy sessions here are more open. They let me say what's on my mind. When I start talking, they try to motivate me. . . . I feel that I am in charge of the talk. For me this is central and important. (Male patient, 53 years old)

Cooperation on equal terms, built on the principles of Socratic dialogue, strengthens the patients' confidence in their own abilities to solve their problems and facilitates reflection. Patients experienced that working towards defined aims through an individual cognitive plan and a daily schedule contributed to structure and predictability. The presence of staff, and the adapted activities, provided the patients with experiences of personal competence and a sense of coherence.

I feel that they (the staff) emphasize the right things: to start being active and practicing cognitive therapy, to work with myself and make an individual plan, to identify goals and to do things together with others in society. (Female patient, 32 years old)

Dewey (1938) views learning as an active process that implies actions. Through participating in various planned activities, patients get useful experiences in a long-term learning process, including personal development, and life-style changes.

The patients had participated in CBT principles during their stay, but the experiences of this varied. Sometimes, the CBT principles were too theoretical, and for some concepts like negative automatic thoughts and schemes were difficult to understand. But the therapy was also seen as functioning as a tool they could use in concrete situations, and this gave them hope and motivation. This is illustrated in the following statement:

I remember that I have used an ABC-scheme. I dictated supportive thoughts on a Dictaphone, so I constantly remind myself that if I am able to stay sober, I have positive things in my life. This improves my motivation. (Male patient, 42 years old)

Active action and reflection is central in processes of learning and change. A central element in CMT is reflection on different situations. Identifying thoughts that influenced feelings and behaviour in specific situations, and then looking for alternatives, could be experienced as difficult and demanding. In spite of this, the sessions were often experienced as useful. Patients experienced a sense of being in charge during the therapy sessions. The staff focused more on the future than the past, and more on the positive than the negative. Focusing on positive aspects mediated

hope and experiences of mastery. When patients were helped to see that there were alternative ways to interpret their experiences, and alternative forms of action, this stimulated development of self-efficacy and trust that they have alternatives of action (Bandura 1997).

### Tensions in the learning climate

Themes relating to tensions within the learning climate included the balance between boredom and activity, between freedom and control, motivation and demotivation, and ambivalence.

A stay at the institution had both potential and limitations.

The week-ends are boring. Very little happens . . . the staffs try a little harder to make us do things together. Sometimes it is very boring here and the patients start complaining. (Female patient, 29 years old)

Time can have different meanings in various contexts (van Manen 1997). Especially during the periods when few of the staff were at work, the experiences of stagnation and restlessness increased. This was most difficult for patients who had little initiative and those with serious drug problems. Inactivity and lack of initiative can lead to several dysfunctional actions, like rumination and complaining about the staff, and this may increase the risk of relapse. An active motivational climate, provided by the presence and initiative of the staff, helped to improve the motivation.

The experience of limitation in freedom was both positive and negative. Some patients felt that the staff limited their space of action too much. This was especially commented on among those involuntarily admitted. This reduced their experience of freedom and control. As one patient stated, 'This is like being in prison. They have total control. It is scary'. The control was also experienced as something good, as it reduced the freedom to give in to the craving for drugs. This ambivalence concerning control was especially strong when the staff let patients come back to the ward after relapses.

### Collaborative learning

The themes identified relating to collaborative learning were co-learning, education, and family/network.

The patients emphasized the importance of taking part in the addiction group, the content of which was education and social interaction with other patients:

We can always learn something from other people who have experienced the same things. We can learn from each other. If not for that, I would not have been able to go there. If the only content was education with powerpoint slides, I would not have attended. (Female patient, 39 years old)

The company of, and conversations with, other patients and staff provided opportunities to take part in how other people experienced the world around them. In this way the single person benefits from the interactions with others, and later uses this in their own activities and thinking (Vygotsky 1986). The staff had an important role in structuring the groups in order that they were solution focused:

In the addiction group we tell each other about previous experiences and even our life stories. We emphasize to solve problems each one of us have here and now. Yes, we are looking forward. We talk more about things as we want them to be. This is very good. (Male patient, 52 years old)

This contributed to shaping a learning fellowship; patients met in groups, themes were set on the agenda, and patients had the opportunity to discuss their personal experiences with staff and fellow patients. The community contributed to patients recognizing things within themselves, and they experienced that they were not alone with their addiction. In this way, patients may be good role models for each other and contribute to a mutual increase in self-efficacy (Bandura 1997). Sometimes, however, model learning could be destructive. As one patient said, 'Listening to all this talking about substances and abuse not concerning me makes it difficult to stay here'. In spite of some negative experiences, the fellowship seems to contribute to meaningful learning among patients by relating experiences of fellow patients to their own life world, which may lead to new understanding and an altered view of themselves.

Through years of addiction and mental problems, the patients had experienced broken family relations. Patients were encouraged to re-establish contact with their family, but the majority did not want to involve their family in the treatment.

