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# Physiotherapy and Mental Health

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## Abstract

Physiotherapy in mental health care and psychiatry is a recognized specialty within physiotherapy. It offers a rich variety of observational and evaluation tools as well as a range of interventions that are related to the patient's physical and mental health problems based on evidence-based literature and a 50-year history. Physiotherapy in mental health care addresses human movement, function, physical activity and exercise in individual and group therapeutic settings. Additionally, it connects the physical and mental health needs of humans. This chapter offers general reflections on mental health, the scope of physiotherapy in mental health care and physiotherapy research. Physiotherapy in mental health care and psychiatry can offer added and beneficial value to the treatment of people with mental health problems.

**Keywords:** psychomotor therapy, exercise, physical activity, body awareness, psychosomatic physiotherapy

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## 1. Introduction

Mental health is a topic of growing interest in society. Various mental health organizations are engaged in the prevention, treatment and rehabilitation of persons with mental health problems and disorders. Unfortunately, physiotherapy is not always considered to be a significant profession within mental health because the role and the added value it offers can remain unclear among patients and other health care providers. However, physiotherapy is a recognized conventional profession within health care and can offer an extensive range of physical approaches (physical activity, exercise, movement, relaxation techniques and body and movement awareness). These approaches are aimed at symptom relief, the enhancement of self-confidence and the improvement of quality of life. Additionally, they are relevant to rehabilitation programmes in mental health care.

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The goal of this chapter is to present an overview of why physiotherapy in mental health is necessary and what it can offer to fulfil requests for help and to increase the quality of life of persons with mental health problems. It describes physiotherapy methods and their applications in the fields of mental health and psychiatry.

## 2. Mental health

Mental health refers to cognitive and/or emotional well-being. More concretely, it refers to how a person thinks, feels and behaves. Mental health can affect daily life, relationships, the ability to enjoy life and even physical health. Mental health involves finding a balance between life activities and efforts to achieve resilience. According to the World Health Organization (WHO) [1], mental health is 'a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community'. More concrete mental health includes different components of life; for example, in terms of relationships, having a good relationship with family and having supportive friends, with the ability to talk about feelings. For leisure time it is about having hobbies, doing exercises on regular basis and having regular holidays. Furthermore, it is important to follow a healthy lifestyle that includes, having healthy eating habits, not smoking or drinking and not taking no-prescribed drugs and at least being able to achieve some goals in life [2]. Mental health is not merely the absence of a mental disorder. It exists on a continuum to include flourishing mental health, very good mental health, mean mental health, decreased mental health, mental health problems and mental health disorders [3].

## 3. Mental health problems and disorders

It is important to distinguish between mental health problems and mental health disorders. A mental health problem is a negative mental experience that is part of everyday life and interferes with emotional and/or social abilities. These problems are less severe than those associated with a mental health disorder. As previously mentioned, persons with mental disorders have a growing imbalance in their abilities. A mental disorder is defined as a syndrome characterized by a clinically significant disturbance in an individual's cognition, emotion regulation or behaviour [see **Box 1**]. It reflects a common or severe dysfunction in the psychological, biological or developmental process underlying mental functioning [4, 5].

One out of four persons might face a mental health disorder at a certain point in their life. Depression, anxiety, post-traumatic stress disorder and other problems can be triggered by personal and lifestyle pressures such as bereavement, relationship breakdown or job loss. Drug or alcohol dependency, illness or long-term physical disability can cause depression. This mental health disorder is the fourth most significant cause of disability worldwide.

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### Common mental health disorders

Common disorders refer to obsessive-compulsive and related disorders, trauma and stressor-related disorders, dissociative disorders, somatic symptom and related disorders, eating disorders, disruptive, impulse-control and conduct disorders, substance-related and addictive disorders and neurocognitive disorders

**Severe mental health disorders:** Severe mental disorders include schizophrenia, bipolar disorders, mood disorders.

For the diagnostic criteria see:

World Health Organization: International classification [5]

American Psychiatric Association: diagnostic [4]

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**Box 1:** Common and severe mental health disorders

Mental health problems/disorders often begin with the thoughts and beliefs related to a (physical or mental) problem. These thoughts and beliefs are the source of emotions and feelings that act as a driver of actions/behaviours. Behaviours are a choice and have consequences at some point.

## 4. Mental health and physiotherapy

The importance of the implementation of physiotherapy in both common and severe mental health disorders and psychiatry is underestimated, even if there is a tradition of more than 50 years in some countries (Belgium, Scandinavia, etc.), even if the attention to 'the moving body' increases in society and even if the moving body is an important issue that is integral to psychopathology. To overcome this problem, physiotherapists who were working in mental health and psychiatry applied in 2011 for recognition as a subgroup within the World Confederation of Physical Therapy [6]. The main goal of this subgroup is to bring the different physiotherapy interventions in mental health and psychiatry together to clarify the role of physiotherapy in this field. For that reason, the International Organization of Physical Therapy in Mental Health (IOPTMH) [7, 8] adapted the recommendations of the WHO [1] concerning mental health care using physiotherapy language (see **Box 2**).

- 
1. To improve [*physiotherapy*] mental health care
  2. To organize specific [*physiotherapy*] care for different ages including children, adolescents and elderly and risk-related groups as persons with eating disorders, psychotic disorders, etc.
  3. To ensure access to primary [*physiotherapy*] care for people with mental health problems
  4. To provide treatment in 'community-based [*physiotherapy*] services for persons with severe mental health problems.

[adaptation]

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**Box 2:** Recommendation for mental health care of the World Health Organisation [1] adapted by the IOPTMH.

