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Exercise and Mental Health: A Vital Connection

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In recent years, the link between physical activity and mental health has gained significant attention in mainstream science, highlighting an area where Sport and Exercise Therapists can make a positive impact. While commonly associated with physical fitness, exercise also profoundly benefits mental health (1,2). Regular physical activity significantly reduces symptoms of depression, anxiety, and stress, while enhancing cognitive function and self-esteem. Even a single bout of exercise can reduce anxiety, and short-term engagement can buffer against stress-induced negative mood states (3).

Exercise improves mental health by altering neurotransmitters and neurotrophic factors, which may decrease allostatic load, and improve mood, emotional regulation, cognitive performance and stress resilience (4). Exercise may also promote brain health through gut bacterial metabolites. Exercise increases the production of Brain-Derived Neurotrophic Factor (BDNF), a protein required for the survival and proliferation of neurons in key brain areas associated with learning and memory (5). This biochemical cascade improves brain function and emotional well-being, whilst also creating a positive feedback loop that increases motivation for continuous physical activity, extending the mental health advantages. Chronic stress, if left untreated, can lead to mental health problems including anxiety and depression, and higher risk of early mortality (6). This modulation is aided by the release of endorphins, the body's natural pain and stress relievers that improve mood and reduce tension. Exercise promotes neuroplasticity, allowing the brain to forge new neural connections crucial for learning, memory, and recovery from mental health issues. The rise in BDNF not only fosters new neuron development and survival but also enhances synaptic

plasticity, reinforcing the mental health benefits of exercise (7). Exercise enhances cerebral blood flow, which increases the transport of oxygen and nutrients to the brain (8). This not only promotes overall brain health and function, but also improves cognitive performance and protects against cognitive decline with age. Thus, exercise emerges as an effective, natural method for maintaining mental health and cognitive function, providing robust protection against the negative consequences of chronic stress, thanks to its combined effects of improving cardiovascular health, increasing blood flow, and triggering neurochemical changes.

In this special edition, we highlight original musculoskeletal research into hamstring injury prevention (bjsports-2023-1-7323), hip and core exercise programmes (bjsports-2023-107926) and ACL injury patterns (bjsports-2023-107113) . We also showcase pivotal articles on the vital role of mental health in Sport and Exercise Therapy. Articles by Solis-Urra, Bracewell, Collins and their colleagues cover enhancing brain health through exercise (bjsports-2024-108158), mental health in injury rehabilitation (bjsports-2023-2024-108251), and neurodiversity in athletes (bjsports-2024-108068), respectively.

Sport and Exercise Therapists, like other allied health professionals, understand that mental and physical health are inextricably linked and essential for individual well-being. The Society of Sports Therapists (SST) promotes a holistic approach by advocating for comprehensive, person-centred assessments that consider both musculoskeletal health and biopsychosocial factors. Sports and Exercise Therapists are uniquely positioned to observe and assess the relationship between physical symptoms and mental health states. It is critical that their assessments extend beyond the physical to consider how a patient's emotional state and their specific social determinants of health may affect their physical health, or vice versa. For example, chronic pain can cause depression or anxiety, which can exacerbate physical symptoms (9). Personalisation of therapy is another important area where Sport and Exercise Therapists can have a significant impact. Historically, some practitioners relied on pre-determined rehabilitation plans and exercise programmes. However, these frequently fall short when it comes to meeting the complex needs of individual patients, particularly those related to their psychological health. Tailored interventions

that consider an individual's specific needs, preferences, and mental health challenges and which are co-created are significantly more effective. They not only facilitate the recovery process, but also improve patient compliance and satisfaction.

Sport and Exercise Therapists can provide significant psychosocial support. This aspect of therapy entails creating a culture of trust and understanding, allowing patients to discuss their health concerns without fear of judgement. As a result, the therapeutic relationship becomes an important part of the healing journey, with therapists acting as empathetic listeners and thereby enhancing the social support network (bjsports-2023-2024-108251). This supportive environment can significantly enhance the mental well-being of patients, which is inseparable to the physical treatment itself. The SST training and competencies facilitate an all-encompassing strategy, in which therapists skilfully include mental health concerns into their work. By doing this, they have a positive impact on society in addition to helping their patients achieve better results. By encouraging a more inclusive view of health and wellness, this strategy contributes to reducing the stigma associated with mental health.

In conclusion, the integration of mental health considerations into Sport and Exercise Therapy practices offers profound benefits not just for individual patients but also for the broader framework of health care. As therapists align more closely with holistic, personalised care models, they contribute to a healthier, more empathetic society where the connection between mind and body is fully acknowledged and addressed.

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