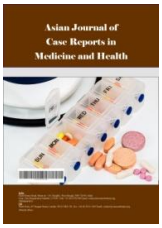

Asian Journal of Case Reports in Medicine and Health

6(1): 23-31, 2021; Article no.AJCRMH.70873

Study the Relationship between Practice of Yoga with Physical and Mental State

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

Editor(s):
(1) Prof. Arun Singh, Rohilkhand Medical College and hospital, India.
(2) Dr. Hab. Mariusz Cycon, Medical University of Silesia, Poland.
Reviewers:
(1) José Luiz Negrão Mucci, University of São Paulo, Brazil.
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(4) Boariu, Dan-Ioan, Bucharest Emergency University Hospital, Romania.
Complete Peer review History: https://www.sdiarticle4.com/review-history/70873

Original Research Article

Received 28 May 2021
Accepted 01 August 2021
Published 12 August 2021

ABSTRACT

The word yoga originates from the Sanskrit for union and aims to harmonize mind, body, and spirit. Patanjali, the father of philosophy of Yoga, wrote a Yoga Sutras in which he formalized this discipline. Traditional yoga incorporates the eight limbs. Physical health is the well-being of the body and the proper functioning of the organism of individuals. The mental status examination is a structured assessment of the patient's behavioral and cognitive functioning. Physical Health is correlated with Mental Health because good physical health leaves a better personal feeling in the long term. Objective of this study was to find out the descriptive analysis of Practice of yoga with physical state and Mental state. This study was retrospective survey was conducted on 165 in Ayurvedic Internal Medical Officers under the Bachelor of Ayurveda Medicine and Surgery(BAMS) .They were between the age group of 20-50 years, both male and female were included in the training program at the National Institute of Education. We have used the closed ended "Self-assessment questionnaire". Results of this study ,majority were included to the age group between 20-30years(95.8%)females were high in proportion (85.5%). Buddhist (89.1%) and Sinhalese (93.3%) were also high. Most of them are unmarried (63%) and monthly income was Sri

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Lankan Rupees below 60000(95.2%). Majority are living in suburban area (60,6%) and education level was graduate (100%). Most of not having children (89.7%) According to the Physical state in this study most of them were Normal body weight (76.4%)In thus study according to the mental state most of them were normal mental state (79.4%).but 15.1% in mild mental status Impairment as well as 5.5% in moderate Mental status Impairment. There were no severe Mental status impairment. Most of them were not practicing yoga (75.8%). Conclusion of the study was mentioned according to the results Practicing of yoga was not significantly associated with Mental and Physical status of this study group. Although in this study15.1% in mild mental status impairment as well as 5.5% in moderate mental status impairment and Underweight 9.1%, Over weight 12.1%, Obesity 1.8% and Obesity II 6%. It is necessary to commence the programs to improve physical state, mental state and the Quality of life in internal medical doctors.

Keywords: Ayurveda; mental state; yoga.

1. INTRODUCTION

Yoga is based on one of the six systems of Indian philosophy over four thousand years ago that have been transmitted orally through generations. Patanjali, the father of philosophy of Yoga, wrote a Yoga Sutras in which he formalized this discipline. The word yoga originates from the Sanskrit for union and aims to harmonize mind, body, and spirit. Traditional yoga incorporates the eight limbs as set out by Patanjali they were Yamas and Niyamas (moral and ethical restraints), Asanas (postures), Pranayama (regulation of breathing), Pratyahara (internalization of the senses), Dharana (concentration), Dhyana (meditation), and Samadhi (self-realization).

yogaś citta-vitti-nirodha[1]
Yoga is the inhibition (nirodha) of the modifications (vitti) of the mind (citta).

Patanjali defines yoga as having eight components (eight limbs). The eight limbs of yoga are yama (abstinences), niyama (observances), asana (yoga postures), pranayama (breath control), pratyahara (withdrawal of the senses), dharana (concentration), dhyana (meditation) and samadhi (absorption). Yamas are ethical rules and five yamas listed by Patanjali are Ahimsa (Nonviolence), Sathya (truthfulness), Asteya (non-stealing),Bhrshnacharya (sexual restraint) ,Aparigraha (non-possessiveness).