#### 4.1. Mental health in physiotherapy

Not all physiotherapists realize that mental health is all the business of physiotherapy. However, it is well illustrated in the following quotation: 'no health without mental health'.

As health care providers, physiotherapists are also involved in the prevention and promotion of health, including mental health. It is their responsibility to inform individuals adequately about mental health, eliminate misconceptions about mental illness and refer them when necessary to specialized professionals in mental health and psychiatry.

Consciously or unconsciously, colleagues will be confronted in their practice with individuals with frail mental health, chronic musculoskeletal disorders, chronic pain and psychosomatic disorders. In their stories, components of mental health are interwoven, and the patients deserve an appropriate physiotherapy intervention. In addition to these conditions, more severe physical diseases such as cardiovascular diseases, Parkinson's disease, rheumatoid arthritis, hypertension, Diabetes mellitus, metabolic syndrome, asthma, asthma/chronic obstructive pulmonary disorder (COPD), cerebrovascular diseases (stroke), obesity, epilepsy, cancer and other diseases are frequently accompanied with a 'rollercoaster' of emotions, feelings of anxiety and pain. After all, individuals with mental disorders have numerous physical health complaints (cardiovascular diseases, metabolic syndrome, obesity, osteoporosis, etc.) due to medication, sedentary behaviour or inactivity and consult primary health services.

In summary, it all adds up for the health care providers to optimize access to physiotherapy for people with mental illness, give them the most appropriate treatment [9] and give additional thought to the mental health dimension of their patients' physical conditions [10].

#### 4.2. Physiotherapy in mental health care

In some countries, physiotherapists have a long tradition of using physiotherapy in mental health and developed specific approaches for common and severe disorders aimed at improving the quality of daily life. It is time to bring all the knowledge together to consolidate it and centralize the interventions with a view to offer appropriate care to a specific vulnerable but growing group in society. For these persons, specific interview, assessment and therapeutic skills are necessary. The interview is based on the principles of the bio-psychosocial and motivational interview [11]. The story, including the context, life events and chronic stressors in relation to the health of each patient, is mapped. The assessment focuses on lifestyle in relation to the health, mood and anxiety features, illness behaviour and psychological well-being.

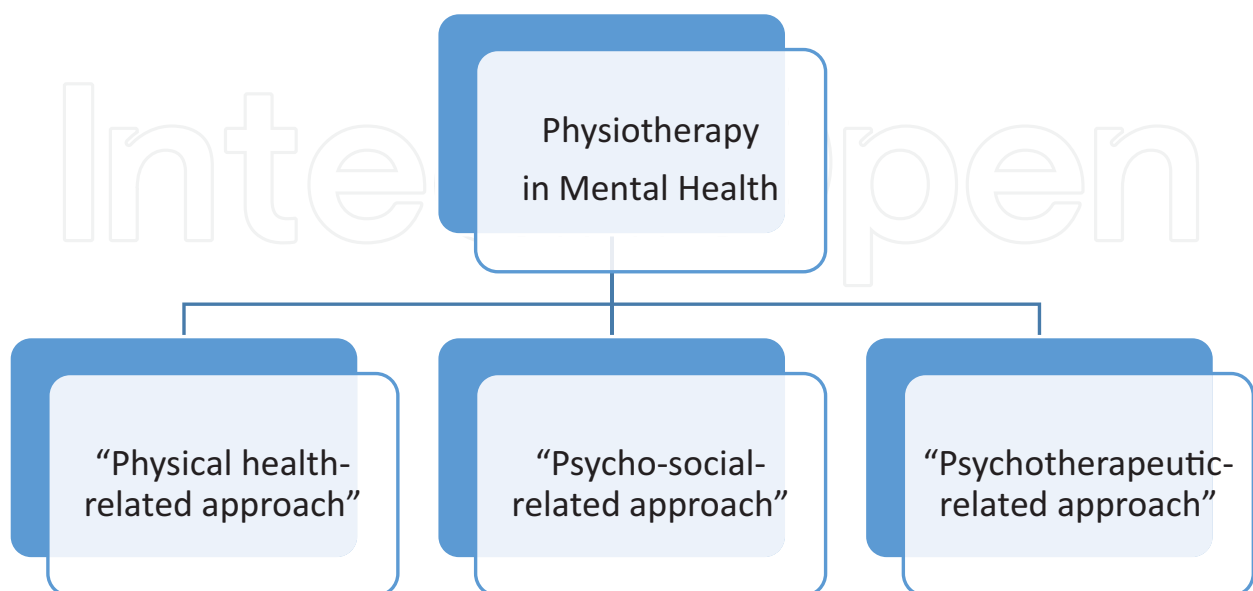
### 5. Definition of physiotherapy in mental health

The IOPTMH developed a definition that generally describes the field of physiotherapy in mental health that is recognizable among most colleagues across the world. Physiotherapy in mental health is a specialty within physiotherapy. It is implemented in different health and mental health settings: psychiatry and psychosomatic medicine. It is Person-centered and provided for children, adolescents, adults and older people with common (mild, moderate) and

severe, acute and chronic mental health problems, in primary and community care, inpatients and outpatients. Physiotherapists in mental health provide health promotion, preventive health care, treatment and rehabilitation for individuals, groups and in-group therapeutic settings. They create a therapeutic relationship to provide assessment and services specifically related to the complexity of mental health within a supportive environment applying a model including biological and psychosocial aspects. Physiotherapy in mental health aims to optimize well-being and empower the individual by promoting functional movement, movement awareness, physical activity and exercises, bringing together physical and mental aspects. It is based on the available scientific and best clinical evidence. Physiotherapists in mental health contribute to the multidisciplinary team and inter-professional care [12, 13].

