The Physical and Psychological Effects of Meditation

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Meditation has many physical and psychological effects on the human body. Meditation originated from ancient Eastern culture and has been practiced for centuries. Meditation back then was considered a religious practice; however, it is not necessary to be religious to meditate. Trials conducted and respected research show that meditation had moderate evidence on improving emotional symptoms such as anxiety, stress, depression, and physical symptoms such as pain (Goyal et al., 2014). Meditation was also found as an effective method of lowering hypertensive blood pressure (Hi Park & Sun Han et al., 2017). People with high blood pressure can benefit from meditation as it aids in bringing it down to a healthy level. Meditation is also proven to bring improvements on better sleep, heart function, and improved focus (Cleveland Clinic, 2024). The focus of this paper will be to explore the effects that meditation has on the human body both physically and psychologically.

Meditation is an exercise which can be performed in numerous ways. The exercise is composed of an individual who focuses and expatiates on a certain material (West, 1979). That material could be a certain sound, concept, or experience (West, 1979). Originally, meditation was practiced to connect to a higher deity. Though, that has changed, allowing non-religious people to practice meditation too. Many meditation beginners use apps to help guide the journey. The most generic form of meditation is focusing on a sound or mantra. Focusing one's attention on the mantra helps exclude outside thoughts and emotions, allowing one to focus better. According to Vedic Science, meditation is when one's mind goes beyond the inner changing consciousness, which in turn, provides inner peace and calmness (Sharma, 2015).

Through the process of meditation, one can achieve the liberation of pain. This pain can be both physical and psychological (Sharma, 2015). Zen meditation, a meditation technique rooted from Buddhist psychology, is associated with low sensitivity with the sensory dimensions of pain (Grant et al., 2010). In a study conducted to test how pain is affected by meditation, a group of meditators and a control group were utilized. Using the correct temperature to inflict pain, the results showed that the meditators had a lower pain sensitivity than the controls (Grant et al., 2010). The lower pain sensitivity was associated with having a thicker cortex. The cortex, or gray matter, is the brain's outer layer of nerve cells. The cortex is responsible for sensory impulses, directing motor activity, and the controlling of the higher intellectual functions (Akre, 2024). The thicker cortex in meditators was predicted because of the high number of years and hours of practice, which resulted in more gray matter. Having a thicker cortex suggests that lower pain sensitivity is present in the human body (Grant et al., 2010). Which in turn, means meditating helps to have a higher pain threshold which is useful in life.

As previously mentioned, the effect of meditation can reduce pain physically. However, meditation is not only exclusive to the physical state of the body. Meditation can help reduce mental pain as well (Sharma, 2015). Mental pain can range from anxiety, depression, grief, stress, and more. As people of all ages and backgrounds can suffer from psychological pain, the effects of meditation can ease those feelings. Mindfulness meditation has been confirmed to benefit psychological pain (Myers & DeWall, 2020). Mindfulness meditation is where one attends the inner state of the body. It involves sitting down and mentally scanning the body from head to toe, focusing on each breath. A study conducted resulted in lower levels of anxiety and depression in individuals who received mindfulness meditation than those who did not (Myers & DeWall, 2020). Also, many up-to-date studies and reviews report a moderate effect of different meditation techniques on reducing emotional symptoms such as stress (Goyal et al., 2014).

Stress can cause high blood pressure, a common condition affecting millions worldwide, which can also be associated with being improved by the act of meditation. This condition is when the force of one's blood against the walls of the arteries is too high (NIH, 2024). In a study conducted, subjects who practiced meditation over the age of sixty years old showed decreased hypertension. (Hi Park & Sun Han et al., 2017). Meditation proved to be a safe alternative in the reduction of high blood pressure to pharmacotherapy. Although medicine is provided to patients suffering with hypertension, many choose not to take the medicine due to lack of access, the cost, or views and beliefs. Transcendental meditation can be a healthy and effective alternative to those (Schneider et al., 2022). Transcendental meditation is a non-religious practice of meditation which generally uses a mantra or sound to calm the brain, and free from outside thoughts and desires.

