

YOGA



LONGEVITY:

Creating Habits for
Healthy Ageing

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LONGEVITY: Creating Habits for Healthy Ageing

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ABSTRACT

A routine based on healthy habits can be transformative. Healthy habits are understood as anything that impacts an individual's life and health positively and holistically, contributing to the maintenance of strength, disease prevention, and physical and mental well-being. The balance of all this contributes to longevity, and today, we know it is possible to plan for quality aging. Habit changes include healthy eating and reconnection with the body, which contribute to the maintenance of neural plasticity. Acceptance of the inherent changes in old age is crucial to reap the benefits of these combined practices. However, the negative stereotype of elderly people hinders the acceptance of aging, ignoring the brain's ability to learn and form new connections. Today, there is a greater movement toward behavioral training and intensive activities to maintain brain function. The practice of activities that move the body, especially Yoga, demonstrates neuroplastic and neuroprotective benefits, reducing symptoms of mental disorders and chronic diseases. Kaiut Yoga is a Yoga teaching methodology that stands out for its adaptability to individual needs and promotion of body and mind health. Studies indicate that Yoga contributes to suspending cognitive decline, improving brain plasticity, and positively influencing sleep. Additionally, it provides lasting improvements in the quality of life of practitioners, as well as contributes to the reduction of anxiety and stress, improving balance and responsiveness, which are crucial factors for those who want to achieve a long life with autonomy.

Keywords: *Longevity, Neural Plasticity, Yoga*

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INTRODUCTION

Aging is the topic of significant discussion—it has ceased to be a taboo and is gradually gaining more space in active healthcare environments. It is well known that the population of elderly people has been growing worldwide. It is estimated that by the year 2030, 1 in 6 people will be over 60 years old, reaching 1.4 billion elderly people worldwide. If we think about those people over 80, by the year 2050, it is estimated that they could reach 426 million people (WHO, 2022). But what has contributed to this longevity?

A long life can be achieved through actions related to changes in habits, healthy eating, and movement practices. And of course, one cannot forget the genetic factors and the numerous advances in current medicine that also contribute positively to this journey. In order to achieve the benefits of these combined actions, it is essential that the individual develops emotional balance and begins to accept the drastic changes that old age brings. As age advances, it is natural that there are cognitive, physical, psychological, biological, and social changes. Society, as a whole, must also be aware of and prepare for the necessary adaptations and care for this population with more elderly people (Menzes et al., 2018).

The stereotype of the elderly person lacking beauty, cheerfulness, and capacities, makes it difficult to accept old age. What is less considered is that despite the decline in neural connections inherent to age, older people are also capable of learning and making new connections, such as those responsible for the development of psychomotor functions. This ability is better known as neural plasticity, that is, an adaptation of neurons to new stimuli. This implies neuronal communication and repair in the nervous system as long as there are stimuli for learning and evolution. Such stimuli can occur naturally in everyday life, but the absence of stimulus and the lack of use of existing connections causes those connections to be broken within the brain. Thus, we can understand the importance of behavioral training in maintaining neural plasticity. The suggestion for the elderly population is to engage in activities with an intense rhythm of motor, sensory, and cognitive abilities that contribute to neuromodulation and learning (Ferreira et al., 2019).

Inflammatory processes arising from chronic metabolic diseases, especially hypertension and insulin resistance, have a direct impact on neurocognitive functions due to inflammation of the central nervous system and may contribute to cognitive decline. Recent research also indicates that alterations in the circadian rhythm, understood as our biological clock in a 24-hour cycle, result in an endogenous oscillation and substantially impact health and

are associated with cardiovascular diseases, type 2 diabetes, obesity, and sleep and mood disorders (Rodrigues & Kaiut, 2023).

Much is said about the positive impact of physical activity and the improvement of chronic health conditions, as in addition to inducing the growth of synapses, physical activity contributes to the production of proteins with neuroplastic and neuroprotective functions. In addition, physical exercise modulates neurotransmitters in the central nervous system associated with sedation inhibition (GABA), alertness (norepinephrine), reward system (dopamine), and mood (serotonin). In other words, physical activity reduces the incidence and contributes to the improvement of symptoms caused by mental disorders, such as anxiety, depression, and stress. These effects on the body can be comparable to the use of medications for the same conditions, depending on the intensity of the disorder presented, and the practice of motor activity can be considered a complementary intervention to medication (Vorkapic-Ferreira et al., 2017).