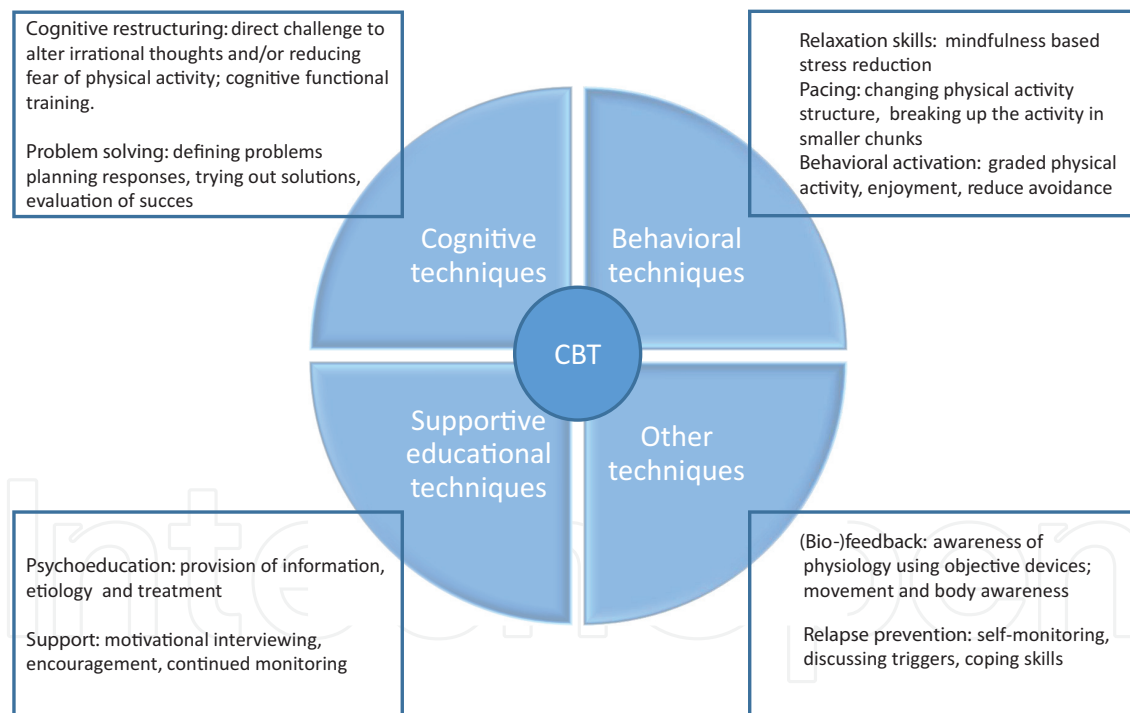
## 6. The scope of physiotherapy in mental health

Depending upon the problem, the story of the patient, and the results of the observation/evaluation, the patient's treatment goals will be established, and the physiotherapist can choose a more health-related approach or psychotherapeutic physiotherapy (see **Figure 1**). *The physical health-related approach* aims to improve the global physical health of patients with psychiatric disorders. Physical activity can help to reduce cardiovascular disease and premature mortality in people with psychological problems. *The psychosocial-related approach* emphasizes the acquisition of mental and physical proficiencies related to the body in motion and support of personal development to enhance people's ability to function independently in society. *The psychotherapeutic-related approach* uses the body in movement as a gateway to ameliorate the social affective functioning of an individual. When using this approach, the physiotherapist creates a setting that favours the initiation and development of a process in the patient by employing specific working methods that aim to help patients to access their inner workings.



**Figure 1.** The scope of physiotherapy in mental health.

In physiotherapy in mental health, a rationale for applying psychological models (e.g. cognitive behavioural therapy, acceptance and commitment therapy, etc.) is offered as a tool to strengthen physiotherapy interventions in the treatment of a wide variety of disorders in children, adolescents, adults and the elderly. The cognitive behavioural physiotherapy treatment approach consists of the identification of current and specific problems related to the moving human being. The physiotherapy goals are based on the SMART principles (Specific, measurable, acceptable/attainable, realistic/relevant and time bound). The treatment is I think it is patient-centered and the ultimate physiotherapy goal is to change unhealthy habits and promoting an active lifestyle and healthy posture. The focus lays on self-management and relapse prevention. Different modalities (see **Figure 2**) such as cognitive techniques (cognitive restructuring, problem solving and cognitive functional training), behavioural (relaxation, pacing and graded exercise therapy and behavioural activation), supportive, educational and other techniques such as (bio-) feedback, movement and body awareness and relapse prevention for children and adults are integrated into this treatment [14]. The acceptance and commitment physiotherapy approach is supporting the patient to clarify his/her values and helping them to take the necessary steps towards living a meaningful life despite the discomfort [15].



**Figure 2.** Cognitive behavioural techniques in physiotherapy.

### 6.1. 'Physical health-related' approach

The physical health-related approach aims to improve the global physical health of the person with mental health problems. Studies have shown that people with mental health problems are more susceptible to inactivity and are at risk of a sedentary lifestyle. In addition, the use of psychotropic drugs can result in the development of metabolic syndrome, obesity, osteoporosis

and cardiovascular disease. The physical health-related approach is consistent with the recent recommendations of the World Health Organization (WHO) about the relationship between individuals' 'physical inactivity' and poor health and a serious threat to their quality of life [16].

