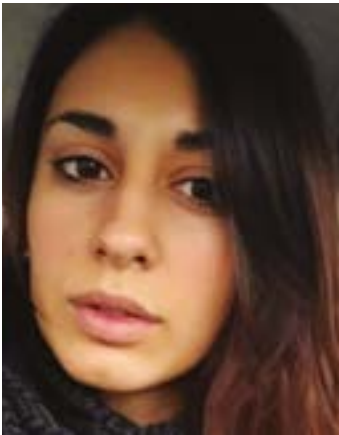




The role of structured exercise in psychiatric rehabilitation

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Sport based rehabilitation final goal is not just an agonistic performance or just social inclusion, but the promotion of structured physical activities that through sport techniques is addressed to fight main psychopathological symptoms in the frame of every individual rehabilitative program.

The evidence connecting physical activity with improving wellbeing and mental health is well recognized and published ¹. The Royal College of Psychiatrists recognise exercise prescription as a treatment modality for a wide range of mental health conditions ².

Several studies ³ indicate that sport may positively influence the prognosis of some mental disorders that represent the most frequent causes of mental disability – including major depression, schizophrenia and Alzheimer's disease ⁴.

Sedentary life-style determines an important change of biological factors that support the good balance between mental and body functions and mood. In our body there is a sophisticated system of molecules performing as extracellular messengers mostly belonging to the nervous, endocrine, immune and muscular systems. Skeletal muscle would also be a sort of endocrine organ that, through contraction, stimulates the release of extracellular messengers (BDNF, dopamine, irisin, thermogenin, cytokine) influencing metabolism and modifying their production in tissues and organs. These substances stimulate the development of new nerve cells and increase the number of synapses, enhancing memory, learning and cognitive abilities.

Sport has a bio-psycho-social perspective and an important impact throughout life. Physical activity promotes neuroendocrine changes with antidepressant and anti-stress effects, improving mood and reducing arousal excess, constantly stimulating the sympathetic and parasympathetic neuro-vegetative system ⁵. Physical exercise raises the levels of norepinephrine and dopamine and the release of endorphins.

Many studies suggest the strong correlation between mental disorders and metabolic syndrome, due to the sedentary lifestyle of people suffering from these problems, which is an important risk factor for the onset of cardiovascular diseases, diabetes and cancer. In this regard, a study published in *Neuropsychiatric Disease and Treatment* in 2014 highlighted the prevalence of metabolic syndrome in schizophrenic individuals compared to the general population, and some recent meta-analyses have estimated that this percentage is 32.5% ⁶.

International scientific literature and guidelines on the treatment for mental disorders suggest to integrate pharmacological treatments with psychological and psychosocial interventions aimed at the prevention of risk factors and the modification of lifestyles ⁷.

Just as there are risk factors for mental disorders and mental suffering there are also protective factors: among these factors physical activity and sport are very important.

Sport represents an opportunity to observe the close relationship linking the three dimensions that characterize the psychophysical health of the human being: mind, body and social life; on the other hand it represents a place of action and of the relationship opposed to the "non-places" of mental distress and isolation.

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From the mid-1990s to the present, numerous “practices” of sport-based rehabilitation have developed in many Italian Mental Health Departments. Rehabilitation activities are carried out by various community-based facilities, sometimes in collaboration with amateur sport companies or sport promotion bodies. The territorial distribution of these sport-based rehabilitation programs is not uniform, resulting in a so called “patchy leopard” situation.

Furthermore, it is clear that a fragmented and episodic sports treatment, as Liberman states⁸, available only at the time of the exacerbation of symptoms or relapse, is incompatible with rehabilitation and recovery: for this reason, exercise should be continuous and included in every rehabilitation program.

The project *SPHERE - Sport Healing Rehabilitation*, coordinated by the *European Culture and Sport Organization (ECOS)* and co-funded by the *European Commission under the Erasmus + Sport 2018 Programme*, fits into this context and aims to define and validate a scientific sports protocol – implemented by psychiatrists, academic researchers and sports professionals – which will allow to identify virtuous models of rehabilitation through sport for psychiatric patients with different diagnoses and needs in order to improve their psychophysical well-being. The direct beneficiaries are the psychiatric patients in care at the national mental health departments of the various partner countries. The indirect beneficiaries are all the relevant stakeholders interested in promoting physical activity in psychiatric rehabilitation programs (gyms, coaches, sports federations, clinics, decision makers etc.). The main project outputs will be:

- review and digital map of good practices at European level on the use of sport in psychiatric rehabilitation;
- guidelines for the training of coaches involved in the pilot actions of the project;
- review of all data collected and analysed during the pilot actions with related monitoring indicators;
- scientific sports protocol to identify the most appropriate physical activity for psychiatric patients with different clinical situations;
- project documentary.

The definition and validation of the protocol, and in general of all the activities that will be implemented, will be supervised by a scientific committee appointed within the project, chaired by the psychiatrist Dr. Santo Rullo, who will coordinate the work, and composed of Dr. Stefania Cerino, psychiatrist and professional sports instructor, of Prof. Diane Crone, professor of Exercise and Health at *Cardiff Metropolitan University (UK)*, and of Prof. Jürgen Beckmann, head of the Sports Psychology Department at the *Technical University of Munich (Germany)*.

After an initial phase of mapping, study and analysis of European “practices” related to sport and psychiatric rehabilitation, the pilot actions will be carried out in Italy, Finland, Croatia and the United Kingdom. ECOS will identify a series of sports programs for the patients of the Italian rehabilitation experiences; the same will be done by 3 other

European partners (*Everton in the Community* in the United Kingdom, the *Finnish Sport Federation Tampere Region* in Finland, and the *Rijeka Sports Association for Persons with Disabilities* in Croatia) to involve a total of about 50 psychiatric patients.

Patients will be followed by a team composed of health professionals and qualified coaches of different sports and will follow programs defined specifically with the help of psychiatrists, while the coaches followed a course of “basic psychiatric approach” that took place in Brussels in October 2019. The psychiatrist who is in charge of the patients, assisted by his/her work group, will monitor sports activities according to indicators approved and defined by the scientific committee.

All the data collected and analysed during the pilot actions will contribute to the definition of the final scientific sports protocol.

In conclusion, the main objective of the project is to promote sport and physical activity in psychiatric rehabilitation programs according to a well defined evidence based approach at national and European level, in order to improve the social and psychophysical well-being of people suffering from mental disorders, thus fighting the stigma still existing around mental illness while improving social cohesion.

To this end, it becomes desirable that mental health specialists, including sports psychologists and psychiatric rehabilitation technicians, also collaborate with sports professionals to create psychiatric rehabilitation programs focused on structured physical activity.

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