

Yoga In Holistic Rehabilitation of the Ageing, Carer and Cared.

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ABSTRACT

Ageing and co-morbidities go hand-in-hand with a greater need for rehabilitation and care. There is dementia, a neuro-disorder, that is further posing new challenges with high, global incidence. India's greying population already facing social and economic burden is rising that necessitates a dire need to offer facilities of rehabilitation and skilled care for them as well. With lack of access to affordable facilities of healthcare, it is imperative to provide methods of intervention in neurorehabilitation that are non-pharmaceutical and, yet integrative to mainline treatment, holistic, economical, non-invasive and low-risk. Yoga is popularly considered universally as a lifestyle discipline and practiced all over the world with knowledge and training of breath control, meditation and gentle form of postures in flowing sequences as an approach to maintain good health and treatment for various physical and mental disorders. Yoga has advantages that are valid as a tool of prevention and rehabilitation and can be trained and exercised individually or in groups for both old and young. Yoga as therapy is being deployed more so with satisfying results not only on the aged, persons with dementia and other neuro-disorders, but also families and caregivers as their burden of caregiving is tough and need therapy for managing their mental, psychological and social health. Medical Yoga, Yoga that is applied as holistic integrative and adjunct therapy with mainline medical treatment, is yielding encouraging, improved, positive and qualitative impact on rehabilitation, Quality of Life (QoL) and wellbeing.

KEYWORDS- *Yoga, Integrative Therapy, Neuro-rehabilitation, Mental health, Alzheimer's and related dementia;*

INTRODUCTION

According to the preamble of the World Health Organisation (WHO) "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (1), determinants of which are a person's individual characteristics and behaviors, biological, socio-economic, and environmental factors (2). Proven to be conducive to have positive psychosocial and behavioral effects besides being beneficial for physical and mental health and recognizing its universal appeal, the United Nations proclaimed June 21st as the International Day of Yoga by resolution 69/131 on

used as an appropriate, holistic tool applied successfully for rehabilitation. It is movement-based, performed with focused poses and with various breathing techniques that help in physical, mental, spiritual, and social wellbeing.

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Ageing, an arc in the circle of life, is accompanied by psychosocial and emotional pressures, lack of confidence, loneliness, inability to perform activities of daily life (ADLs) independently, being socially ostracized or neglected and guilt of being a burden to their income-bringing home breadwinners. It also brings other co-morbidities including dementia, most common being Alzheimer's disease, a neuro-disorder that ravages the brain in which persons with dementia experience a loss of memory, intellect, social skills, can become agitated and prone to mood swings and anxiety. It is not surprising that troughs and challenges faced by the aged, people living with neuro-disorders, their families and caregivers are almost in sync with each other calling for a need of rehabilitation.

It is misconstrued that dementia is only old age-related as there is growing incidence of Young Onset Dementia (YOD). However, those diagnosed with any dementia have more accentuated challenges in daily life than those just aged. They experience a common variety of symptoms viz., memory loss, mood-swings, steep behavioral changes, difficulty in performing ADLs, loss of focus, being disoriented, difficulty in understanding, language, speech and expression, and physically, lack of balance and trouble with movement. People living with dementia are unable to think, decide for themselves, reason or even express their challenges as they once could do naturally before their diagnosis. Additionally, due to high social stigma, their confidence is shaken up as their immediate family does not encourage them to participate in family celebrations or social interactions. Therefore, holistic rehabilitation is necessary to improve not only their functional ability but also their sociopsychological health for which Yoga can be used as a great effective rehab tool depending on the stage of dementia they are at and their ability to follow and execute instructions given by the Yoga therapist.

