Exercise as Daily Care

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 “The greatest wealth, is health, (Virgil).” It is well known that physical activity leads to improved physical health. Exercise has a positive correlation with health related quality of life. It builds muscle strength and endurance, expands flexibility, and increases overall fitness. It welcomes a healthy lifestyle and supplies one’s body with the things it needs to move forward and continue to grow stronger. There are many benefits to physical activity. It has proven to produce a decrease in inflammation within the body. This is thought to contribute to reducing risk factors leading to cognitive decline and neurodegeneration, which allow the brain to continue working as it should. It also has been noted to contribute to maintaining learning and memory (Cotman, 2007). An important benefit of exercise is that it combats obesity, which is currently a worldwide epidemic. It also can help prevent or provide service to individuals with hypertension or hypoglycemia. While benefitting physical issues, exercise also contributes to improving mental illness symptoms. Triggering the release of pleasure inducing chemicals in the brain, exercise can have a huge impact for people with mental illnesses, such as depression, PTSD, or schizophrenia. Another important benefit of exercise is its long standing positive effects on an individual. As age consumes an individual, they can maintain their mind with steady exercise. This paper will share some of the health benefits of physical activity, displaying the importance of incorporating it into one’s lifestyle.

 An expansive selection of studies have shown again and again that physical activity has a positive correlation with heath. There is a proven dose-response relationship between the two factors. Exercise is generally the deliberate and repetitive motions done to enhance the goal of physical fitness. Cardiorespiratory fitness is one form of this, improving the functioning of the heart, lungs, and vascular system. Along with improving these organ’s functioning, cardiorespiratory fitness is the most important type of exercise for combatting clustered cardio-metabolic risk. These cardio-metabolic risk factors encourage non-communicable diseases such as hypertension, obesity, hypoglycaemia, and similar diseases. The clustering of these risk factors to disease adds on to the risk factor for more serious issues to develop, such as cardiovascular disease or type two diabetes. Modernly, more than 25% of most populations experience this clustering of cardio-metabolic risks, (Knaeps, 2016).

 Non-commutable diseases are huge contributing factors to more serious conditions, including premature mortality. Hypertension, or abnormally high blood pressure, is one of the most common risk factors for developing cardiovascular disease (Johnson, 2017). This disease is the narrowing of the blood vessels which can lead to blockage. This blockage interrupts blood flow and results in a heart attack. Exercise provides considerable improvement for hypertension, and will decrease the likeliness that it will escalate to something more serious; it does so by making the heart stronger. A stronger heart becomes better at doing its job of pumping blood throughout the body, lowering and regulating blood pressure, (Brown, 2017). Obesity is another non-commutable disease that has grown to be an epidemic in recent years. The modern American diet of large portioned, high fat foods is resulting in an increasingly unhealthy, overweight population. America is, of course, not the only country experiencing it, but they tend to be overly accepting of the declining nutrition in dietary habits. There are many quick, easy food options for people all over the world. Unfortunately, these are often the least healthy and most consumed. Sticking to homemade food and being conscious of the macro and micro nutrients necessary for a healthy diet can go a long way in treating obesity. Exercise does produce more of an impact though, and should not be ignored by those experiencing obesity, (Samuel, 2015). Hypoglycemia is another non-commutable disease that can be helped with physical activity. This is when a person has unhealthily low blood sugar. If they do not maintain a stable level of glucose intake, then they will experience sickness. Eating after completing a workout can help maintain stable glucose levels. It is most beneficial to complete some form of light to modern physical activity thirty minutes following a meal. This is the most effective time in relation to stabilizing glucose levels and avoiding the occurrence of hypoglycemia (Chacko, 2017).

Maintaining a good weight and performing physical activity is proven to lower chronic disease risks, and even mortality. The amount of exercise needed to reap these benefits is not as much as one may think. The individuals who experience the greatest reduction in risks are those who are unfit or mostly unfit. That is, the less physical activity one is currently doing, the more they have to gain by doing it. Introducing a regular workout routine to these unfit individuals has the ability to decrease their risk for chronic disease and premature mortality by 41%. This may look intimidating, however, it is only recommended that individuals practice 150 minutes of moderate to vigorous physical activity per week. Doing so can decrease premature mortality by 20-30%. This exercise does not have to be a chore either, it can be done spontaneously within 10 minutes intervals. It can also be done all at once during an activity that the individual will actually enjoy, (McKinney, 2016). The great part about exercise is that there is something for everyone; there are many variations and styles that different people prefer. This can increase the likeliness that individuals will adhere to their goals or recommendations of working out.

