

Effect of Yoga and Meditation on Different Health Parameters of the Yoga Practitioners

Basanta Kumar Baral

Faculty Member, Kathmandu Shiksha Campus

Email: cjanbaral99pok@gmail.com

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Abstract

Yoga practitioners always look energetic, ever young and healthy compared to others because yoga postures (Asana) make the body flexible. Meditation (Dhyan) and breathing exercise (Pranayama) keep the physical, mental and spiritual wellbeing. The objective of this study is to identify the effect of Yoga and Meditation on different health parameters of the Yoga Practitioners. The method applied in this study was quantitative, descriptive based on the five points Likert Scales Ranking. The Wilcoxon Signed Rank test (2-tailed) revealed that a statistically positive significantly effect on health parameters after attended in yoga class, $Z = -10.990$, $p < 0.01$ ($r = 0.59$) and meditation, $Z = 10.544$, $p < 0.01$ with large effect size ($r = 0.57$). The Pearson correlation analysis result showed significant correlation between the impact of yoga and meditation on regular practitioners. The relative importance index (RII) analysis of respondent's perceptions on each category, happiness had scored highest ranking. This study concluded that, yoga and meditation had prompt effect on the entire health of regular yoga and meditation practitioners to enhance complete wellbeing who practiced three to six months. Similarly, yoga and meditation indicated higher effect on the other domains of physical, mental and spiritual health parameters. While analysis the data, the female participants were found more benefited than that of male participants.

Key Words: Yoga, meditation, health parameters, practitioners

Introduction

The word “yoga” derived from the root of Sanskrit word “yug” which means “to join”, or “yoke” “to bind together”. In other word, yoga also known as a method of moral discipline to join the body to the mind and ultimately to the soul (Garfinkel & Schumacher Jr, 2000). According to the Yoga Sutras, yoga is defined as the higher level of yogic experience. In addition, yoga is also called as union of mind, body

and the spirit. Particularly, yoga is famous and understood as the science of the mind among many people. Maharshi Patanjali who is considered as “The Father of Yoga,” compiled all the oral traditional practices in his classic work “The Yoga Sutras” (the threads of yoga), and ancient practiced anywhere from 5,000 B.C. to 300 A.D. (Turner & Turner, 2010). Particularly, yoga practice has been documented for over 2000 year and it was originally branch of Indian philosophy (Carlin et al., 2009a). In the Maharshi Patanjali’s Yoga Sutra, the eight fold path is referred to Ashtanga, which stand for “Eight Limbs”: Ashta-eight and Anga-limb (Turner& Turner, 2010). In this modern busy lifestyle, people typically practiced three forms such a asana (posture), pranayama (breath) and Dhyana (meditation) of Ashtanga yoga, out of eight limbs of Maharshi Patanjali (Us Ray et al., 2001). Maharshi Patanjali described yoga that by virtue of which retains the thought process to make the mind peaceful. The ethics (yama and niyama) need to be followed as a way to cleanse the mind, body and spirit. Maharshi Patanjali focused more on psychological approach for healing and self-realization (White & Magee, 2019). In the beginning, the organs and systems of the body are to be cleansed through asanas (postures/pose) and pranayama (breath exercise). Secondly, work on cleansing of mind and emotion for how to achieve spiritual growth. The main code of conduct for the practice includes the highest human virtues such as Ahimsa (noninjury) and Satya (truth) that leads into the noblest feelings like amity and compassion (White & Magee, 2019). The Sutras provide complete guidance on how to gain mastery over the mind and emotions to achieve spiritual growth (White & Magee, 2019). Furthermore, yoga is the total transformation apparently from the physical, mental and emotional person into a fully lit up thoroughly harmonized and perfected being (Satchidananda, 2002). It also transformed from an individual with high demands, likes and dislikes, pains and pleasures, successes and failures into a sage (yogi) having permanent peace, joy and selfless dedication to the entire creation (Satchidananda, 2002). Yoga is much more than asana (postures) that helps a person to gain and understanding the mind. It provides a system to achieve Moksha, or liberation of the cycles of rebirth (Chaline, 2002). However, the true liberation or full salvation is said to be possible only by doing ritual practice guided in Vedas and Bhagwat Gita (Rampalji, 2012).