Human aging is a variable and progressive process, but above all, it is a natural process. There is a reduction in bodily functions, which, when not well understood, also can lead to psychological changes. The accentuation of physical inactivity accompanied by symptoms of anxiety and depression contributes to the loss of independence and musculoskeletal frailty of the individual. However, this relationship can be minimized by engaging in physical activities of some degree of intensity, which generates benefits when it comes to the aging process. When we become aware of the benefits, we are automatically faced with the search for integrative activities that help in these aspects and generate sustainable results. It is no coincidence that activities that promote balance between body and mind are commonly looked to, such as the practice of Yoga (Bueno et al., 2019).

Yoga originated thousands of years ago, and it continues to evolve. As a central focus, the practice incorporates physical postures (asanas), breath control (pranayama), relaxation, and meditation, resulting in perfect harmony between body and mind (Balasubramaniam et al., 2013). The teachings of Yoga are based on the concept that diseases are not only due to physical conditions but are also the result of the accumulation of emotional demands and the hyperstimulation that modern life provides (Shiju et al., 2019). Studies conducted with Yoga practitioners report improvements in endocrine functions, the nervous system, physical health, metabolism, weight loss, the circulatory system, social behavior, inflammation, and physiological and cognitive status, in addition to improved mental and emotional well-being (Shiju et al., 2019). Additionally, there are studies that report the influence of Yoga on the regulation of circadian rhythm, mainly due to relaxation and

breathing techniques. Participants in a study that evaluated the effect of Yoga on the sleep of elderly people reported that insomnia significantly improved with increased sleep time and quality, resulting in a general sense of well-being (Rodrigues & Kaiut, 2023).

The benefits reported by Yoga practitioners converge with the aspirations for a long life. Like any dynamic practice, Yoga, throughout its existence, has undergone several changes in styles, approaches, and levels of difficulty, but these changes do not always meet the individualities of the practitioners (Balasubramaniam et al., 2013). Techniques that include pranayama are associated with activation of the parasympathetic nervous system, for example, which increases body perception and has a strong relationship with the basal ganglia, controlling the effect of learning and reward and consequently the creation of and maintenance of habits, especially those associated with routine (Brunner; Abramovitch; Etherton, 2017; Rivest-Gadbois; Boudrias, 2019).

Created by a Brazilian naturopath and chiropractor, Francisco Kaiut, the Kaiut Yoga Method stands out for being a teaching methodology that aims to meet the needs and limitations of the body, as well as the modular progression of the individual. This methodology has specific therapeutic sequences that seek to unblock the joints of the body instead of focusing on the muscles, providing greater mobility. The methodology also uses elements such as asana, pranayama, meditation, and relaxation, aiming to direct Yoga to the needs of the practitioner, with concerns about particular aspects of their health. By exploiting the secondary benefits associated with the practice, the Kaiut method is also known as NeuroYoga, as it integrates a multidisciplinary anamnesis to meet the health demands of practitioners in order to monitor the results, their evolutions and with attention to the eventual need for specialized follow-up (Rodrigues & Kaiut, 2023).

Some scientific studies show that even with the late start of physical activities, the practice of Yoga can still slow the natural cognitive decline that occurs with advancing age. However, the relationship is still unclear and there is a research gap in the area. But what is already known is that there is less brain atrophy in physically active individuals (Ferreira et al., 2019). The aforementioned brain plasticity is proven to improve with Yoga. Practitioners benefit from decreased joint and cognitive stiffness as they expand neural connections with the areas worked, leading to greater adaptability to the difficulties presented. This causes an increase in brain activity in specific regions since the practice combines the understanding of the functioning of the brain and the nervous system and improves mental health as a whole, whether in the scope of cognition and/or the response to stress, as is the focus of Kaiut (Kaiut & Rodrigues, 2023). It is interesting to note that the associations of the effect

of Yoga on the brain can be empirically observed through, for example, neuroimaging, electroencephalograms, and sensorimotor rhythm (Rivest-Gadbois & Boudrias, 2019).

We should not consider Yoga only as a movement activity but rather as a reorganization of the mind and body. Kaiut, according to its creator, is a dynamic method that aims to create a continuous and progressive learning movement. Unlike other types of Yoga that are based on the repetition of poses, Kaiut classes are verbal and student-oriented. Various sensory stimuli are offered, which further enriches the experience since the bodily tools are not limited to the muscles. It is a rescue of the biological functions that were paused. Since this method focuses on individuality, the practices are unpredictable, as they are presented according to the students present, requiring dexterity and skill from the teachers to make it accessible to everyone present. Another characteristic of the method is it helps students focus on the present moment, create body awareness, and increase self-knowledge.

