

CORRELATION BETWEEN SPORT AND DEPRESSION

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SUMMARY

Does sport really produce positive effects in mental illness? The author discusses this question, through a survey of the literature. There is evidence that exercise increases endorphine levels. In order to support the prevention and treatment of depression through sport, it seems particularly useful, to encourage the practice of moderate, diversified physical activity.

Key words: sport – depression - neuro-chemical stimulation

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Part of sports psychology discusses, for many years, the study of the relationship between sports and mental health, with a particular interest in the relationship between some clinical and psychological disorders of personality and sports exercise and psychomotor discipline (Antonelli 1963).

In this context research includes studies that focused on the analysis of the contributions that some sports practices can provide in the fight against some types of psychological distress, if properly organized and managed in relation to specific goals and in collaboration with professionals who protect mental health. One of the mental disorders in which the contributions of sport have been most studied is depression. Among the most popular research on combating depression through sport there are some studies which have studied the adoption of sports training programs designed to support the psychological care of this problem (Nekoofar 2003).

Depression, in fact, when it lasts for a long time, also involves changes in the neuro-endocrine secretion of hormones that regulate mood and daily activities which influence some common symptoms associated with depression, including fatigue, apathy and sleep disorders (Yapko 2002).

To cope with these physiological changes, often drugs are administered along with appropriate therapies and psychological support, in order to restore the original state of the brain chemistry.

Similarly chemicals produced by the natural stimulation of brain chemistry, as a result of some physical activities carried out in accordance to specific programs and integrated psychological treatment, appear to act to improve depression. Such results have been obtained both from studies at the University of Durham, and in those carried out at the University of Illinois and at the Department of Public Health of California-Berkeley School.

The first of the studies cited studied 156 depressed patients over fifty who had voluntarily joined a program of differentiated aid which provided a comparison between the three treatment groups.

The first group received only drug treatment.

The second group performed only an exercise program.

Finally, the third group received both the drug treatment and the exercise program.

The results at the end of the first four months of the study showed significant decrease or total disappearance of depressive symptoms in all three groups, a result which was followed by the suspension of all drug treatment.

But what is surprising are the results of the follow-up performed at ten months after discontinuation of the drugs. The group that performed only exercise programs, in fact, showed the lowest rate of relapse, a factor that seems to be explained thanks to the natural reactivation of brain chemistry, stimulated by physical activity rather than artificial substances that then, once suspended, can result in physiological and sometimes more serious consequences, because of the so-called "rebound effect" linked to the suspension of the drugs.

THE MECHANISMS OF ACTION OF SPORTS AGAINST DEPRESSION

Other scientific research reported by S. Cascua (2002) hashed greater light on the mechanisms through which the sport has a positive effect on recovery from depression.

Regular exercise in some sports counteracts the harmful physiological effects produced by the accumulated negative stress (distress) which, if protracted, can stimulate endogenous changes that support the development of neuro-chemical depression, linked to low levels of some neurotransmitters.

During the practice of moderate endurance sports, however, the brain undergoes a eustress, or positive stress (only during moderate practice!) thus it activates the production of a complex molecule that, subsequently, generates the production of two important types of neurotransmitters: acetylcholine and endorphins. These are the molecules that produce the sensations of analgesia and a sense of well-being, properties that have often led to them being defined "happiness hormones".

The increase of the aforementioned hormones, accompanied by a decrease in cortisol, the stress hormone, are two important biochemical effects thanks to which the practice of some sports is a natural technique for awakening the natural ability of our brain to secrete antidepressant substances and help control negative stress.

Studies (Nekoofar 2004) have focused on the action of some neurochemical antidepressants and sport have tended to favor endurance sports, which are capable of producing, thanks to a periodic and discrete effort, a change that is possible thanks to physical stimulation and activation, in virtue of the close bidirectional link between body and mind.

However, it should be noted that the exercise of sport helps to overcome depression by being able to properly take advantage of the many antidepressant potentials of sports, such as:

- the aforementioned ability to stimulate the production of endorphins and, in particular, serotonin, which regulates mood, activity and sleep;
- the possibility that sport has a role in BDNF in depression and Major Depressive Disorder (MDD), and the possibility that alteration in BDNF causes depression by altering memory (Zaman 2013);
- the possibility of lowering the blood levels of cortisol, a hormone that is present in the states of negative stress, whose presence stimulates excessive physical exhaustion and endogenous depression and which, through the practice of a sport remains moderate to low levels even when faced with new stressful events;
- the ability to stimulate the positive contact with nature and exposure to the benefits associated with such a relationship (open air, green, light, etc ...) (Amorosi 2006);
- the opportunity to shift the focus of attention of daily thoughts from negative thoughts to thoughts centered on movement patterns and moments of creativity and positivity that can thrill;
- the recovery of positive body sensations, a sense of physical well-being and aesthetic perception of a positive self-physic, directly affecting self-esteem, and the identity dimension which is highly related to self development and enables the overcoming of feelings of depression;
- offering new possibilities of relationship and group situations, which if properly managed, can become opportunities for social rehabilitation since the positive sporting groups can satisfy the need to belong. Such places of belonging can act as a substitute in cases where, for various reasons, the primary family group is absent or presents problems (Amorosi 2006).
- increasing opportunities for practice games and fun, which can generate pleasure and good humor.

SPORTS REHABILITATION PROJECTS AND SPORT AGAINST DEPRESSION

The review of the potential of sports practices in the fight against depressive disorders calls into play many sports, practiced in appropriate places, depending on specific programs, and under the supervision of specialized and professional sports figures, which can become real tools to help depression.

These include dance, especially practiced with freedom and creativity, recovering the playful spirit that often gets lost in the development and operation of a group or team sport like volleyball or basketball (Amorosi 2006).

Considerable progress has been made often also through the practice of martial arts like aikido, since in places where you practice (the dojo) the great mutual respect in contact with each other and the ritualization of this contact are more controlled by the master and by the coaches and in the absence of competition, which connotes the sport, it is also easier to pursue educational goals, often inherent in Eastern philosophies.

Together with Aikido, other sports practices of Japanese origin, such as Judo, can be a great help to find an exercise which is symbolic and cathartic of aggression, while depression is always directed toward the self, to the extreme of suicide (Cascua 2004).

In general, the possibility of developing the passion for a sport can bring the attention of the mind towards the search for new patterns of action and defense, can increase concentration on kata in the martial arts, and on choreography in dance, leaving little room and time to think of negative thoughts, which before were exclusive or dominant (Amorosi 2003).

In the exercise of "sport as an antidepressant" there is an emphasis on the importance of regularity and practice of activities that may produce a moderate, controlled and constant physical exertion; for this specific programs of jogging, jogging, cycling or stepping are generally proved to be very effective.

To cope with the initial difficulties, present in severe depression, to react and begin the exercise or sports and to share it with a group or practice in clichés, it is advised to begin a program of psychological rehabilitation in a gym equipped with steps or bicycles.

The latter solution can be a great help to start and then one can gradually move to the exercise of outdoor sports, which enhance the benefits of fitness activities through the contribution of the contact with nature and exposure to sunlight, which stimulates the activity of the pituitary and the consequent production of hormones that seem to often be deficient in depression.

The practice of an exercise chamber is not necessarily to be replaced, because if carried out regularly and according to a specific program of psychomotor rehabilitation, it may be associated with music therapy, with the choice of background tracks are adequate to stimulate brain activity linked to positive emotions (Yapko 2002).

Moreover, it seems very easy to run the prescription of exercises in areas that are often brighter than some gyms, in which the eyes may be indirectly exposed to sunlight that may, through the retina, compete in a natural way to stimulate glands in the brain which are able to produce hormones which improve mood (Amorosi 2003).

CONCLUSION

It seems particularly useful, in order to support the prevention and the fight against depression through sport, that the practice of moderate physical activity should be as diversified as possible. The ideal seems to be to exercise an endurance sport, alternating with a team sport or a martial sport.

What is emphasized is that, in the phase of neuro-psychological rehabilitation, it is appropriate to follow a stepwise program and always have a properly weighted effort, in order not to exceed the thresholds of positive stress caused by sport exercises which activate the secretion of hormones. An excess of effort can maintain or exacerbate hormonal imbalance that feeds the depression.

If the goal is the psychological rehabilitation, amateur courses may be created in gyms and sports groups in which operators could achieve, with knowledge and consciousness, psychological recovery with positive attitudes by encouraging athletes by stimulating group cohesion. In this regard, it seems inappropriate to attend gyms which demand a high degree of competitiveness or technical effort, which may be fine when stimulating agonists "not at risk of depression," but that may be counter to the self-esteem of a depressed person.

Therefore, in the design of a sports rehabilitation intervention, whether individual or group, the use of diagnostic psychological counseling and supervision should be considered an important element in the management of educational courses and in rehabilitation centers in gyms which promote health and wellness.

To achieve sports courses that can be a valuable aid to depression, it is best to plan activities designed to

achieve these targets and arrange that they are periodically supervised by mental health professionals, ensuring that they are carried out in a sporting environment favorable to support people with depression.

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