In the West, yoga become a popular due to its health benefits and primarily supposed to practice as the combination of asanas (postural exercise), pranayama (breathing exercise) and Dhyana (meditation) with the westernized fashions (Garfinkel & Schumacher Jr, 2000). In other word, yoga and meditation are flourishing among the men and women in the western society today. Nowadays, millions of people in the West read the books about yoga and meditation, attend yoga classes, seminars and tried to do physical exercise. Yoga is regarded as a holistic approach of both the physical and mental health, not only increase flexibility, strength and stamina but also boost self-awareness, emotional balance and makes peace of mind (Garfinkel & Schumacher Jr, 2000).

Various definitions have been found and given regarding meditation. Meditation is a type of practice of being aware of yourself immediate surroundings and your current sensations rather than worrying but experience present moment of now (Carlin et al., 2009b). The most predominant definition provided for meditation is a practice of self-regulation that focuses on attention and awareness so that meditators may control their mental processes of thoughts (ibid). The main goal of meditation is to reduce thoughts by detaching the physical body and mind, and one supposed to be becoming a witness of the thoughts and feeling often that comes and goes (Newby, 2014; Rubia, 2009).

Moreover, meditators learnt how to control the mind not to let wander into the past or future, but developed awareness of thoughts and feelings with nonjudgmental acceptance by keeping their mind in present moment (Newby, 2014; Sedlmeier et al., 2012). A comprehensive discussion on the connection of religions and meditation practice and their effect on cognitive function, a list of varieties of themes, relationship and goals based on them has been documented by the researchers (Walsh & Shapiro, 2006). Meditation has become a part of interest to psychologists in the United States since the 1970s and the people continuously practice and have done research on them (Burns, Lee. & Brown, 2011). Moreover, there is still a practical debate that meditation might not exist in a pure form; many meditators have tried various methods and some might still use earlier practices after switching to a new form of meditation (Sedlmeier et al., 2012).

However, research shown many approaches of meditation including concentration and mindfulness techniques to some degrees, it is clear that these approaches are not all the same. Therefore, one might not expect identical results from practicing different kinds of meditation in the same time. Two ways to pay respect to this diversity are: (a) to focus on the widely of one technique by emphasis either on concentrative or mindfulness techniques or (b) to focus on the approach to meditation itself such as transcendental meditation (McCoy, 2006b). Here, this study applies for all the types of meditations, not identifying any particular one.

In Nepal and Indian sub-continents, yoga and meditation had been practiced since second half of the first millennium A.D. Likewise, in the high Himalayan caves of Nepal, countless sages, great yogis and saints are supposed to be practiced yoga for their health, happiness and longevity of their life (Kunwar, Sharma, & College, 2020).

In recent year, yoga, meditation, Ayurveda and natural healing-based health tourism and yoga tourism have been rapidly grown in Nepal (Prasad & Shimizu, 2018). Yoga has been gained popularity worldwide due to its inherent quality to change the practitioner from illness to wellness. Currently, a few researches have been conducted on yoga tourism (yoga retreat and yoga trekking) and health tourism in Nepal and its probability for being one of the best destinations in the world

(Prasad & Shimizu, 2018). Nepal is a sacred place due to the birth place of Buddha and play ground of Lord Shiva; Guru of yogis (Kunwar et al., 2020). However, yoga and meditation are become famous and practiced every day at home or in yoga center to enhance physical and mental health of human beings. Yet, there has not been systematic and long-term study on the benefits to yoga and meditation practitioner's including physical and mental health in Nepal. Therefore, it is essential to conduct such kind of study to fulfill theoretical and empirical research gap in the academic research. Hence, it is hypothesized that yoga practitioners would be the more likely to report or indicate increased levels that they experienced different variables related to the physical body, mind, spiritual healthy and happiness within as compared to others.

The general objective of this research was to examine the benefits of yoga and meditation for enhancing people for complete well-being through yoga and meditation of Kathmandu valley. To meet the aim of the study the following were the main specific objectives.

- a) To identify the knowledge about the effect of yoga and meditation on the physical (flexibility and strength), mental (emotional balance), and spiritual (self-awareness) health.
- b) To identify the perceptual attitude of yoga and meditation on individual work performance.
- c) To find out the effect of yoga and meditation on quality-of-life style.