The therapeutic practice of Yoga contributes to the improvement of balance, strength, and flexibility, improving the quality of life as a whole, including emotional life, and reducing anxiety, stress, and depression. Such characteristics are particularly beneficial for older people and individuals who have suffered and are recovering from a stroke, for example. However, elderly people and stroke patients need personalization of activities that respect their individual physical capacities. For this, the yoga instructor must be able to adapt the postures and exercises, bringing safety to the practitioner, such as providing support for him to maintain balance. This is what makes the Kaiut method inclusive, as it pays attention to each individual's situation (Kaiut & Rodrigues, 2023).

A study conducted over only eight weeks, accounting for about 120 hours of Yoga, encompassed about 40 participants over 45 years of age, all with risk factors for cardiovascular disease and with no previous experience with the practice of Yoga. The group studied reported significant improvements in their physical abilities, in addition to being more aware of their posture on a day-to-day basis and feeling eager for a healthier and more relaxed life. Many reported that the practice during this period contributed to weight and anxiety reduction, increased ability to feel pleasure when performing activities, and improvements in sleep and food choices (Alexander et al., 2013). Such research shows that despite the short period, the benefits are real.

Yoga students who have been practicing for more than two years and are over the age of 60 have also been evaluated concerning the benefits they experienced. According to the Pittsburgh Index for sleep quality and Leiden-Padua for quality-of-life scores, continuous

practice significantly improved the items evaluated, especially when compared to a similar age group but who do not practice Yoga. In addition, there is evidence that the benefits acquired are long-lasting, even after five years of active practice (Bankar et al., 2013).

Longevity can be considered a positive factor for the population; however, it brings with it more specific health concerns, not to mention the susceptibility to falls, which can cause fractures, functional dependence, or even death. Hair loss is very common during aging and has causes associated with factors intrinsic to aging, diseases, effects of medications, and physical challenges in the environment in which you live or frequent. When an elderly person falls due to instability, they start to feel insecure and usually reduce their daily activities for fear of a new episode of fall. It is not uncommon for elderly people to be immobile after falls and to have a high level of functional deficits (Celich et al., 2010; Ribeiro et al., 2008). The stability of the body depends on the adequate reception of sensory, visual, vestibular, and cognitive information by the central nervous system and musculoskeletal muscles (Guimarães et al., 2004; Ribeiro et al., 2008). However, the risk of falling can be minimized with physical exercises and Yoga.

Elderly people who practice some movement activity, even if light, have only a 5% probability of falling; this is compared to those who do not practice, who have an 80% probability of falling; this is a high risk. Despite the clear relationship of the benefits of staying active, there are still many sedentary people (Guimarães et al., 2004). The number of studies that show the effectiveness of Yoga in reducing the risk of falls in older people is still limited but encouraging (Madhivanan et al., 2021; Van Puymbroeck et al., 2017). In the past, the practice of exercises for the elderly was limited to aerobic exercises due to their known beneficial effects on the cardiovascular system and on the psychological field. Currently, the importance of motor activities involving strength and flexibility to maintain functional capacity and autonomy is better understood (Mesquita & Magalhães, 2005).

During the COVID-19 pandemic, there was a slight increase in the practice of physical activities for various reasons in the elderly population. The fact that Yoga addresses the relationship between mind and body was a prominent factor in the search. Although the practice of Yoga does not present characteristics of functional activity, the control of breathing, posture, and focus on strength and fluidity generates gains similar to other practices that focus on muscle strength, especially of the lower limbs. It is important to note that the perceived benefits are not limited only to the practice of the activity but also to the functional capacity in daily life, contributing to aging with autonomy and independence in a safe and healthy way (Silva et al., 2022).

The search for longevity does not necessarily imply living longer but rather living with quality, diversity, and positive stimuli. Brain learning and habit building can be directed towards a healthier lifestyle that prevents premature aging, but doing so requires an investment of time and commitment. It is essential to keep the mind conscious to observe the positive changes resulting from our habits. Yoga aims to contribute to this perception, which favors lasting changes in perfect harmony between mind and body.

CONCLUSION

Aging with quality can be challenging. What makes a difference is the ability to maintain body functionality, muscle strength, cognitive ability, and the eagerness to seize life's opportunities. Maintaining health is a value that should be incorporated more frequently into people's lives. By favoring self-care, the practice of Yoga can be considered as a complete solution for those who seek to be active and enjoy improved quality of life. Such improvements are sustainable in order to contribute to healthy aging and with fewer limitations imposed by health problems and advancing age. Among the various approaches to Yoga, the Kaiut Yoga method stands out for its inclusiveness and adaptability of its exercises. It can be started regardless of the age or physical conditions of the student, who will be able to enjoy improvements in physical, motor and emotional well-being in a short period of practice. It is never too late for those who seek to start healthy practices and turn them into a habit to achieve a long and quality life.

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