Caregiving is an art that is further developed on basic, innate values of compassion, patience, and empathy. With the fast pace of life and dearth of time, it is often challenging to contain oneself to be, in a way, equipoised. There are two type of caregivers who face common challenges viz. primary caregivers, normally who are family members, viz., ageing spouse, son or daughter, relative or friend close to the family and, formal caregivers who are hired or

professionally trained. In the first, there is role reversal with the former breadwinner of the family being presently cared for. The care done gratis with sensitive, silent obligation becomes frustrating as hard work is taken for granted and often belittled or reprimanded if things go slightly amiss. These silent 'martyrs' often blame themselves and emotionally suffer at the cost of their own health or future. The second, are the hired caregivers who need the job to support their family, whose commitment considered thankless with employers feeling they need not be appreciated as they are being paid and, sadly, often abused in different ways. Challenges faced by caregivers looking after those living with dementia are uniquely different and, many-a-times, very frustrating. Each day in their life is a bag full of surprises, not necessarily pleasant with their day starting with expectations and ending with experiences. Necessary qualities that a caregiver requires are patience, compassion, empathy, presence of mind, ability to do sound decision-making or problem-solving skills to adapt to changing situations with out-of-the-box solutions and, most importantly, interpersonal communication skills to relate with the cared for.

Rehabilitation is a key strategy for achieving Sustainable Development Goals 3 - "Ensure healthy lives and promote well-being for all at all ages". According to WHO, an important part of universal health coverage, rehabilitation is defined as "a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment" (4). It involves in assisting persons to be as independent as possible or addressing their challenges including ADLs due to their increasing age, health disorders or to make them to return to best level of function prior to their surgery, disease, injury, or illness. This is normally person-centered, with customized sessions at home or specific therapy centers, whether applied singularly or in groups, and is practiced under the observation of professional therapists and health workers. There are various domains that need attention in rehabilitation and the same is discussed below with the help of a representation. (Figure 1)

- **Mental:** emotional, psycho-social well-being.
- **Psychological:** thoughts, emotions, and behaviors.
- **Cognition:** connected with memory loss.

- **Personal:**
Physical: Poor health. Exhaustion, hypertension, fatigue, aches, loss of sleep, irregular mealtimes, being overworked.
Self-care: no medical checkups, no 'me-time'.
Financial: being poorly paid, take up the job as they desperately need the money for the family, extra job to earn extra income, no quality of life, no future, no provision of life or health insurance after their working age.
- **Social isolation:** due to long hours of work affecting family togetherness or being deprived of study, working on a better career, no prospects of marriage, etc.
- **Spiritual:** no time for personal practice.

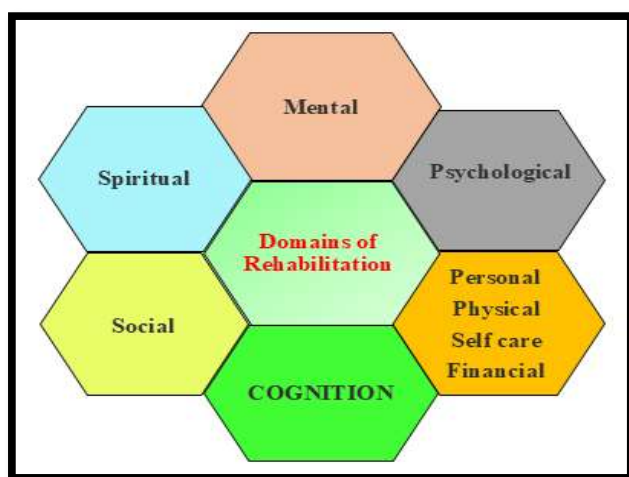


Figure 1: Domains of relevance in rehabilitation

The classical Patanjali Yoga Sutra notes the meaning of Yoga as 'cessation of the distractions of mind'. Yoga, a union of mind and body practice with its various postures brings about flexibility, breathing techniques, that tranquilize both mind and body, enhances state of relaxation, improves sleep quality, memory, and concentration, and improves wellbeing (5).