Physical activity has been proven to improve corticospinal excitability. Low or moderate exercise does not seem to make a notable difference, however, vigorous exercise does. Aerobic exercises in particular can promote stimulation of the enhancement of response inhibition and processing speed, as well as previously stated cognitive functioning and memory, (Lulic, 2017). This means that when practising aerobics, people’s brain circuits regarding the latterly listed enhancements experience short-term plasticity; in other words, they are momentarily physically improving themselves, molding to adapt to the changes being experienced within the aerobics experience. The act of physical activity allows the person to create new molecular pathways, enhancing neurotransmitters and improving cognition, (Erickson, 2012). Physical activity literally allows for one’s brain to grow, become stronger, and gain more knowledge. While giving the person a nice, fit figure, it is also giving them a nice, fit brain.

While exercise may be an obvious benefit to physical health, it is also very important for mental health. Individuals living with mental health disorders are much more at risk for obesity. In fact, 60-70% of people with mental illnesses are overweight or obese, with 30-40% being obese. They are also more at risk for developing metabolic syndrome, cardiovascular disease, and type 2 diabetes, (Bredin, 2013). People with mental health illnesses have trouble doing normal daily duties. They have cognitive impairments, mostly related to learning and memory skills. Unfortunately many anti-depressants or anti-psychotics are associated with dramatic weight gain; this may make it harder for individuals who are prescribed them to stay on track with their diet and exercise due to lack of results, and even fluctuation in weight. This may be the most important time, however, in maintaining the healthy lifestyle because they can gain weight very easily and it becomes harder to lose. Unfortunately, people living with mental disorders are more not likely to participate in physical activity, (Bredin, 2013). Exercise has been proven as an excellent treatment for people with mental illnesses such as depression or schizophrenia. Aerobic and mixed aerobic are termed first line treatments for depression, being the most effective. Yoga, an alternative medicine, is considered second line (Remick, 2017). Aerobic exercise allows for a lower dose of anti-depressant medication. It also allows greater initial improvement as opposed to those who do not exercise, (Siqueira, 2016). It should be noted that sports type physical activity is especially associated to the improvement of mental illness symptoms, (Dimitriadis, 2017). This could be due to the sense of inclusion sports introduce, or the confidence associated with competition.

Yoga is an alternative form of medicine. It is a religious practise based from India, but also has shifted into a form of self-therapy. It is practised in many countries, aside from religious purposes, in order to promote physical and mental health. Yoga has been recorded as relieving feelings of self-reported stress. This stress is well documented as playing a role in depression; thus, it is assumed that yoga has the ability to relieve some symptoms of depression. It uses a variety of breathing techniques and body movements which flow with the body and put one’s body and mind in a complete state of relaxation, (Rao, 2013). Although the placebo role may come into effect with improvement due to yoga that is not to say that they should be dismissed. The placebo effect is the occurrence of changes due only to the thought process of believing the changes will occur. This hinders the medical rigor but any improvements should be taken at what they are worth, (Rao, 2013).

Exercise can be compared to smoking. While one may experience bad effects in the moment, such as coughing and a terrible taste, it might not be enough to convince the user to discontinue. For exercise, not doing any may have effects of soreness, lack of energy, or physical weakness but for many people that is not enough of a motivator to get up and get moving. Older individuals who exert vigorous physical activity throughout their life will experience less issues as they grow older. They will be less frail and more capable. While vigorous activity creates the largest impact, moderate physical activity is noteworthy as well. While to a lesser degree than vigorous, moderate exercise will help individuals age well and maintain their abilities. Mild exercise provides little difference to a person as they age, (Rogers, 2017).

Exercise has an extremely large impact on the health of every person. It affects both physical and mental health. Physical activity goes through in incline along with health status; the amount of physical activity one exerts directly corresponds to the level of health and wellness they experience. Maintaining a consistent exercise routine is also an efficient, and effective way to combat non communicable diseases, such as hypertension, obesity, and hypoglycaemia. Along with disease prevention, physical activity also protects against chronic illnesses. It pushes organs to improve and sustain themselves well and, as a result, saves the body from a constant pain. If avoiding chronic pain is not a good enough reason to get moving, exercise increased one’s life expectancy. Mortality is pushed back for those who maintain their health through physical activity. Along with all the obvious, and previously stated physical benefits, exercising improves the mental wellbeing of individuals. It contributes to mental wellness in the healthy, and shows significant improvements in individuals with mental illness. Exercise can improve symptoms for many different mental disorders such as depression, schizophrenia, and PTSD. Yoga, another specific form of physical activity, is another excellent treatment for mental wellness, involving the complete relaxation of individuals. The benefits of physical activity are continuing and last a lifetime.