Clinical practice has highlighted the importance of tailoring physical activity to each person's individual abilities to influence the quality of life. The challenge is to motivate people to stay active throughout their daily life. People who do not continue to exercise lose their independence and do not maximize their potential in life. The American College of Sport Sciences [17, 18] offers guidelines. It is the task of the physiotherapist to integrate and adapt these guidelines to fit the context of a person with mental health problems [19–22].

## **6.2. Psychosocial-related and psychophysiological approaches**

The psychosocial-related approach emphasizes the acquisition of mental and physical skills related to the 'moving body' and support of people's ability to function independently in society and to improve their quality of life. The activities aim at learning, acquiring and training psychomotor, sensomotor, perceptual, cognitive, social and emotional proficiencies. Other elementary proficiencies are stressed, such as relaxation education, relaxation skills, stress management, breathing techniques, psychomotor and sensory skills and also cognitive, expression and social skills. Through exercises, patients acquire a broader perspective and can experience their own abilities. Moreover, the learning of the basic rules of communication is integrated [23]. The psychophysiological approach involves the use of physical activity to influence mental health problems such as in the treatment of depression and anxiety disorders [24–34]. In the literature, the benefits of physical activity for mental health are well accepted. Physical activity has a positive influence on mental well-being, self-esteem, mood and executive functioning. Through these effects, a downward spiral that leads to dejection can be stopped. Well-balanced and regularly executed endurance activities (walking, biking, jogging and swimming) power training (fitness training) and mindfulness-derived exercises) augment physical and mental resilience; improve the quality of sleep; enhance self-confidence, energy, endurance and relaxation; and, in general, decrease physical complaints.

## **6.3. Psychotherapeutic-oriented physiotherapy approach**

The psychotherapeutic-oriented physiotherapy approach uses the motor domain as a gateway to ameliorate social affective functioning. This approach puts less emphasis on the acquisition of skills but more on the awareness of psychosocial functioning and facilitating a process of change. Using movement activities, the physiotherapist creates a setting that favours the initiation and development of a process aimed at helping patients to gain greater insight into their own functioning. During these activities, patients are invited to venture outside their comfort zone, think outside the box, experience new things, become more in touch with their inner self and cope with numerous emotions (depressive feelings, fear, guilt, anger, stress, feelings of unease, estrangement and dissatisfaction) and negative thoughts (intrusion, obsession, morbid preoccupations and worrying). Moreover, they are confronted with their behaviour (i.e. impulses and lack of abilities) or cognitive symptoms (i.e. derealisation and lack of concentration). Through psychomotor therapy, an alternative perspective on experiences can be proposed. Experiencing the possibility that an alternative may exist triggers new emotions and experiences, and a discrepancy between reality and the patient's perception of reality emerges. Consequently, it is important



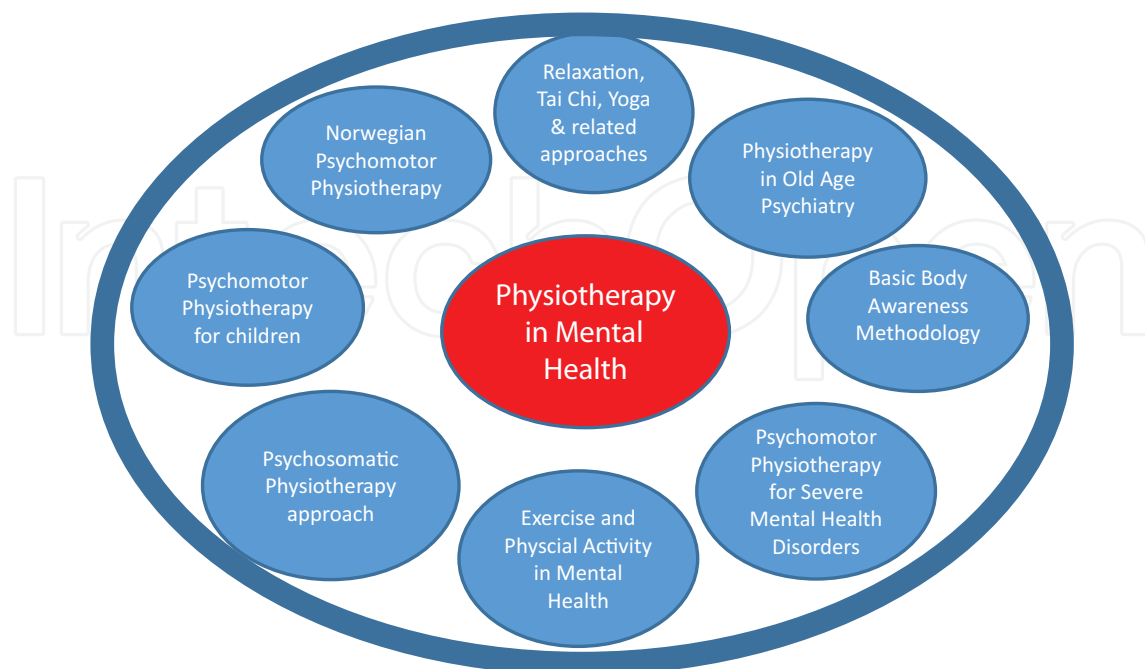
to note that it is not the physical activity itself but the patient's experiences and inner perception that play the central role. The careful guidance and encouragement of the physiotherapist and the opportunity to experience feelings in a safe environment allow the patient to develop behaviour, which would not have developed otherwise. Although the underlying problems are not necessarily resolved, the therapist tries to improve problem management of the patient. The patient shares his behaviour, feelings, and thoughts with the therapist initially and, eventually, with his peers. More emphasis is placed on experiences and how reactions to these experiences function as a dynamic source of power [23].