Yoga, an ancient Indian tradition, and way of life, is now regarded as a holistic approach to health and is classified by the National Institutes of Health as a form of Complementary and Alternative Medicine (CAM) (6). Numerous studies have proved with adequate evidence that Yoga is a great rehabilitation tool being effectively used in numerous domains for

all ages. The 8 components of Yoga viz., *Yama* (moral discipline of truth, non-violence, moderation in activities, non-stealing and non-hoarding), *Niyama* observing cleanliness, contentment, austerity, self-introspection and surrender to a higher principle in life; *Asana* implying bodily postures with stability and ease; *Pranayam* meaning techniques of breathing by regulation or control and slowing down of breath; *Pratyahara* observing moderation in the use of sense organs towards withdrawal of senses; *Dharana* seen as concentration of the mind; *Dhyana* as focused awareness towards the object of concentration and *Samadhi* meaning a state of bliss, pure and ultimate joy leading to physical and mental wellbeing (7). Conscious breathing techniques that include prolongation of breath or deep inhalation, breath retention, and slow exhalation viz. timed exhalation and inhalation help clear blockages in the body. Practiced as *Kapalbhati* (rhythmic breathing), *Prana Akarshan* or controlled deep breathing as one visualizes the spine from coccyx to medulla oblongata all help calm the mind bringing clarity in thought and job function. Scientifically, Yoga is widely used, an approved approach, accepted as a path towards sound health that includes long-term healthy living and happy ageing.

What is Therapeutic Yoga?

McCall T refers to Therapeutic Yoga as a holistic approach to health with postures that cleanse the body to bring body balance and a tool to reduce stress response. He speaks of Yoga as medicine that can be prescribed for good health and healing practice (8). Therapeutic Yoga is essential for all, young and aged, those with health challenges, both carer and the cared towards building their physical viz., alignment, musculoskeletal strength and endurance, and mindfulness-based practices such as mindful breathing techniques, exercises with focused concentration towards sound mental health.

According to Hopkins Medicine, neurological rehabilitation should help the person to go back to the original or highest level of function possible and that which enables to develop social skills, do activities of daily living (ADLs) independently, improve physical abilities by having their motor skills in place, better cognition, attention, focus and concentration, doing activities, memory, and recuperate along with use of assistive devices. Depending on the case, therapy works better and holistically with a neurological rehab team that can comprise of a Neurologist or Neurosurgeon, Orthopedic surgeon, Psychiatrist, an

Internist or any other case-related Specialist. Additionally, other specialties viz., therapists or providers would include Physical, Respiratory Occupational, Speech and language, Recreational therapist. Psychiatrist, Psychologist

/Neuropsychologist, Dietician, Social Worker, and a Case manager to overlook the therapies (9).

Medical Yoga Therapy by Stephens states that many scientific studies have shown how Yoga practice in medicine is effective as a preventive tool and for treatment of the heart, nervous, circulatory and musculoskeletal systems as well as mental health giving a positive impact on the health of an individual (10). Used to manage diverse range of psychological and neurological disorders, Yoga boosts focus and determination to buildup of resilience. With counselling and participation in support groups, social skills and confidence improve considerably too.

Principles and positive effects of disciplined Yoga practice by practitioners are universal with research amplifying so. Yoga is a pronounced therapeutic tool that helps better management of co-morbidities in the ageing process, develops structural and functional changes in core areas of the brain to maintain or lessen age-associated cognitive decline besides increasing confidence, self-reliance, flexibility and improved balance and stability, memory and quality of sleep (11). Yoga as an intervention is both preventive and therapeutic, further rewarding active, healthy ageing and wellbeing specially if its practice is started early on in life. It has been observed that people who have started practice of Yoga early are seen to have more discipline, balance in their lives and can keep their minds busy, active, have sharp memory and are better at multitasking.

“Yoga cultivates the ways of maintaining a balanced attitude in day-to-day life and endows skill in the performance of one’s actions”, words of late B. K. S. Iyengar, well-known Yoga teacher and practitioner (12). Simple practices include chanting or hearing of *AUM* and *Gayatri Mantra* that can be practiced whenever, wherever and any number of times that help balance mind and body. Further, it boosts self-confidence, eases tension, helps calm the person, reduces confusion and benefits with better focus. Some studies have shown that chanting or hearing *AUM* improves memory due to increased blood flow to the brain, vibrations of which have encouraging effects. Positive effects of Yoga practice are experienced after three months of disciplined practice

as it rejuvenates and energizes all nerve centers. A recommended pose, *Shavasana* (corpse pose), a battery recharge of sorts that holistically catalyzes the practitioner and is practiced by graded relaxation and unwinding of the body (muscles) leading to placidity of the mind.

