Non-contact boxing therapy and its benefits for the brain

Boxing is one of the oldest sports with stone carving on walls of tombs in Egypt and what is today known as Iraq indicated that almost over 5000 years ago people were boxing for sport. For a sport that has been around so long this begs the question of how boxing affects the human body. Boxing is considered to be a violent sport with brutal knockouts, and because of this many people choose to steer clear of such a sport in order to avoid harm. Boxing isn't everything you see on TV with two people trying to pound each other into oblivion.

There is much more that goes into the sport of boxing. Many people associate the violent sport with lots of injuries. Which mostly happens when full on sparring or actual boxing events. Aside from that there is a whole other world of boxing where now research has shown how boxing training can be used as an effective form of rehabilitation. Recently researchers have come out that shows how beneficial boxing therapy can be to improve neurological conditions such as parkinsins, dementia,multiple sclerosis, and much more. Boxing rehabilitation can be useful for people who experience ADHD or Autism spectrum disorder (ASD) or be used as therapy for any brain injuries being either trauma or stroke.

In 2006 there was a study at a non contact boxing gym that specializes in rehabilitation called Rock Steady Boxing. The goal of this organization is to use boxing as a form of rehabilitation specifically for Parkinson's disease, and so the study aimed to measure whether or not it is effective. There were six patients part of the study that underwent 24-36 sessions averaging about once a week for 90-minutes. They used measures such as the “Functional Reach Test, Berg Balance Scale, Activities-specific Balance Confidence Scale, Timed "Up & Go" Test, Six-Minute Walk Test”(Combs, 2006). They measured the participants before the

boxing sessions to get a baseline and then every 12 weeks after. The study concluded that participants showed short-term and long-term improvements in balance, gait, activities of daily living, and quality of life after attending the boxing training program. Most importantly to point out is that participants also took a survey called Parkinson's disease quality of life and were tested at the same frequency of the other measure and it was observed that five out of the six participants had higher self perceived quality of life every time they were tested.

Boxing therapy can help improve conditions like dementia in the same manner that it helps against Parkinson's disease. Studies have shown that in both of these conditions the brain begins to deteriorate causing the loss of functions in certain regions of the brain. This causes the destruction of dopamine producing cells. While on the other hand, boxing can help increase production and regulate dopamine levels, mitigating the effect of the degenerative disease through vigorous exercise. Also, boxing therapy improves motor skills and reaction time in the area of the brain known as the “motor cortex” which is one of the first places to be affected by Parkinson's. The reason why boxing is useful therapy for these conditions is because it increases blood flow throughout the body but specifically to the brain by intense exercise which causes a reduction in inflammation and improved cognitive function. Also improves motor functions and reaction time through punching at an increasing rate which can dramatically increase electrical activity in the motor cortex causing it to be less prone to degeneration(Ogino, 2021).

A couple more neurological conditions boxing therapy can improve is Attention-deficit/hyperactivity disorder(ADHD) and Autism Spectrum Disorder(ASD). Ways that it can combat both conditions is by increasing focus through the use of speed bags. This helps keep their focus on one thing for extended periods of time which then begins to translate to situations outside of training. There have been numerous news reports about how boxing

therapy has been incredibly beneficial to children you experience ASD. The way it's helped is by firstly instilling more confidence in the child, as well as rigorous training has been “associated with decreases in stereotypic (self-stimulatory) behaviors, hyperactivity, aggression, self-injury, and destructiveness”(Team, 2016). Also, people with ASD tend to have slower reaction times and less coordinated motor functions, and so boxing therapy is able to improve these areas by strengthening the neural network in these areas(Ogino, 2021).

Although only a few conditions were mentioned boxing has a wide use of therapeutic applications. Unfortunately not much is known about the full benefits of boxing therapy since it was a much overlooked rehabilitation option up until recently. More data is coming out every year about the neurological benefits, and the more data that comes out the better these benefits are understood.

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