Methodology

The study followed the quantitative descriptive research design. The research methodology included questionnaire survey with the yoga practitioners attending at yoga centers in Kathmandu valley by field visit and through personal contact, between October 15, 2019 to December 30, 2019. Those participants who practiced yoga at least 2-4 hours per week up to more than one hour per day and performed meditation at least 10 minutes (min) per day up to one hour per day and practicing at least one month were considered as regular practitioner. Questionnaires survey was conducted among the 172 yoga practitioners to collect primary data for this study. Only the yoga and meditation practitioners were included as the population of this study.

Researcher visited the yoga centers: Manokranti Yoga and Reiki center, Ranibari marg; Mahamirtunjaya Yog Kendra, Gausala Pashupati; Patanjali Yoga center, Shamakhusi; Pathic Foundation Yoga Retreat Meditation center, Dhawalagiri Awas Kshetra, Chandragiri Kathmandu, and Vishwa Jagaran Abhiyan, New Baneshwar in Kathmandu valley and conducted questionnaire survey after getting permission from the yoga instructors of respective centers. All the questionnaires survey was conducted by the researcher themself with the help of yoga instructors in respective yoga center.

To obtain the objectives of the study and avoiding many other plausible alternatives explanations of the respondents' semi structured questionnaires were developed as a tool for data collections and to validate; researcher cross-compared the text in Ashtanga yoga and The Yoga Sutras of Patanjali and from the key informant, knowledgeable in yoga philosophy.

The five-points Likert scale was made according to degree of feelings either positive or negative (Likert, 1932). The age of the participants were categories into four groups: 15-25y, 26-35y, 36-45y, and above 46y. Most of the participants were dedicated to practice yoga and meditation in regular basis, but no control group involved in this study.

All the data were entered in the excel sheet and data were ranked for statistical analysis. The statistical test was performed by using SPSS (Ver. 23). The research objectives and the associations between two categorical variables were calculated by using non parametric Wilcoxon Signed Rank test (2- tailed) and correlation between them by Pearson correlation test for statistically significant by comparing p-values ($p < 0.05$). The five points rating scale (Likert, 1932) questionnaires survey of respondent's perception towards each category was analyzed by using Likert Scale Ranking and Relative Importance Index (RII). The mathematical formula of RII, $RII = \frac{\sum W}{AN}$ or $(RII = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5N})$. Where, W= weightage given to each category by the respondents, range from 1 to 5, such as 1 for strongly disagree and 5 for strongly agree. A= highest weight (i.e. 5 in this case; 5-in-5 points Likert Scales) and N= total number of respondents (i.e. 172 in this study). The results obtained from the analysis were interpreted according to the objectives of the research.

Results and Discussion

Respondents' Composition on Different Socio Demographic Characteristics

Participant's variables like gender, age group, education level, various approaches for yoga, meditation duration for being practiced yoga were shown in the table (Table 1). Where, $n = 172$, total number of respondents. In this study, 42% participants practiced meditation at least 10 minutes per day and about 19% meditated more than one hour just after finished yoga class or at home in the evening every day. Among all, 26% of the participants continuously practiced yoga since last 3-6 months continuously which followed by the respondents who practiced yoga for more than five years (23%). Majority of the respondents were educated, 42% completed higher secondary level (+2), 21% Bachelor Degree and 12% Master's Degree and above Degree. A demographic variable helps to describe the nature and distribution of the samples used for statistical analysis. In applied statistics and research, age, gender, group membership, ethnicity, socioeconomic measures and education level

are common variables that researcher collected. Demographic variables affect the size and composition of any population (Wilk, 1991).

In this current study also showed most of the attendees of the yoga and meditation were middle aged population. They carried the major percentage in total surveyed samples. It indicated that most of the youngsters were conscious about the health. The majority of the young practitioner aimed to be the yoga instructors, those who were attained in the yoga teachers training class in Manokranti yoga center. Some were practiced yoga and meditation to achieve their goals through became physically and mentally wellbeing. The female participants have been occupied the high percentages among the attendees on yoga and meditation. Most of attendees aimed to reduce the weight, blood pressure and want to make them bodily healthy and active due to sophisticated lifestyle in the city. The scenario

Table 1

Summary of socio and demographic characteristics.

