

The mental health benefits of physiotherapy

Jaswinder Kaur and Deepti Garnawat,
Department of Physiotherapy, Dr. Ram
Manohar Lohia Hospital, New Delhi, India.
Contact : Jaswinder Kaur: email: [linktojk@
yahoo.com](mailto:linktojk@yahoo.com)

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Mental disorders impose an enormous disease burden on societies throughout the world. More than 450 million people across the globe suffer from mental illness (1). In a survey done in Australia by National Survey of Mental Health and Wellbeing of Adults in 2007, 1 in 5 adults were reported to have had mental disorders within 12 months of the survey being undertaken (2).

Mental disorders comprise a broad range of problems. They are generally characterized by a combination of abnormal thoughts, emotions, behavior and relationships with others. Some examples: schizophrenia, depression, intellectual disabilities and disorders due to drug abuse (1). People with mental illness, like depression, schizophrenia and bipolar disorder, often have poor physical health and experience significant psychiatric, social and cognitive disability. Good mental health is fundamental to the well-being of individuals, families and communities (2). Poor mental health is identified as one of the biggest causes of disability, poor quality of life and reduced productivity. There is also a strong association between mental health conditions and people reporting multiple pain sites (2).

It has also been documented that phy-

sical activity can improve quality of life for people with serious mental illness. Improved physical health can alleviate psychiatric and social disability (3). A notable number of longitudinal and cross-sectional studies have proven the usefulness of physical activity as a preventative strategy and as adjunct treatment for mental illness. Several physiotherapy interventions are potentially effective in improving physical and mental health and health related quality of life. The most commonly used forms of exercise are aerobic- and strength exercises (4). Aerobic exercises, such as walking, jogging, cycling, swimming, have been proven to reduce anxiety and depression (5).

Health factors affected by exercise

Mood: Exercises improve mood by increasing blood circulation to the brain. It can also influence the hypothalamic pituitary adrenal axis, and thus influence the physiological reaction to stress. In addition to this, exercises can counteract negative mood by improving self-esteem and cognitive function (5).

Sleep pattern: Moderate exercise may present a non-pharmacological treatment alternative for sleep and metabolic disorders (6).

Cognitive function: One of the possible mechanisms by which physical activity improves cognition in older people at increased risk of dementia is an alteration in cerebral vascular functioning and brain perfusion (7). Cassilhas et al. observed that resistance training for elderly people resulted in improvement of cognitive function and mood. This was due to improved blood flow facilitating transportation of nutrients and oxygen to critical CNS structures related to learning, thus improving cognitive function (8).

Self esteem: Exercise alleviate symptoms such as low self esteem and social withdraw-

al (9). A 20 week exercise program was found to improve self-esteem at all levels of global esteem, physical self-worth and perception of physical condition (10). People engaged in physical exercise are likely to have fewer stress symptoms and more psychological wellbeing than those who do not (11).

Quality of life (QOL): Physical exercise performed by patients with schizophrenia: 10 weeks, 40 min per day, had a positive effect on the QOL of these patients (12).

Improved coping to stress: Coping refers to a behavioral or cognitive response or strategy to prevent or alleviate stress. Physical exercise contribute to effective coping by enhancing the improved problem focus derived from positive emotion (11).

Exercise improves cardio vascular fitness (3).

Exercise also reduce tiredness that can increase mental alertness (3).

Exercise improve endurance, energy and stamina (3).

Physical exercise and specific conditions

Effects of exercise in substance abuse disorders

Alcohol misuse results in psychological and cognitive changes with impaired brain function, leading to impairment of memory, judgment, abstract thinking, disturbances of balance and coordination. It also results in skeletal myopathy, reduced muscle strength, mass and function (13-15). Exercise help drug dependent patients to experience positive mood states without the use of drugs. This is due to an increase in the concentration of dopamine and dopamine receptor binding (16,17). Various forms of exercises also reduce the risk of relapse, as they alle-



Numerous physiotherapy interventions are potentially effective in improving physical and mental health and health related quality of life.



viate sleep disturbances and improve cognitive functioning (13,16).

Effect of exercise on anxiety, depression and mood disorders

Depression alone affects 400 million people globally (17). Segar ML et al (1998) observed that mild to moderate aerobic exercise might be of therapeutic value to breast cancer survivors, with depressive and anxiety symptoms (18). Bartholomew et al. (2005) observed that a single session of moderate intensity treadmill exercise was sufficient to improve the mood and well-being of patients with moderate depressive disorder. They also observed that regular exercise could protect against relapse to previous levels of depression (19). Exercise prescribed in cases of major depression includes aerobic training and strength training (3).