### Physical activity as personal learning

Themes related to physical activity as personal learning were compensation, new habits, freedom, meaning and mastery, personal motivation, and meaningful social community.

Physical activity was described as very valuable. Use of drugs and physical inactivity had been detrimental to patients' physical health. Both nutrition and physical activity were important in their treatment process. They experienced that the staff were seriously concerned about the physical activity and the body, as one patient remarked:

For me, it is very important that they treat the mental and physical simultaneously. This has given me strength, physically as well as mentally, and contributed to my fast recovery. (Male patient, 49 years old)

van Manen (1998) ascribes significance to the living body by understanding body and soul as an integrated whole. When patients learn through their own bodily activities, the body is no longer perceived but becomes a carrier of meaningful activity in the person's own life-world. The physical activity provided to patients was associated with a distraction of thoughts.

Physical activity means a lot. It helps me keep going. When I exercise I abuse less. I experience getting in better shape, which is very useful. I will keep on with this and have applied to an organization that encourages patients to have daily activities. (Male patient, 43 years old)

The activities provided experiences of freedom and movement, less passivity, feeling less institutionalized, fellowship with others, and a possibility of changing habits in a positive sense. The activities were adapted to the needs and potentials of the patients and were taken seriously by the whole staff. An important element was the ability of the staff to push the patients, in a meaningful way, to participate in the activities.

People like us need to be pushed to participate in physical activity. They try to motivate us and they do this in a nice way. This makes us feel that we want to exercise; it is not just something we have to do. This requires a competent and enthusiastic staff. (Female patient, 29 years old)

The fact that the physical activities were individually tailored and that the staff to some extent pushed the patients to perform activities were important for motivation. The physical activities were also important, as they contributed to experiences of mastery and improved relationships between patients.

We often walk around in the forest and enjoy the nature. We also go to museums and do other cultural activities. We never use drugs together. We have improved our habits, and that is important in itself. (Male patient, 34 years old)

Regular physical activity makes it easier to return to the society. The body stands in a living interaction and dialogue with its surroundings. Life experiences set their marks in the body (van Manen 1998). Stimulating the senses and capabilities creates the basis for a healthier self-perception and an active preparedness in relation to the world around us. The patients' comments indicate that physical activity was important for learning and mastery in their treatment process.

## General discussion and conclusion

This comprehension of learning and mastery during CMT and physical activity reported in this paper has taken place

in one local context. The findings from this study point out that a safe and warm learning climate in the unit was important to contribute patients' motivation for learning.

Patient-centred therapeutic relations with adapted motivation seem to be central ingredients in the good learning climates. The concept learning climate originates from organizational and learning psychology and refers to perceptions of work settings that hinder or help learning at work (Nixon 1991). A good learning climate engenders feelings of recognition, cooperation, and personal value in patients (Borge & Hummelvoll 2008, Stickley & Freshwater 2009). It appears to be important for the development of therapeutic qualities like confirming, supportive, and empathetic attitudes. This seems to enable individual learning processes and acquisition of practical skills, and this in turn may stimulate change processes among patients (Kolb 1984, Bandura 1997).

The cognitive therapy model in itself may have contributed to providing the staff with respectful and positive attitudes towards the patients, by making them responsible through collaborative empiricism, Socratic dialogues, and collaboration on equal terms (Beck 1995). Rogers (1961) states that acceptance is based on the right of every individual to utilize their experiences in their own way and discover their personal meaning. The experience of being accepted by the staff as valuable persons may make it easier for patients to accept themselves, and this enhances their self-efficacy (Bandura 1997). Through these approaches, patients' experiences are normalized rather than labelled as pathological. Patients desire a social life, involvement in meaningful activities, and relations with others (Mueser *et al.* 2005, Horsfall *et al.* 2009). They want the opportunities to be involved in their treatment and want to be recognized as individuals and treated with respect (Zolnierrek 2011). These aspects are in line with other studies of the treatment milieu and learning climate in institutions, showing that the relationship between patients, and between patients and staff, are essential to promote learning, development, growth, and maturation (Letendre 1997, Johansson & Eklund 2003, Messari & Hallam 2003, Røssberg & Friis 2004, Borge & Hummelvoll 2008).