According to Dr. Chandril Chugh, a combination of postures with breathing exercises and meditation, Yoga offers the practitioners healing benefits by reducing stress to calm and improve the nervous system, nerve function and neuro-disorders. It also reduces pain, improves blood circulation, mobility, balance, gait, speed of walking in those living with Alzheimer’s disease (13).

An online interdisciplinary study was conducted by Florida Atlantic University to see the feasibility and impact of chair Yoga and if cardiac parameters could be recorded by caregivers for offline analyses later. It was found that with poor physical function, mobility problems along with cognitive decline, elderly living with dementia had major issues to access or avail community center facility. It suggested that Yoga practice was a safe and evidence-based, non-pharmacological intervention and that it may be a good answer as an outreach that could be conducted online for those who live with dementia (14).

Collins in his study also states that disciplined practice of Yoga promotes strength, endurance, flexibility and facilitates positive psychosocial traits, and awards greater self-control, while cultivating a sense of calmness and well-being (15). Williams in their study reiterates that mantras chanted with their respective poses (*Asanas*) increases durability, strength and flexibility of body and soul. Further, it brings in physiological changes that reduces stress responses (16). Assessment of Woodyard found that regular practice of Yoga postures was a treatment of existing health conditions, as a tool for prevention and as therapy to relieve any problems of structural, physiological, emotional, or spiritual pain, suffering or limitations. The study also came up with a finding that it improved body-muscle strength and flexibility, also bettered respiratory and cardiovascular function, reduced stress, anxiety, depression, helped recovery from and treatment of addiction, and improved sleep patterns to holistically enrich well-being and quality of life (6). This further reinforces that Yoga is an appropriate tool for rehabilitation of physical and mental health of both primary and professional caregivers due to challenges of caregiving and the aged.

The Vagus Nerve also referred to as the ‘wanderer nerve’ that originates from the brain stem to reach the abdomen, is highly impacted by Yoga according to the study by Breit and colleagues. This nerve is a conduit for the digestive organs and brain for a two-way interaction that controls mood, immune response, digestion, and heart rate. Further, it oversees and regulates many crucial bodily functions. It also shows how Yoga helps better management of health issues commonly experienced by ageing population, caregivers, and persons with neuro-disorders, like depression (loneliness), anxiety, mood-swings, post-traumatic stress disorder, inflammatory bowel disease, or lack of bladder control. Modulation and stimulation through several Yoga meditation techniques demonstrate therapeutic effects of relaxation and anti-inflammatory properties on the Vagus Nerve and its vagal tone. However, they also believe that their study shows preliminary evidence and recommends more studies to prove that this nerve has capacity to regulate stress responses through its vagal tone (17). Breathing exercises viz., *Prana Akarshan Kriya*, *Pranayam* etc., can help build lung capacity, reduce inflammation, improve anxiety symptoms and control of mood swings. Practiced over a longer period of time Yoga practice promotes cognition.

Findings from a study consisting of 40 participants to explore the impact of Yoga on health-related factors and improving quality of life and wellbeing was done by administering standardized tools such as Subjective Well-being Inventory (SWBI), World Health Organisation Quality of Life (WHOQOL-BREF), Montreal Cognitive Assessment (MoCA) to the selected respondents along with a set of questions developed to gain a subjective understanding of responses. The scales and questions were administered over a period of three months before and after deploying the intervention of Yoga. *Yoga* therapy modules were designed keeping age-related health factors in mind, other comorbidities including their pre-existing health conditions and frailty. Hence, safe techniques that included *Kriyas* and *Asanas* (postures), *Yoga Shuddhi Kriyas* (cleansing processes), *Prana Akarshan Kriya* (breathing, technique), *Kapalbhati* (comprises short, powerful exhalations and gentle inhalations that sync with abdominal movement.) and *Pranayam* (controlled purposeful breathing), recitation of *AUM* and *Shavasana* (corpse pose) were performed. A sample of these 40

participants from Mumbai Region were engendered using non-probability (Table 1), purposive sampling method. An independent samples t-Test was used to analyze the data of this study following the descriptive statistical analysis. The results showed that scores on quality of life and subjective well-being were higher post-deployment of Yoga as therapy. The conclusion arrived was that Yoga can be used as integrative therapy complementary to mainline medicine to improve quality of life and wellbeing.