Post trauma stress disorder (PTSD) is an anxiety disorder characterized by intrusive

re-experiencing of trauma, hyper arousal, numbing and avoidance. Often individuals with PTSD have problems identifying and controlling their emotions, physical states or sensations, which can lead to difficulty in self-care and ability to care for others. The Basic Body Awareness Therapy approach to trauma treatment focus on accessing and accepting sensory and emotional awareness in the body, treatment of physical pain. This is an important foundation for self-awareness and self-regulation in the treatment of PTSD (20).

Guszkowska et al stated that changes in anxiety, mood and depression after exercise are due to endorphin and monoamine hypotheses. It also improves self-efficacy, distraction and cognitive dissonance (3).

Effect of exercise on mental health in gynaecological disorders

Menopause often result in hot flashes,

weight gain, fatigue, aches and pains, urinary tract infections, depressed mood and sleep disorders. Exercise has been shown to reduce anxiety, depression and negative mood. This effect is caused by an increased presence of hypothalamic and peripheral endorphin production, acting as hormone replacement therapy (9).

Polycystic Ovary syndrome (PCOS) has reproductive, psychological and cardio metabolic features. Obesity is also associated with PCOS. PCOS may lead to anxiety, depression, reduced quality of life, eating disorders, social withdrawal and sleep disorders. Reduction in depression and improvement in quality of life was observed by combining physical activity and dietary intervention in PCOS (21). Six months of brisk walking was found to reduce total plasma homocysteine concentration in overweight young women with PCOS. Homocysteine promotes atherosclerosis. Regular exercise improve en-

dothelial function by increasing production of nitric oxide and thus improve vascular shear stress (22).

Effect of exercises on mental health in neurological conditions

Alzheimer's disease is the most common cause of dementia. Physical therapy for Alzheimer's disease can provide interventions for secondary problems such as loss of strength, range of movement, ADLs, posture, balance and co-ordination (23). Exercises have proven to improve cognition, ADL and quality of life in patients with early onset of dementia (24).

Schizophrenia is one of the most debilitating psychiatric disorders (4). Schizophrenic people may have poorer quality of life than other people in the community. Acil A A et al. examined the effects of a 10 weeks physical exercise program on mental states and QOL of individuals with schizophrenia. They found that mild to moderate aerobic exercise is an effective program for decreasing psychiatric symptoms and for increasing QOL in patients with schizophrenia (12).

Parkinson's disease: Exercise might prevent the disease, as well as an adjunctive treatment. Exercise can also improve physical functioning, strength, balance, gait speed and health related quality of life in people with Parkinson's disease (3). Reuter et al. observed that 20-week of intensive sports activity resulted in improvement of mood, motor disability and subjective well-being in early to medium stage Parkinson's disease patients (25).

Physiotherapy intervention

Physical activity plays an important role in recovery of mental health. Physiotherapists are effective members of multidisciplinary teams of doctors, nurses, dietitians, therapists and social workers. Physiotherapy management can compliment medication and psychotherapy within the multidisciplinary team. The role and tasks of physiotherapists in these teams will vary, from management of pain, increasing joint mobility, relaxation exercises, improvement of strength, endurance and balance, gait training and to device exercise programs tailored to patient needs.

Interventions include:

Relaxation and deep breathing exercises (3).

Various stretching exercises, calisthenics,

walking, running, aerobic exercises and swimming can be performed either indoors or outdoors, for patients with substance abuse disorder (13), gynecological disorders and other conditions.

Range of motion, strength and endurance exercises.

Coordination exercises: Important for impaired level of coordination in substance abuse and for patients with Alzheimer's disease.

Postural management: Regular changes in body positions are essential for prevention of poor posture, muscle tightness, spasms and decreased joint movement (23).

Balance, equilibrium and gait training: balance and gait training is important in Alzheimer's- and Parkinson's disease. Transfers, reaching and grasping, posture balance and gait training are core areas of physiotherapy in Parkinson's disease.

Ergonomic advice: Includes adaptations at home and equipment to make patient independent (23).

Conclusion

The burden of depression, anxiety and other mental disorders call for concerted, intersectoral response. Not only to raise public awareness, but also to provide treatment and prevention strategies that can reduce this large and growing health problem, including the economic losses attributable to them (1). The correlations between poor mental health and an increased prevalence of musculoskeletal conditions, multiple areas of pain, chronic and preventable diseases, emphasizes the need for an effective and holistic multidisciplinary approach to the management of these conditions (2).

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