As we experienced in the present study, the cognitive model can be difficult to understand. There can be several explanations for this. Both a diagnosis within the psychosis spectrum and recent substance abuse may influence learning capacity (Drake *et al.* 2004). It is important that the staff tries to evaluate the individual capacity of learning of each individual patient. Those patients who understood the basic principles in the cognitive model (CBT) and were able to use this in concrete situations experienced CMT as both useful and meaningful. When experiences are



acknowledged and reflected upon, new insight may appear, and the acquired learning can be used in new situations (Kolb 1984, Beck 1995). This is in line with other studies, where CBT is presented as an educational process (Messari & Hallam 2003). Reflection may imply being able to describe with words something that previously had been indescribable. In the learning process, one moves between the roles of participant and observer and between analytical distance and concrete participation (Kolb 1984). In this way, by using the principles behind CMT, the patients can make sense of their mental health and substance abuse problems and learn new coping strategies (Dickerson 2000, Holm & Oestrich 2006). Learning is a personal phenomenon based on experience. This way of learning has personal value and is associated with increased knowledge about oneself (Rose *et al.* 2005). The experience-based learning model of Kolb (1984) may be useful in helping to understand which factors contribute to understanding, generation of knowledge, and new alternative actions. When learning takes place in an interplay and contact with the surroundings, motivation may be enhanced (Vygotsky 1978, Bandura 1997). A stay in an institution provides patients with a possibility to work on their own processes in cooperation with other patients and staff (Borge & Hummelvoll 2008). In this way, other persons can contribute to patients' processes of change, based on their experiential knowledge (Kolb 1984, Bandura 1997).

Physical activity seems to be a valuable source for personal learning and important in the treatment process. The patients experienced that physical activity contributed to feelings of well-being and joy, and distracted them from negative thoughts. It motivated them to establish new habits and provided opportunities for experiences of mastery together with other patients. It also structured their day, stimulated hope and engagement, and enhanced social interaction and community building. Carless & Douglas (2012) report similar findings. The sports educator has a key role. When he or she is actively participating in daily life at the ward, physical activity can be a natural element in the daily life of the patients, and can supplement CMT in a meaningful way. The authors point out the importance of a positive sociocultural environment in motivating patients to participate in physical activity. They argue that the role of the health sports educator is as significant in terms of therapeutic outcomes as the role of the therapist in CMT. The findings in our study fit well with this.

A common reason for using substances is to regulate negative emotions, and physical activity may be used as an alternative method for obtaining this (Mamen *et al.* 2011). Bandura (1997) states that personal experiences are the most important sources of coping expectations. Personal

copied is part of the self-system, and has consequences for the direction of attention and how impressions are interpreted. In this way, cognitive and action-oriented skills are developed, made conscious, and utilized in different life situations. Physical activity is concrete and provides practical personal knowledge (Borge & Hummelvoll 2008), increased self-esteem (Faulkner & Biddle 2002), and may be used as an alternative behaviour to regulate negative emotions and master stress reactions (Callaghan 2004). Patients get in better physical shape and experience rewarding experiences together with others. By understanding physical activity as a behavioural intervention, it is easy to integrate it in a CMT model. Thoroughly planned physical activity, involving a positive relationship with the sports educator, contributes to new knowledge about the relations between thoughts, feelings, and behaviour (Martinsen 2008).

## Limitations

As with other qualitative research, the findings from this study cannot be generalized in a traditional sense. The sample size is small, and the results must be interpreted according to this, as they only can be said to be representative of the persons who participated. In any semi-structured interview, the interaction between interviewer and interviewee influences outcome. Thus, it is possible that patients have narrated things in a way that idealizes the institutions and pleases the interviewer. To reduce this bias, a continuous, conscientious, open, and listening attitude was utilized. Critical reflection throughout the entire research process, especially in the systematic analysis of the interviews, facilitated a necessary distance from what the patients communicated (Hummelvoll & Barbosa da Silva 1998, Graneheim & Lundman 2004).

## Implications for clinical practice and future research

CMT holds a humanistic approach, implying that all individuals have an absolute value in themselves. When patients experience to be appreciated and accepted, this may facilitate their learning process. The cognitive model has concepts which can illuminate how learning and learning processes take place in a therapeutic milieu, where patients participate actively. It is crucial that patients, together with fellow patients and staff, develop their own concepts to describe their situation. This knowledge might help patients acquire a more precise understanding of their problems – which in turn may help them to cope better. The alternation between individual activities and participation in a social community, with emphasis on cooperation on

equal terms between patients and staff, provided a good learning climate, which was useful for the learning process. CMT including physical activity seemed to be a useful combination for patients with dual diagnosis. Physical activity is concrete and provided practical knowledge. It motivated patients to establish new habits, and provided opportunities for experiences of mastery together with other patients. Pedagogical models, as experience-based learning, may be useful in identifying factors which contribute to understanding, generation of knowledge, and new alternative actions. This can facilitate learning by conscious reflection on events. This requires that professionals try to offer individually adapted therapy within a common theoretical frame of reference. Further research should explore how the staff can optimize CMT in combination with physical activity for patients with dual diagnosis. The role of the health sport pedagogue, taking an active part in the daily life on the ward, should be further explored. To

what degree patients are able to use their new knowledge after discharge is not addressed in the present paper but should be focused in future studies.

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The authors declare no conflicts of interest with respect to the authorship and/or publication of this paper.

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