## 7. The content of physiotherapy in mental health

Physiotherapy is a specialized field in health care and is recognized as a conventional therapy. Physiotherapists who work in mental health are physiotherapists first and use interventions within the scope of general physiotherapy. In addition, due to the complex situation, physiotherapists who work in mental health require supplementary knowledge (e.g. psychopathology and psychological frames) and specific skills and competences (e.g. communication) to assess, treat, support and refer people with mental disorders effectively (see **Figure 3**).

### 7.1. Psychomotor therapy with children and adolescents

Psychomotor therapy is a type of body-oriented therapy. The cornerstones of this approach are body awareness, movement and physical activities. However, psychomotor therapy encompasses 'movement' or 'physical activity' in a strict sense. It is based on the holistic view and, therefore,



**Figure 3.** Overview of physiotherapy interventions in mental health.

integrates cognitive, emotional, social and motor aspects into an individual's development. The starting point is a strong acknowledgement of the continuous and complex interactions between the different developmental domains. Moreover, the functioning of a child is not only always integrated into but also dependent upon a certain context [35]. Psychomotor therapy is offered in different disciplines, including mental health care, child psychiatry, youth care, special education and rehabilitation, as well as private practice. The wide variety of psychomotor therapy interventions can be categorized into two main areas: psychomotor functional training and psychotherapeutic-oriented psychomotor therapy [35]. Although both approaches are aimed at supporting and aiding a child's personal development, the methods can be distinguished based upon the primary focus of the intervention. Psychomotor functional training is primarily aimed at improving the motor domain and includes activities that are aimed at learning, developing, practicing and training (psycho) motor, sensorimotor and perceptual abilities. In psychotherapeutic-oriented psychomotor therapy, the motor domain is employed as a gateway to ameliorate the social and affective development of individual functioning. More concretely, specific goals are formulated such as learning to recognize bodily signals, regulate aggression, play cooperatively, enhance self-confidence, reduce social anxiety, etc. The techniques that are employed include relaxation techniques [36], Sherborne Developmental Movement [37], movement and play situations, psychomotor family therapy [38, 39], physical activity, etc.

## 7.2. Norwegian psychomotor physiotherapy

The roots of Norwegian psychomotor physiotherapy began in the early 1950s and were the result of a collaboration between Trygve Braatøy, a psychoanalytically trained psychiatrist, and Aadel Bülow-Hansen, an orthopaedic physiotherapist [40–42]. In addition to its focus on how the past continues to influence the present, the psychoanalytic approach develops the client's awareness of what can be done to correct the harmful effects of the past [43]. Indications for this physiotherapy approach are conditions associated with strain and functional disturbances in the musculoskeletal system as well as psychosomatic disorders. Symptoms are viewed as an expression of a disturbance in posture, respiration, muscle tension or autonomic functions, which are often related to emotional conflicts or mental problems [44]. In Norwegian psychomotor physiotherapy, the case report and the examination are central to documenting and evaluating respiration, posture, function, muscles and other soft tissues as well as automatic functions and reactions. The patient's body and self-awareness are taken into consideration. These awareness concepts are based on the philosophy of phenomenology. The major finding of Braatøy and Bülow-Hansen was that the entire body needs to be examined and treated instead of using a local approach. The basis of the examination is the whole person, and the key is the body [44]. Relaxation treatment has yielded limited results, unless breathing is taken into consideration. Although breathing is an important cornerstone of the approach, breathing exercises are seldom used. The observation of how the patient breathes during massage and exercise is a guideline for the level of intensity of the therapy [45], allowing the therapist to adjust continually to the patient's reactions [44, 46]. Breathing and feelings are considered to be interdependent factors. The body is approached as an integrated physical-psychological phenomenon [44]. Changes in breathing could be a signal that the patient is reacting emotionally [44]. The patient's reaction to the examination also provides

important information. In Norwegian psychomotor physiotherapy, the emphasis is on respiration because breathing can be viewed in relation to emotion and cognition. At the same time, breathing can contribute to the reduction of somatic disorders in stress-related and/or psychosomatic disorders [47]. In summary, Norwegian psychomotor physiotherapy aims to release respiration through an interaction among breathing, the musculoskeletal system and emotions [44] and to develop flexibility, versatility and the stability of the person [48]. The treatment is successful when a process of bodily changes is not separated from emotional changes [48–50]. A treatment session is mostly individual in nature and may be short, being composed of active exercises in standing, sitting or lying positions only, or it may be long, consisting of massage of the recumbent body only [49, 50].

### 7.3. Relaxation therapy and mind-body-related approaches

Relaxation as a therapeutic intervention is recommended in the treatment of stress and stress-related problems. The term relaxation therapy is used to describe a number of techniques that promote stress and anxiety reduction by decreasing tension throughout the body and creating a peaceful state of mind [51]. This valued therapeutic approach is frequently used in mental health care, and physiotherapists in mental health care apply relaxation training as one of their interventions. Relaxation is used as prevention (to protect the body), as a treatment (for instance, to relieve stress in individuals with hypertension, tension headache, insomnia and panic) or as a coping skill (to relax the mind and to promote clear and effective thinking). Relaxation therapy consists of three phases: (1) to learn the relaxation technique, (2) to evaluate if there is a relaxation response (physiological and psychological) after some training session, and (3) in the third phase and when the technique becomes automatic, to use relaxation in situations that induce stress. Although there are different techniques [52, 53], physiotherapists have primarily used the modified Jacobson's progressive relaxation method by Bernstein and Borkovec [54–56], applied relaxation of Öst [57], Mitchell method [58] and autogenic training [59].