**References**

Bredin, S. D., Warburton, D. R., & Lang, D. J. (2013). The Health Benefits and Challenges of Exercise Training in Persons Living with Schizophrenia: A Pilot Study. Brain Sciences (2076-3425), 3(2), 821-848. doi:10.3390/brainsci3020821

Brown, M. B., Neves, E., Long, G., Graber, J., Gladish, B., Wiseman, A., & ... Lahm, T. (2017). High-Intensity Interval Training, But Not Continuous Training, Reverses Right Ventricular Hypertrophy and Dysfunction in a Rat Model of Pulmonary Hypertension. *American Journal of Physiology: Regulatory, Integrative & Comparative Physiology*, 312(2), R197-R110. Doi:10.1152/ajpregu.00358.2016.

Cotman, C. W., Berchtold, N. C., & Christie, L. A. (2007). Exercise Builds Brain Health: Key Roles of Growth Factor Cascades and Inflammation. *Trends in Neurosciences*, *30*(9), 464-72.

Chacko, E. (2016). Exercising Tactically for Taming Postmeal Glucose Surges. Scientifica, 1-10. doi:10.1155/2016/4045717.

Dimitriadis, Z., Kapreli, E., Strimpakos, N., & Oldham, J. (2017). The Association Between the Physical Activity of Patients with Idiopathic Chronic Neck Pain and their Psychological State. Archives of Hellenic Medicine / Arheia Ellenikes Iatrikes, 34(1), 100-103.

Erickson, K. I., Miller, D. L., Weinstein, A. M., Akl, S. L., & Banducci, S. E. (2012). Physical Activity and Brain Plasticity in Late Adulthood: a Conceptual Review. Ageing Research, 3(1), 34-47. doi:10.4081/ar.2012.e6.

Johnson, H. M., Warner, R. C., Bartels, C. M., & LaMantia, J. N. (2017). "They're Younger... it's Harder." Primary Providers' Perspectives on Hypertension Management in Young Adults: A Multicenter Qualitative Study. BMC Research Notes, 101-9. doi:10.1186/s13104-016- 2332-8.

Knaeps, S., et al. (2016). Independent Associations between Sedentary Time, Moderate-to- Vigorous Physical Activity, Cardiorespiratory Fitness and Cardio-Metabolic Health: A Cross-Sectional Study. *Plos ONE,* 11(7), 1-13. Doi: 10.1371/journal/pone/0160166.

Lulic, T., El-Sayes, J., Fassett, H. J., & Nelson, A. J. (2017). Physical activity levels determine exercise-induced changes in brain excitability. Plos ONE, 12(3), 1-18. doi:10.1371/journal.pone.0173672

McKinney, J., et al. (2016). The Health Benefits of Physical Activity and Cardiorespiratory Fitness. *British Columbia Medical Journal*, 58(3), 131-7.

Rao, N. P., Varambally, S., & Gangadhar, B. N. (2013). Yoga school of thought and psychiatry: Therapeutic potential. Indian Journal Of Psychiatry, S145-S149. doi:10.4103/0019- 5545.105510.

Remick, R. A., Evans, A., & Bates, A. (2017). Exercise as medicine: An evidence-based treatment for depression. British Columbia Medical Journal, 59(2), 83-84.

Rogers, N. T., Marshall, A., Roberts, C. H., Demakakos, P., Steptoe, A., & Scholes, S. (2017). Physical Activity and Trajectories of Frailty Among Older Adults: Evidence from the English Longitudinal Study of Ageing. Plos ONE, 12(2), 1-12. doi:10.1371/journal.pone.0170878.

Samuel, A., Bazroy, J., Purty, A., Herald, K. K., Singh, Z., Sridhar, M., & Srikanth, I. (2015). Diet and exercise in obesity: A case report from India. International Journal Of Nutrition, Pharmacology, Neurological Diseases, 5(4), 166-171. doi:10.4103/2231-0738.167497.

Stanton, R., Franck, C., Reaburn, P., & Happell, B. (2015). A Pilot Study of the Views of General Practitioners Regarding Exercise for the Treatment of Depression. Perspectives In Psychiatric Care, 51(4), 253-259. doi:10.1111/ppc.12088.

Siqueira, C. C., Valiengo, L. L., Carvalho, A. F., Santos-Silva, P. R., Missio, G., de Sousa, R. T., & ... Machado-Vieira, R. (2016). Antidepressant Efficacy of Adjunctive Aerobic Activity and Associated Biomarkers in Major Depression: A 4-Week, Randomized, Single-Blind, Controlled Clinical Trial. Plos ONE, 11(5), 1-11. doi:10.1371/journal.pone.0154195