Pair	N	Range	Minimum	Max	Mean	Std. Deviation	Variance
Pre-WHOQOL	40	1.08	3.38	4.46	3.89	.304	0.092
Post-WHOQOL	40	.81	3.81	4.62	4.14	.340	.116
Pre-SWBI	40	.40	1.70	2.10	1.92	.129	.017
Post-SWBI	40	.55	1.65	2.20	1.94	.153	.023
Pre-MoCA	40	3.00	25.0	28.0	26.15	.98	.974
Post-MoCA	40	3.00	25.0	28.0	26.23	.92	.859

Table 1: Descriptive statistics of the Sample (n=40)

The above table describes the various descriptive statistical data for both the groups, Group A (no intervention) and Group B (with Yoga as intervention) for scores on all three scales, viz., World Health Organization Quality of Life (WHOQOL)-BREF scale, Subjective Well Being Inventory (SWBI) and Montreal Cognitive Assessment (MoCA). In the pilot sample, 40 participants were divided into two groups of 20 each: Group A (no intervention) and 20 of them in Group B (with Yoga as intervention). Descriptive statistical procedures using SPSS statistics version 28 were performed on the data.

Descriptive statistical data revealed that the mean for Group A (with no intervention) for, WHOQOL, SWBI and MOCA were found to be 3.89 (SD = 0.30), 1.92 (SD = 0.12) and 26.15 (SD = 0.98) respectively. The mean for Group B (with Yoga as intervention) for WHOQOL, SWBI and MOCA were found to be 4.14 (SD = 0.34), 1.94 (SD = 0.15) and 26.2 (SD = 0.92) respectively.

Pair	Mean	Std. Deviation	Std. Error of Mean	t	df	Two-sided p
Pre-Post WHOQOL	-.254	.341	0.094	2.685	39	0.020
Pre-Post SWBI	0.017	.169	0.047	0.368	39	0.019
Pre-Post MOCA	-0.769	0.277	0.076	-1.00	39	0.337

Table 2: Inferential statistics of the sample

A paired t-test was performed to calculate the difference of means of the two groups, Group A and Group B with no intervention and with intervention of Yoga respectively. The scores of WHOQOL-BREF scale were found to be higher in Group B with the intervention (of 3 months of Yoga) than the scores in Group A (no intervention), $t(39) = -2.68, p = 0.020$. As compared to Group A, the scores of WHOQOL-BREF scale were higher for Group B who were exposed to Yoga, $t(39) = -3.85, p = 0.002$. The scores of SWBI were also found to be significantly higher with intervention in Group B, $t(39) = 0.368, p = 0.019$. The scores of MoCA were found to be similar for Group A as well as Group B, $t(39) = -1.00, p = 0.337$.

Thus, the paired t-test conducted shows that the scores of WHO Quality of Life and Subjective Wellbeing as measured on the respective scales for with-Yoga intervention were significantly higher when compared to their no-intervention scores in

Group A. There was no effect seen on the scores of MoCA which measures cognitive decline in the elderly. Thus, there is a suggestion that Yoga as a therapeutic tool has a positive effect in promoting quality of life and subjective well-being among participants who were exposed to the treatment of Yoga.

Feedback received from participants in this study mentioned of relief by those who experienced problems of frozen shoulders, sciatica, arthritis, back pain, knee problems; some other common problems among elderly shared that their palpitations had eased or lessened, they slept easily or well or had more undisturbed and sound sleep, experienced better moods, lesser or negligible spells of depression, increased energy, confidence and optimism. They further shared that Yoga tremendously helped them manage personal crises, strains and pressure of lockdown protocol strictly enforced during COVID times. It was seen that many of the relevant domains (discussed earlier) were positively impacted.