Cardiovascular disease is another case where although treatments and interventions are relevant, many people are unable to utilize those due to costs and expenses. Meditation betides to be helpful in having a positive effect on cardiovascular risk (Levine et al., 2017). Practicing meditation can help ease the need for satisfaction from harmful substances, such as tobacco, cigarettes, and vapes. All these harmful substances harm the heart, increasing the risk of heart disease. Meditation is proven to help reduce the need for these substances, which in turn can help one have a healthier heart and body (Levine et al., 2017).

People suffering from inability to sleep or insomnia can also be aided with meditation. Meditation has proven to be effective in helping regulate more sleep cycles, which in terms of, means a better quality of sleep (Nagendra et al., 2012). Senior practitioners of meditation were bestowed with an enhanced SWS state and REM sleep. SWS and REM are both stages of sleep. SWS is known as the state of deep sleep. REM sleep is the stage of sleep where most dreams occur. The brain is known to be active during this sleep stage (Cleveland Clinic, 2023). Aging is known to reduce the quality of sleep and duration. Meditation appeared to preserve the SWS which predicted that older meditators could retain the sleep cycle of younger controls (Nagendra et al., 2012). In simple terms, meditation can help older subjects retain deep sleep and help produce a deeper sleep with longer duration.

Insomnia is also related to being a common symptom of menopause. Menopause is a natural stage in female life, where the female stops getting periods and can no longer get pregnant. This stage can occur between the ages of forty-five to fifty-five. Many females experience other painful symptoms too such as night sweats, fevers, cramps, and even mental struggles, such as depression and anxiety (WHO, 2024). The study conducted between forty-seven women showed the effects of meditation on the menopause symptoms (Portella et al., 2021). In relation to the insomnia symptom, which many women experience, the study demonstrated that meditation was relevant in decreasing climatic symptoms. The group of women who practiced Raja Yoga meditation and sleep hygiene had better results with improving insomnia compared to the group of women who only practiced sleep hygiene (Portella et al., 2021). Raja Yoga meditation is a form of meditation that can be done anywhere without rituals or mantras. Raja Yoga meditation is proven to help with anxiety, stress, self-healing properties, positive attitude, and self-worth (Kiran et al., 2017), (Brahma Kumairs, 2024).

Meditation's benefit psychologically includes having better focus and attention. Meditators have more accurate visual attention (Lippelt et al., 2024). Visual attention is being able to focus on relevant information and filter out distractions. Having good visual attention can help day-to-day tasks and aid in education. A type of meditation called loving-kindness meditation is aimed to spread positive emotions to people around and to oneself (Lippelt et al., 2024). The

practitioners focus on developing love and compassion for one's own body and spread that love and compassion to others. Practicing this meditation avails negative emotions and feelings which are replaced by positive feelings and emotions. Managing conflict is a skill that can be gained from the practice of meditation (Lippelt et al., 2024). Meditation can help redirect conflicting thoughts and help one remain peaceful and focused. Emotional interference was greatly reduced in patients who practiced meditation than those patients who did not (Lippelt et al., 2024).

Along with meditation improving focus, it can also improve memory. Working memory capacity, or WMC, is the number of items held by the memory (Vellage et al., 2019). In a study conducted, adolescents were assigned to practice mindfulness meditation. The study tested whether mindfulness meditation helped improve the working memory capacity of the adolescents (Quach et al., 2015). The study results showed and revealed that the adolescents who practiced mindfulness meditation showed improvements in the working memory capacity (Quach et al., 2015).

Meditation, without any doubt, has many proven physical and psychological benefits. The physical effects of meditation extend thoroughly from reducing the risk of heart disease to helping ease physical pain (Levine et al., 2017), (Grant et al., 2010). The psychological effects from meditation have a wide range from helping mental pain, like depression and anxiety, to improving focus and memorization (Lippelt et al., 2024), (Quach et al., 2015). Suggestions for future research are to explore more physical effects of meditation and the level of pain that meditation can help ease. By researching the effects of meditation, society can discover possible cures and remedies to mental health issues, improve overall health, and have an inexpensive alternative to healthcare and medicine in some cases. Ultimately, research on meditation will help contribute to the greater well-being and health of our society due to the numerous physical and psychological benefits it provides.

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