

The exercise as a social support to improve mental health: a brief narrative review

Abstract

The general objective of this study was to present the relationship between social support, provided by the practice of physical exercises, and aspects of mental health. To this end, a brief narrative review was carried out in databases (SciELO, Web of Science and PubMed) and in books on the subject. Among the main results, it is worth highlighting the fact that social support is one of the basic psychological needs for motivation and well-being. In addition, it is observed that the practice of physical exercises promotes better relationships with peers, culminating in reduced levels of mental disorders through this social support-mental health relationship. Therefore, we can observe that exercise, in addition to the physiological benefits for mental health, also seems to help in clinical conditions through improved socialization and sense of belonging on the part of practitioners. However, a larger body of empirical studies is needed to better understand the phenomenon.

Keywords: physical exercise, social support, mental health

Volume 8 Issue 6 - 2024

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Received: November 20, 2024 | **Published:** December 03, 2024

Introduction

Mental disorders are growing at alarming levels around the world, so much so that according to epidemiological studies, more than 10% of the population suffers from some mental disorder such as depression and anxiety, for example.^{1,2}

For some years now, the literature has been focusing on studying strategies to reduce these rates, especially through healthy lifestyle habits such as proper nutrition, restful sleep and physical exercise.³⁻⁵ Physical exercise, in particular, has been shown to be positively related to reducing the incidence of mental illnesses. The mechanisms of action of exercise on mental health are numerous, but we can highlight them in three main categories: neurobiological, psychophysiological and social.⁶⁻⁸

The socialization aspects of physical exercise in question have demonstrated a new perspective, expanding the simple notion of the physiological effects of practicing physical exercise (e. g., neurobiological aspects: in the release of substances such as brain-derived neurotrophic factor (BDNF) that aid in neuroplasticity; or even in psychophysiological aspects: in the regulation of the autonomic nervous system (ANS)).^{6,7} Physical exercise has great potential to expand and improve individuals' social relationships with their peers, thus increasing the sense of belonging.^{9,10}

Social support, in turn, by itself appears to be related to an improvement in the individual's general well-being, reducing the occurrence of mental disorders.^{11,12} This is reinforced when we consider that in a recent study, when people were asked what they do when they feel anxious or depressed, 78% of individuals reported that they try to talk to friends and family. Furthermore, the majority of people also reported that the perceived usefulness of methods to alleviate the symptoms of mental disorders was greater in relationships with friends and family (63%) than in the use of medication (53%).²

In view of this, a brief narrative review was carried out in the SciELO, Web of Science and PubMed databases, as well as in books on the subject, in an attempt to present the relationship between social support, provided by the practice of physical exercises, and aspects of mental health.

The physical exercise on mental health

Several studies have demonstrated a broad relationship between physical exercise and improvements in mental health symptoms.^{13,14} According to Ren and Xiao,¹⁵ physical exercise, especially that performed at high intensity, promotes the release of substances such as irisin and BDNF, which aid in neural reconstruction, which is impaired in situations of mental disorders.

Physical exercise then provides neuroplasticity, which is the neural restructuring of the brain (Zhang et al., 2020). Neural plasticity can be carried out both at the structural level and in terms of internal connections. In structural changes, structures can be remodeled, that is, by increasing certain regions of the brain or transferring a certain neural action from one area to another because an area is affected and needs an action to be reorganized in the brain, in this way another structure would take over the activity. Furthermore, neuroplasticity can occur at the level of connections, especially in synapses, strengthening certain connections or weakening others.¹⁶ It is precisely in this beneficial neural change provided by exercise and other stimuli of a healthy lifestyle that a reduction in mental disorders appears to occur (Philips, 2017).¹⁶⁻¹⁸

Furthermore, it is postulated that physical exercise followed by a psychotherapy session, especially cognitive-behavioral therapies, appears to increase the benefits of the psychotherapy session, since there is a large release of BDNF into the bloodstream, facilitating the neuroplasticity of the brain,¹⁹ essential in treatments for disorders such as post-traumatic stress disorder (PTSD), in which it is necessary to resignify the affective memory of one or more traumatic episodes.²⁰

Furthermore, exercise appears to be related to mental health through better regulation of the autonomic nervous system, especially in aspects of the "fight or flight" system (sympathetic nervous system), which is dysregulated in mental disorders such as major depressive disorder (MDD).^{21,22} More specifically, physical exercise appears to result in better homeostatic return (basal return), reducing the release of excessive cortisol, which is harmful, as well as restoring dominance of the parasympathetic nervous system.²²

The social support on mental health

Social relationships with peers, that is, living with people of the same age group and economic class, has proven to be a great asset for clinical issues related to mental disorders.¹²

Human beings are social beings, they developed in society for this reason, so they depend on social coexistence to survive, because, unlike in ancient times, most people, especially those who live in large urban centers, do not live on subsistence, that is, they do not plant or hunt everything they eat, so for the simple act of feeding themselves there is a dependence on commerce, for example, in which the country's current financial currency is exchanged for food and other utensils.²³⁻²⁷

Considering the bioecological model of human development proposed by Bronfenbrenner and Morris,²⁷ the individual's development is permeated by relationships with the different spheres and contexts of the society in which he or she lives.