Some responses of participants post-deployment of Yoga as Therapy:

1. Senior Citizen, aged 68 /M: “I was advised Yoga to improve my physical health. Yoga helped me with complaints of constipation, leg and back pain. These sessions helped me not only physically but also mentally specially my impatience and short temper. Now, I feel secure and more tolerant”.
2. Caregiver* aged 42 /F noted “I found Yoga to be very therapeutic and that after practicing Yoga, especially AUM and Gayatri Mantra, I am now calmer than before and am more relaxed. I can work better as a caregiver and am more patient with everyone. I can better understand the family I work for and am more connected with them”. *of an 88-year-old woman.
3. Feedback of a caregiver, aged 36 /F: “I feel basic Yoga exercises that the patient could understand made her more physically flexible, and, also, she now has lesser mood-swings. Yoga has improved the trust between us and we relate better. She falls asleep more easily and soundly”. (on behalf of a 78-year-old woman living with early dementia.)



Figure 2: Tree of Life (TOL).

The above figure depicts the holistic impact of Yoga on health in the TOL. The grey TOL is PRE-rehabilitation status while the chromatic version of TOL reflects better mental and physical health, Quality of Life and wellbeing POST-rehabilitation as per feedback of respondents. Yoga, along with wellness and strengthening immune system, offers psycho-social benefits by connecting elderly and caregivers having similar interests to form communities to provide emotional support systems emitting energies building a strong framework of healing.

Chanting AUM (the solar sound) and Gayatri Mantra benefits elders to better manage cognitive behavioral issues (18). Psychological impact of Yoga helps improve mental health and psychosocial behavior, better self-control of extreme feelings including anger and depression to enhance overall better wellbeing, flexibility and balance of its practitioners and how meditation helps self-efficacy in ADLs. Further, Yoga also provides training in relaxation skills by which older adults cope with their stress better (19,20).

Another interesting study has shown how repetition of few syllables viz., SAA TAA, NAA, MAA sung daily for 12 minutes with repetitive finger movements reduced stress levels as well as impressed upon central memory to reduce chances of developing Alzheimer's. This Eastern Kirtan Kriya technique researched by Dr. S. Khalsa, Alzheimer's Research and Prevention Foundation, shows that this practice increased blood flow in certain areas of the brain to better its motor-sensory function (21).

It is interesting to note that research conducted by Hariprasad and colleagues aimed at improving general health and QoL with a carefully customized Yoga program for a group of elderly population. Validated by experts, this module designed for the ageing population has laid emphasis to obtain benefits in cognition, enjoy better QoL and wellbeing and opportunity for self-improvement. They found that no one had any adverse events during and till the study was completed. It was feasible as it was easy to train the elderly to perform those practices (22).

Clinical effects of Yoga on the brain and neurological disorders

According to many studies, Yoga being a movement-based, embodied, contemplative activity can lead to a variety of neurobiological alterations in different brain regions. Its practice exerts a regulatory effect on brain synaptic plasticity and promotes cognitive tasks, particularly working memory (23,24). Furthermore, Yoga increases inter-hemispheric coherence and symmetry and improves neurocognitive functions (25). Yoga may also exert pronounced anatomical changes in different brain regions, especially in the limbic system (26).

A study by Nourollahimoghdam and colleagues (27) shows that intervention of Yoga therapy is likely to be associated with alterations in the brain structure viz., frontal cortex, amygdala, hippocampus, insula and anterior cingulate cortex with greater volume of grey matter in dominant hemisphere including the ventromedial orbitofrontal, ventrolateral prefrontal, and inferior temporal and parietal cortices. It was also observed that there is positive impact on total brain volume, neocortical grey matter thickness, and functional connectivity between different brain regions in subjects with mild cognitive dysfunction as also in the left hippocampus of regular Yoga practitioners. Rehabilitation with Yoga and mindfulness meditation observed a decreased hippocampal volume atrophy in patients with mild cognitive dysfunction atrophy after an 8-week Yoga as per their MRI volumetric analysis. After a 12-week Yoga training program for elderly living with mild to moderate dementia, it was observed there was an improvement of behavioral impairments and sustained cognitive improvement in 90% of persons under study. It also rehabilitated them by improving

their physical disability viz., balance, walking and gait speed.