Yoga, Tai Chi, mindfulness-related exercises and Pilates are also used to cope with stressful situations.

The **mindfulness-based stress reduction (MBSR) program**, which is centred on the principles and practice of mindfulness meditation and the use of stress-reduction skills, including sitting meditation, hatha yoga and a somatically focused technique called a 'body scan', which was developed to relieve suffering in patients with chronic pain [60, 61]. MBSR encourages the non-judgemental awareness of one's cognitive and somatic experiences on a moment-by-moment basis. This decentred stance is thought to disconnect cognitive and affective mental events in an adaptive manner and might reduce the negative impact of thoughts and sensations that are associated with chronic pain [60, 61].

**Tai Chi** has been practiced for centuries as a Chinese martial art that combines meditation, postures, slow and graceful movements, diaphragmatic breathing and relaxation. It can be regarded as an intervention that integrates physical, psychosocial, emotional, spiritual and behavioural elements and promotes mind-body interaction [62, 63].

**Qi Gong (QG)** is an ancient Chinese method that integrates body, energetic, respiratory and mental training with the aim of achieving optimal status of both the mind and the body. QG

enhances physical, psychic and emotional rebalancing, thereby improving posture, respiration and concentration by low-impact movements [64].

**Yoga** is a mind-body therapy (MBT) that potentially fulfils the need for both exercise and coping skills in fibromyalgia syndrome (FMS) patients. Yoga varies greatly in terms of style and, beyond the physical poses that are identified with it, comprises meditation and breathing exercises [65–71].

**The Pilates method**, which was developed in the 1920s by J. H. Pilates (Germany, 1880–1967), is a low-impact, non-aerobic fitness programme (stretching and strengthening exercises) that also integrates physiotherapy [72]. The original exercises were influenced by the two gymnastic systems that dominated rehabilitation at that moment, namely the German (Friedrich Jahn) and the Swedish (Per Hendrik Ling) systems. Pilates became a form of movement that combines characteristics of Eastern (mind control during exercises, relaxation, increasing of elasticity, movement starting from body centre and balance) and Western (forming strength, endurance and exercises with both global and local effects) systems. Today, the applied form of Pilates has been influenced by other mind-body methods. Additionally, it involves not only the recovery of muscle strength and flexibility but also the correction of muscle imbalance and attention to body awareness, economical breathing, and neuromuscular coordination by executing fluent and precise movement. Pilates can lead to balancing of the body and the mind [72–75].

In some countries, the Mensendieck system [76] and the Feldenkrais method [77, 78] are integrated into the physiotherapy in mental health. They are seen as educational approaches, rather than interventions. The *Mensendieck system* focuses on teaching patients to understand the concepts of bodily functioning using pedagogically designed exercises and aims to enable them to change suboptimal patterns of movement. The *Feldenkrais method* is a somatic educational system that was designed to improve the movement repertoire, aiming to expand and refine the use of the self through awareness to reduce pain or limitations in movement and promote general well-being [77, 78].

#### **7.4. Psychomotor physiotherapy for severe mental health problems**

Psychomotor physiotherapy for severe mental health problems is a method of treatment that uses systematically a wide variety of (adapted) physical activities as well as movement, body and sensory awareness to stimulate and to integrate motor, cognitive and affective competences within the psychosocial context. This approach aims to realize clearly formulated consent goals, which are relevant to the patient's mental health problems (depression, anxiety, schizophrenia, autism, eating disorder, etc.). This approach is based on evidence-based research and 50 years of clinical practice. Today, it is an important standard adjunctive treatment for patients in residential treatment to optimize movement as well as the cognitive, affective and relational aspects of mind-body functioning (i.e. the relationships between physical movements and cognitive and social-affective aspects). The approach focuses on the somatic effects of physical activity and the physio-psychological effects as the core of the treatment. The goal is to stimulate a positive self-image and personal well-being in a balanced social relationship using movement activities. This approach is well described in inpatient settings as a different group approach and can be imbedded within diverse

psychotherapy settings. On the one hand, the focus is on discovering the present healthy capabilities of the subject ('care') using the moving body as the core to influence psychological, social and somatic functioning. On the other hand, the physiotherapy addresses the dysfunctional part of the subject. Depending upon the goals and the competence level of the patient, the therapist can choose among a more health-related approach (to improve physical activity and to limit sedentary behaviour), a more psychosocial-related approach (to learn skills that are not only physical but also cognitive and communicative) or a more psychotherapeutic-related approach (to stimulate the patient to get in touch with his or her inner world). When persons with mental health problems are invited to (group) physical activities, they come out from their comfort zone and experience how they function. The combination of experience and insight drives changes and leads to new experiences. Specific approaches for eating disorders [78–83], schizophrenia [84–91], mood disorders [92–97] and depression and anxiety [23, 32–34] are developed.

### 7.5. Basic body awareness methodology

Body awareness is a term that is frequently used in mental health and psychiatry. It refers to the ability to pay attention to ourselves and feel our sensations and movements online, along with the motivational and emotional feelings that accompany them in the present moment, without the mediating influence of judgemental thoughts [98].

Body awareness is the subjective, phenomenological aspect of proprioception and interoception that enters conscious awareness and is modifiable by mental processes, including attention, interpretation appraisal, beliefs, memories, as well as conditioned attitudes and effect [99]. Different approaches, including those within physiotherapy and beyond, reportedly enhance body awareness (yoga, Tai Chi, mindfulness-based therapies, the Feldenkrais method, the Alexander method, different breathing therapies, etc.). Body awareness has become an umbrella term for different approaches. One such approach in physiotherapy is basic body awareness therapy [100].