Socio Demographic Variables				
Respondent's Status	Variables	No. of Respondents	Percent (%)	Cumulative Percent (%)
Gender	Male	68	39.5	39.5
	Female	104	60.5	100
Age Category (years)	15 to 25	40	23.3	23.3
	26 to 35	29	16.9	40.1
	36 to 45	67	39	79.1
	46 and above	36	20.9	100
Education Status	Below SEE	44	25.6	25.6
	Higher Secondary	72	41.9	67.4
	Bachelors	36	20.9	88.4
	Master's Degree and above	20	11.6	100
Approach of yoga	Yoga class	148	86	86
	Videos	16	9.3	95.3
	Pers yoga In-structor	8	4.7	100

Length of yoga	Less than 1 month	8	4.7	
	1 to 2 months	24	14	
	3 to 6 months	44	25.6	44.2
	7 months to 1 year	20	11.6	55.8
	1 to 2 years	12	7	62.8
	3 to 5 years	24	14	76.7
	Above 5 years	40	23.3	100
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Meditation/day	5 to 10 min/d	72	41.9	45
	20 min/d	36	20.9	67.5
	30 min/d	16	9.3	77.5
	45 min/d	4	2.3	80
	1 hr/d	32	18.6	100
	Total	160	93	
	Do not practice meditation	12	7	
	<hr/>			
Total	172	100		

The practice of yoga to the people living in the remote village were different, most of them engaged in the field or household work since the early morning to the late night and they have not faced such problems of obesity and other physical disbalances. In the villages there have not been observed any yoga practitioners, this may be due to lack of time, not easy access or may be due to inadequate knowledge of yoga and meditation. The result of this study showed, most of the elderly aged group practiced yoga for more than five years aiming to keep themselves physically active and mentally calm. However, there was not significantly difference by the sex and frequency of yoga attendees. The practitioners were from the different education, socioeconomic background, race and ethnicity. The consciousness of health and life expectancy depends on the adult literacy rate. This study also supported by Vaidya, Shakya, Krettek (2010) study on obesity prevalence in Nepal. In contrast, Matsushita and Oka (2015) reported several adverse events of yoga class performed and risk factors in yoga practitioners of elderly age (70 years or older) people in his survey of adverse effects of yoga class. In an argument, this could be due to level of over exertion of yoga class and might have suffered from other chronic diseases and poor physical conditions before join in yoga class. Importantly, yoga and meditation are even for all ages people but need to know their physical and mental conditions and suitable types of yoga for this age group, and merely medical history.

Correlation Between Yoga, Meditation and Regularity on Health Parameters

Correlation between yoga, meditation and regularity and their effect on various health parameters of the respondents (n=172) have been examined in this section. The regularity had positive effect on different variables of health parameters. Specifically, this result suggested that when participants practiced yoga and meditation on the regular basis the improvements in various domains of the health parameters observed than before attained in yoga and meditation intervention. The physical health parameters such as physical fitness, strength and flexibility shown higher impact on practitioners. Similarly, in the mental health parameters such as concentration, work performance, quality of sleep and reduce of stress, and happiness as an indicator of spiritual wellbeing also showed highly influenced by yoga and meditation who performed on regular basis (Table 2).

Table 2

Comparative analysis and Pearson correlation

Correlations between yoga, meditation and regularity with improvement on health				
Variables	Mean (M)	Std. Deviation (SD)	Pearson Correlation Coefficient Value (r)	P
Regularity of practice yoga	3.81	1.53	0.164*	0.032
Regularity of practice meditation	1.86	0.34	0.203**	0.008
Effect of yoga on health parameters	4.372	1.95	0.385**	0.001
Effect of meditation on health parameters	1.860	0.34	0.540**	0.001
	N		172	