According to this model, there are bidirectional relationship systems, that is, systems that interact with each other and with the individual, such as: individual, microsystem, mesosystem, exosystem, macrosystem and chronosystem. The individual system refers to biological and genetic issues of the developing individual, especially in relation to the environment. Characteristics intrinsic to the individual also involve nuances of personality.²⁷

Regarding the Microsystem, this is the system in which the individual is directly inserted, environments close to the individual, such as family relationships, school and work. The evolutionary construction of reality by the person can only be inferred through patterns of activity, roles and relationships.²⁷

Another social development system is the mesosystem, which is understood as a conglomerate of microsystems, that is, it comprises the relationships between two or more environments in which the individual acts, such as the interrelationship between, for example, family members and neighbors. This system is established when the individual actively participates in a new environment with members of other microsystems in which the person is already inserted.²⁷

The exosystem, in turn, is the interaction of one or more microsystems in which the individual is not involved, that is, environments in which the individual does not actively participate, but which exert influence on the person, for example, the network of friends of children or spouse.²⁷

In the macrosystem, this is what occurs in larger spheres of society, encompassing other systems and, therefore, influencing and being influenced by all previously presented systems. The macrosystem is related to the politics, laws and ideologies that establish the society in which the individual is inserted.²⁷

In addition, there is also the chronosystem, which is the time system, inevitable to all other systems. The chronosystem is divided into micro time (proximal episodes), meso time (periodicity of proximal episodes) and macro time (future expectations of events in society).²⁷

Along these lines, Navarro and Tudge²⁸ also warn of the existence of a neo- ecology, considering digital technology as a system in itself that directly influences other previously established systems, since, through a smartphone, for example, a person can communicate with people in one system, while being in person in another system.

Yuan et al.²⁹ also highlight that, due to this innate need for socialization, social support is a basic psychological need for the well-being of individuals. Therefore, meeting this need is essential for complete well-being, especially considering the notion of health proposed by the World Health Organization (WHO, 2020), which elucidates health as a complete state of physical, mental and social well-being.

Joint benefits of physical exercise and social support on mental health

As can be seen, physical exercise demonstrates improvements in mental health through physiological pathways by releasing substances that aid in neural remodulation through neuroplasticity and even optimizing the benefits of psychotherapeutic treatments based on these neurobiological and psychophysiological changes.

However, recently, through lifestyle medicine, the importance of healthy lifestyle habits such as stress management, adequate nutrition, substance use control, quality sleep, social support and physical exercise has been observed for better physical and mental health.^{3,30}

It is also observed that the practice of different healthy lifestyle habits seems to co-activate each other, that is, increasing the practice of an activity that is beneficial to health tends to motivate the adoption of one or more habits present in the so-called lifestyle medicine.^{31,32}

In this sense, current studies have shown that practicing physical exercises promotes improvements in other healthy lifestyle habits, such as social aspects.^{33,34} This joint improvement appears to be related to better mental health indices, considering the importance of social support for reducing symptoms such as depression and anxiety.^{35-37,12}

Thus, physical exercise, in addition to the aforementioned physiological benefits, would help improve mental health from a more psychosocial perspective, since social support has been shown to be one of the most relevant lifestyle domains for the treatment of patients with mental disorders.^{12,38} Thus, as physical exercise provides an increase in levels of social support through the notion of belonging to a group or class, the benefits of the practice may be even more effective for the auxiliary treatment of clinical conditions.

Therefore, it should also be noted that physical exercise has great potential to facilitate socialization, increasing interpersonal communication between practitioners, which provides a greater sense of belonging to a social group,^{39,40} helping with mental health issues, for example.⁴¹

Finally, it should also be noted that this improvement in social aspects may come from an improvement in behavioral issues, which seem to be internally linked to the practice of physical exercise, thus providing a higher rate of pro-social behaviors such as the reduction of impulsive and aggressive behaviors, promoting greater mental well-being through the hypothetical relationships exercise-social relationship-behavior and exercise- behavior-social relationship (Martinez & Martins, 2024).⁴²⁻⁴⁴

Conclusion

Given the above, it can be understood that the practice of physical exercises, in addition to being related to physiological benefits, which are historically well established in the literature, can also contribute to improving mental health through environmental means, especially socialization, since the practice of exercises with peers promotes this aspect, which appears to be directly related to the reduction of mental disorders.

Acknowledgments

None.

Conflicts of interest

The author declares no conflicts of interest in this paper.

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