Basic body awareness therapy was inspired by the French movement educator and psychotherapist J. Dropsy and further elaborated by Roxendal. The basic body awareness methodology (BBAM) is a Person-centered physiotherapeutic movement awareness training programme that is directed towards daily life movement [100–111]. It is used in multiple clinical settings, including primary health care, pain rehabilitation and psychiatric physical therapy, as well as in health promotion.

It is founded upon a three-dimensional approach to human movement: learning about and through movement and learning while being in movement [107]. Movement awareness in this methodology is defined as the sensitivity to movement nuances, awareness of one's own movements in relation to space, time and energy and identification of subtle movement reactions to internal and environmental conditions [100, 107]. Persons who are not aware or who have a lack of contact with the physical body and the emotional body (internal life) and who are not aware of the physical environment and their relationship to other people and persons who are cut off from reality, express this lack of awareness throughout their body. This can be observed as dysfunctional movements, for instance, movements that lack vitality, flow, rhythm and unity [100–102, 104–105]. From a broader perspective, the lack of awareness

has negative consequences on movement quality, daily function, habits and health [100]. The phenomenological concepts of the body awareness methodology are relaxation, tension regulation, body contact, body consciousness, body image, body experience, body boundaries, body control, muscle consciousness, muscle control, body awareness and postural attunement [100, 111]. In general, body awareness combines a series of exercises that are related to posture, coordination, free breathing and awareness. Attending to both the patient's own performance and to the patient's experience during the exercises is a central element of body awareness that stimulates mental presence and awareness that aims to provide increased body consciousness. BBAT offers training situations that focus on healthy movement aspects, lying, sitting, walking, running, using the voice, relational movements and massage [105]. Embodied and mindful presence, awareness and movement quality represent keys to the therapeutic approach. Therapeutically, being in movement, exploring, experiencing, integrating, mastering and reflecting upon one's own movement coordination are critical to gaining more functional movement, strengthening the self and preparing for daily life [108]. It offers a strategy to equip the person to handle life more effectively. It is used in individual therapy but is foremost a group treatment. [100, 111]. Body awareness therapy refers to a group of movement awareness interventions that share a common perspective that focuses on the internal subjective experience of the body to promote physical, mental and emotional well-being [110, 111].

#### **7.6. Psychosomatic physiotherapy approach**

The psychosomatic approach differs from the somatic approach. The somatic approach involves the cells of the body and is based on the physical and biological aspects of the problem. The somatic approach is the traditional approach and usually addresses the symptoms of the problem. Psychosomatic means that a physical condition is caused or greatly influenced by psychological factors. The psychosomatic approach views illness as a form of communication between the conscious and the unconscious mind through the body. Illness is a person's way of adapting to the environment. It is a message that communicates a need for change. Based on the patient's perception, illness is consciously or unconsciously a legitimate way to avoid something unpleasant. Illness can be a subconscious defence mechanism. There are numerous situations that people would rather avoid than confront. The benefits of the illness are that they receive more attention, love and warmth from family members or friends when they are sick. Some patients are confronted with existential questions, including those relating to the purpose of life. Unable to answer these questions, some people turn their illness into their purpose in life. Everything begins to revolve around it. The scope of psychosomatic physiotherapy is broad, including the treatment of physical symptoms such as pain, fatigue, hyperventilation and distress in relation to psychosocial problems. Somatic symptoms and related disorders [4] are another category of illnesses that primarily are treated within psychosomatic physiotherapy. Medically unexplained symptoms are also categorized under this umbrella term. In all these cases, the therapist explores the relationships among social, psychological and behavioural factors with bodily processes and quality of life. It is obvious that the therapeutic relationship has an important role [112]. During this exploration, the patient is given the space to reflect on behavioural experiences and perceptions in a developmental process that focuses on the integration of thoughts, emotions and actions in relation to motor performance. With an awareness of the importance of addressing the

physical complaint, the psychosomatic physiotherapist focuses specifically on the psychophysiological and behavioural characteristics of the client's motor performance-related problem. The aim is to recognize and gain insight into the complex relationship between motor and psychological performance within a psychosocial context and positively influence disrupted internal and external regulation mechanisms. The psychosomatic-oriented physiotherapist is inspired by cognitive behavioural interventions (see **Figure 2**) [113, 114], including graded activity and active pacing therapy. The therapist uses a number of specific awareness-raising methods such as relaxation techniques, breathing and communication methods, (bio-) feedback, problem solving strategies and stress management. The status of the patient is observed using the 'SCEGS model' (soma, cognitions, emotions, behaviour and social environment). Treatment objectives are formulated in terms of the SMART criteria. The relationships among the need for help as expressed by the patient, body language, body posture, movement and gestures are explored. In addition, verbal language is analysed. The balance between supporting load and supporting strength, tension and relaxation, and body and illness perception and reality is explored during the sessions.