‘Someone in the world develops dementia every 3 seconds’ with global figures of 55 million living with dementia with guestimate of 78 million in 2030 and 139 million in 2050 (28).

A Longitudinal Aging Study in India (LASI) brought forth data that the prevalence of dementia in Indians aged 60 years and above is 7.4% with 8.8 million living with dementia. It was further found that the incidence of women more than men and in rural areas more than suburban had dementia. Therefore, with women outliving men and generally being informal caregivers, more so in rural areas, it is of prime importance that complementary therapies are popularized to be economically accessible (29).

CONCLUSION

In conclusion, there is an increasing, unmet need for rehabilitation that needs to be addressed with more than half of people living in some low-and middle-income countries with low or no access to rehabilitation services. A great rehab tool, practicable at any age, complementing mainline medical treatment, is non-pharmacologic, both therapeutic and preventive, cost-effective and is low-risk that reduces impact of health conditions and facilitates recovery. Yoga is not a panacea to disease but a slow, convenient, holistic approach that leverages balance of mind, body and inner being to build resilience. It improves neuroplasticity, brain-biology and neurotransmitters, betters agility for ageing persons especially for persons living with neuro-disorders. It also increases capacity of caregivers, both primary and professional to improve mental health, manage and reduce caregiving burden. In fact, Yoga therapy modules with meditation techniques, rhythmic breathing and mindfulness can be designed to act as an antidote that elicits relaxation responses helpful to combat stress. Yoga is a widely-used, popular tool for mind-body rehabilitation, almost a master-key that manages and helps improve many domains and medical conditions including neurological and psychological disorders. It is a supportive, psychosocial connect leading the practitioner to better wellbeing and Quality of Life. Whether performed individually or deployed in groups as therapy, Yoga teaches to be in the present moment, offers social opportunity to remind them that they are not alone in their journey of life. Yoga

practice along with wellness and strengthening immune system, builds confidence with optimism, provides emotional support systems emitting energies that offer a strong framework of healing. It gives grace, dignity, a feeling of ability to manage challenges of neuro-disorders or disease being lived with and bolsters strength to accept process of ageing with its challenges and manage the onus of caregiving.

It is pertinent to note that the studies had a commonness regarding the positive impact and adverse effects. Many studies on impact of Yoga as a rehabilitation tool have been done and it is important to acknowledge several aspects of its limitations too. Yoga practice improved flexibility of those who did not have constraints of stability, strength and mobility. However, those having some illnesses to name a few, heart disease, high blood pressure, osteoarthritis, herniated discs, acute knee problems or have had major surgeries in the recent past before its use are restricted to perform certain Yoga postures as this may cause adverse effects like muscle injury, soreness, pain and fatigue. Other limitations include the possibility of participants practicing Yoga prior to start of the study, type of Yoga practiced, variability in the way how persons show compliance and responses to Yoga, or whether they were also practicing other styles of exercise. More studies need to be designed and detailed keeping in mind various styles of Yoga, diverse and complex poses and breathing techniques being practiced and areas of their application. There is a need for more randomized controlled trials (RCTs) and longitudinal studies to study the efficacy of Yoga due to lack of standardization.

Yoga, though slow and gentle, surely is a tried-and-tested intervention that is sustainable, almost permanent, is non-invasive and low risk, easily accessible and affordable. A great rehab tool to be deployed only by trained Yoga therapists who are proficient to advise persons to follow its practice in terms of designing the session, duration, frequency and more by taking into consideration the needs of the person requiring rehabilitation. Initially practiced under guidance, Yoga as therapy is surely a remarkable, quintessential master-key. Regularly practiced with discipline one can look forward to healthy ageing with a good quality of life and wellbeing or as an instrument for rehabilitation of the

ageing including those living with comorbidities and neurological disorders, the carer and cared.

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