***,**. Correlation is significant at the 0.05 and 0.01 level (2-tailed).**

Yoga and meditation had the high positive correlation in between the physical, mental and spiritual health parameters with regularity. The average results of variables of both the males and females indicated the improvement in all the parameters of health which were set for this study. Even though, in total attendees, females had higher average percentages than the males, may be because of more numbers of females in the samples. Age and sex groups were not separated to observed the benefits and changes in the various domain of health parameters. The yoga showed the immediate and significant effect on the physical strength and flexibility of the practitioners. Improvement of flexibility of shoulders, trunk and hip joints were observed both in the males and females. Supportively, improvement in the flexibility of the body and all the joints were observed in the middle aged males after 10 months yoga practiced (Us Ray et al., 2001). Similarly, the meditation and pranayama gave instant result on happiness, anxiety, stress and quality of sleep as well as in general

feelings. According to Newby (2014) many mindfulness activities required at least 8 to 12 weeks sessions but the yoga with meditation just had significant changes within four sessions. Another studied support that the yoga practice can improve strength and flexibility (Collins & Nursing, 1998) and decrease stress (Franklin, Whaley, Howley, & Balady, 2000) over a relatively short time of period. Carlin et al. (2009b) study on young adults also showed direct correlation between yoga and stress.

However, Williams (1993) studied effect of yoga on concentration in a small group by comparing other two martial art and non-exercise group did not find significant difference. Williams (1993) suggested large group of experiment to yield significant result. Casden (2005) conducted another investigation on effect of yoga on measures of attention including entire body fitness and psychological test, after six weeks intervention also did not find statistically significant. Casden (2005) suggestion was contradictory to the Williams (1993), as needed to attribute in a small sample size. The result of this present study also showed the significant effect of yoga and meditation on regular attendees for about 3 to 6 months. Consistent with this result, Ponte et al. (2019) study demonstrated regular practice of yoga improves depression, anxiety and stress. Another research by Li, Liu, Ji, Xie, and Hou (2018) in controlled trail on depressive symptoms and psychological rumination in depressed women after 12 weeks of regular yoga practice found the same results.

Further insight regarding the effect of yoga and meditation in reduction of obesity and blood pressure showed less effective in the normal yoga class. Obesity and blood pressure not only related with the yoga exercise but also related with the food consumption, income source, lifestyle, occupation and socioeconomic of the people. According to Vaidya et al. (2010), the Worldwide obesity rate was increase by 2.3% to 19.6%, including south Asian countries India and Nepal. Presently, obesity rate become an epidemic in low-middle income generating countries, mostly impact on the younger children and adolescents. In general, cardiovascular risk factors such as hypertension, cholesterol was very high in this population. Vaidya et al. (2010) study indicated that more percentage of adult males have been suffered from cardiovascular risk while the females suffered from the obesity and overweight. On the other hand, the yoga trend also increases in the urban and cities areas. The yoga class for the period of six to ten months, which focused in reduction of obesity and blood pressure obtained significantly effective on reducing obesity and control blood pressure (Us Ray et al., 2001). According to the personal conversation to the yoga instructors, they claimed obesity can be controlled in the guided yogic practice even in the short period of time. This study results also indicated that improvement in the reduction of obesity and blood pressure those who practiced regularly yoga and meditation for six months and above. Other studies, Cowen et al. (2005), Shephard and Balady (1999) found significantly improvement on muscles strength, flexibility, blood pressure, cholesterol and obesity who regularly practiced yoga for six months. Similarly, Schure, Christopher, Christopher, and Development (2008) study reported positive changes in physical, mental, spiritual and interpersonal behaviors in the yoga attendees students related with mindfulness based stress reduction course for 15 weeks.

Conclusion and Implication

Involvement in yoga and meditation can improve physical health, mental health, psychological and spiritual wellbeing. Yoga had effect on feasible, safe and easy access to all sex, races, ethnicity and socioeconomic background, with satisfactory execution rate among the practitioners. This study indicates that three to six months yoga practice has been significantly improves all the domains of health parameters including quality of life. The longer the time period of practice in regular basis more benefits have been observed to the yoga and meditation practitioner. The combine effect of yoga and meditation to the regularity showed the highest impact on the overall health parameters. The result of this study showed that the improvement in physical, mental, psychological and spiritual parameters of yogic practices were very prompt who practiced the yoga and meditation regularly. Nevertheless, regular, longer duration, larger random samples from the practitioner of guided yoga classes and different communities were needed to evaluate the further more potential range of the effects of yoga and meditation.

As per the findings of this study, people will be benefited by applying yoga and meditation practices for their mental as well as physical fitness. The findings of this research will also beneficial to the policy planner and the and the program developer working in the concerned field to develop policy and program. By the effects of yoga and meditation as concluded in this study, people can modify their daily habits to achieve the parameters of quality life.

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