### **7.7. Exercise and physical activity in mental health**

Mental health problems are the leading predictor of years lived with disability worldwide. Furthermore, without more intensified prevention and management, the burden is estimated to increase to a greater extent [115]. The consequences of mental health problems are devastating for the person and society as a whole and are compounded by physical health comorbidities with which most people with mental health problems are confronted [115, 116]. Physical health comorbidities are a major cause of the reduced life expectancy of 15–20 years in this population [118–120]. The relationship between mental health and physical activity is supported by a growing number of articles [92]. There is rigorous evidence now that physiotherapy improves mental and physical health in this vulnerable population [121]. Unfortunately, these efforts are becoming integrated into clinical practice at a slow pace. Physical activity is not always considered to be a worthwhile strategy. The benefits of physical activity are twofold, as people with mental health problems are also at an increased risk of a range of physical health problems, including cardiovascular diseases, endocrine disorders and obesity [115–124]. Physical activity influences cognition [122] and cardiorespiratory fitness [123] and reduces dropout [121] due to a wide range of mental health problems. The relationship between physical activity and mental health has been widely investigated. The health benefits of regular exercise are improved cardiovascular fitness, improved sleep, better endurance, a positive influence on metabolic syndrome and diabetes, stress relief, improved mood, increased energy and reduced tiredness. Exercise reduces anxiety, depression, negative mood and social isolation and improves self-esteem, cognitive functions and quality of life [115–124].

### **7.8. Physiotherapy with the elderly in old age psychiatry**

Old age psychiatry consists of two groups: dementia syndrome (Alzheimer, frontotemporal degeneration, vascular dementia) and functional psychiatric disorders (depression, addiction, mood disorders, personality disorders and schizophrenia). Elderly people experience declining physical activity levels and functional capabilities, loss of independence, decreasing social

contacts, increasing problems with mental health, loss of adaptive capabilities and quality of life. The most frequently observed characteristics in old age psychiatry are apathy (lack of motivation and interest), depression (fear, hopelessness, sad, low self-esteem, guilty, etc.), aggression (aggressive resistance, verbal and physical aggression), psychomotor agitation (aimless walking, pacing up and down, restlessness, repetitive actions and sleep disorders) and psychotic features (illusions, false identifications and hallucinations) [4].

Exercise helps to improve general daily activity, cognition and independency; increase cardiorespiratory fitness, strength and balance; reduce osteoporosis, sarcopenia, falls and risk factors for falls; increase quality of life and social activities; and reduce social isolation, loneliness, fear and institutionalization [125–127].

## 8. Conclusion

Today, there is a professional need in society for a physiotherapeutic approach to treat people who are suffering from chronic musculoskeletal and mental health problems. The general aims of physiotherapy in mental health are summarized in **Box 3**.

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**“Promoting, advising, teaching, warning, motivating maintaining, working, treating, assessing”**

**To promote** human well-being and autonomy in people with physical health needs that are associated with a mental illness or learning disability and/or to use physical approaches safely to influence mental health.

**To offer advice** on the prevention of stress and physical problems as well as quality-improvement techniques.

**To teach** on topics relating to exercise, relaxation and communication.

**To warn people** about the side effects and to advise people on the use of quality-improvement techniques.

**To motivate** people to engage in healthy living habits.

**To maintain** (or to regain) physical mental and social skills to preserve the ability to function and the quality of life.

**To work** with the senses and motor skills of children with bodily and behavioural difficulties.

**To treat** physical and psychosomatic problems.

**To assess** treatment effectiveness and patient satisfaction.

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**Box 3:** General aims of physiotherapy in mental health.

In contrast to other fields in medicine, mental health consists of a labyrinth of conventional, complementary and alternative therapies and approaches [128]. A person with fluctuating mental health is more receptive to alternative approaches. Conventional health caregivers have to guide the patient in the search for optimal help. For that reason, physiotherapy interventions in mental health should at least satisfy four criteria. The nature of the interventions should be described clearly. The claimed benefits of the services must be stated explicitly. These benefits must be scientifically validated. Individual effects that might outweigh the benefits must be ruled out empirically. Collaboration and connections with other mental health care specialists within and outside physiotherapy are necessary to broaden the field of physiotherapy in mental health (see Box 3), avoid isolation, build a quality framework and cope with future



challenges. In mental health care, boundaries between specialities have become increasingly more blurred. Intensive specialization of physiotherapy has been called into question. The demands to collaborate at the interdisciplinary (i.e. mutual contact between care providers) and transdisciplinary (various caregivers are at each other's domain) levels have increased. The inclusion of ideas from the social sciences and humanities in mental health care has become increasingly more important [129]. In the future, therapists will need to obtain informed consent for each treatment. Each therapist will need to explain that the proposed method has value for the patient and provide information about what, why, where, when and how he or she will proceed and what the potential outcomes are. Dialogue with the patient is important for the outcome and patient satisfaction. By definition, interventions in mental health are complex, given the nature of mental health and illness. Physiotherapists who work in mental health are well-trained therapists with knowledge of mental health (allegiance to theory) and motivation skills and have empathy (therapist-client alliance). The quality of the therapeutic relationship or alliance is important for the outcome of the physiotherapy treatment. Interventions require careful planning and sufficient resources to implement the programme as planned. Interventions are individually adapted according to the individual's psychophysical functioning, needs and wishes. The source of the most advanced knowledge of physiotherapy in mental health is a combination of scientifically derived knowledge and knowledge gained through years of experience (professional practice) (see **Box 3**). The different physiotherapy approaches are cost-effective and secure. Furthermore, they do not have side effects. They involve the patient and provide practical skills and insight for use in daily life. After a physiotherapy observational and/or evaluation assessment, the approaches focus on functional and (mental) health promotion. The patient's voice becomes increasingly more important. This chapter provides additional insight into why physiotherapy education needs to give more attention to the field of mental health in the curriculum. Currently, from the patient perspective, it is not acceptable for physiotherapists, as health care providers, to not have any or have limited courses on mental health during their education. Many excellent colleagues in primary care are not well prepared to work with persons with mental health, not because of their illness but because of their lack of information on how to address the illness.

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