The second component of Patanjali's Yoga path is called niyama, which includes behaviors and observances such as Shaucha (purity of mind, speech and body),Santhosa (contentment, acceptance of others, optimism for self),Tapas (persistence, perseverance, austerity)ˑSvadhaya (study of Vedas study of self, self-reflection, introspection of self's thoughts, speeches and actions), Ishvarapranidana (contemplation of the Ishvara (God/Supreme Being, Brahman, True Self, Unchanging Reality).

Patanjali begins discussion of Asana (posture) by defining it as steady and pleasant. As well as asana is a posture that one can hold for a period of time, staying relaxed, steady, comfortable and motionless. Prānāyāma is made out of two Sanskrit words prana (breath) and ayama (restraining, extending, stretching). pranayama, which is the practice of consciously regulating breath (inhalation and exhalation). This is done in several ways, inhaling and then suspending exhalation for a period, exhaling and then suspending inhalation for a period, slowing the inhalation and exhalation, consciously changing the time/length of breath (deep, short breathing).

Pratyahara is drawing within one's awareness. It is a process of retracting the sensory experience from external objects. Pratyahara is not consciously closing one's eyes to the sensory world, it is consciously closing one's mind processes to the sensory world.

Dharana means concentration, introspective focus and one-pointedness of mind Dhyana literally means contemplation, reflection and profound. Dhyana is distinct from Dharana in that the meditator becomes actively engaged with its focus Samadhi literally means putting together, joining, combining with, union. Samadhi is that spiritual state when one's mind is so absorbed in whatever it is contemplating on, that the mind loses the sense of its own identity [2].

Physical health is the well-being of the body and the proper functioning of the organism of individuals, The ability to perform daily tasks and

live comfortably in one's body'. Physical Health is correlated with Mental Health because good physical health leaves a better personal feeling in the long term[3] Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.[4] physical health is a normal state of properly functioning, undamaged organism. Other authors claim that physical health is the result of a balance between the internal and external relations. In addition, it is noted that physical health is a normal function of an organism at all levels, a normal course of biological processes ensuring individual survival and reproduction, a dynamic balance of an organism and its functions with the environment, participation in social activities and socially useful work, a performance of basic social functions, absence of diseases, painful conditions and changes, body's ability to adjust to constantly changing conditions of the external environment. In addition, two main ways of its study and evaluation are identified: 1. physical examination, which is conducted using anthropometric and physiometric methods of study, and 2. testing of motor qualities, [5].

Mental ill health and work-related stress are key issues for the labour market as they affect productivity through absenteeism and presenteeism, and are associated with high economic costs for individuals, employers and the economy at large [6].

The mental status examination is a structured assessment of the patient's behavioral and cognitive functioning.

It includes descriptions of the patient's appearance and general behavior, level of consciousness and attentiveness, motor and speech activity, mood and affect, thought and perception, attitude and insight, the reaction evoked in the examiner, and, finally, higher cognitive abilities.

There are many different mental disorders, with different presentations. They are generally characterized by a combination of abnormal thoughts, perceptions, emotions, behavior and relationships with others. Mental disorders include: depression, bipolar disorder, schizophrenia and other psychoses, dementia, and developmental disorders including autism. Considering the risk factors of mental status, determinants of mental health and mental disorders include not only individual attributes such as the ability to manage one's thoughts, emotions, behaviors and interactions with others, but also social, cultural, economic, political and environmental factors such as national policies, social protection, standards of living, working conditions, and community support. Stress, genetics, nutrition, perinatal infections and exposure to environmental hazards are also contributing factors to mental disorders. In global burden of mental disorders were Depression 264 million**,** Bipolar disorder 45 million Schizophrenia and other psychoses 20 million, Dementia 50 million [7].

76% to 85% of people with a mental disorder in low-income countries receive no treatment for their disorder compared to 35%, and 50% of people with mental disorders in high-income countries. South Asian countries comprise one-quarter of the world's population and include countries like India, Pakistan, Nepal, Sri Lanka, Bhutan, Bangladesh, Afghanistan, and the Maldives, comprise one-quarter of the world's population. Marred by high poverty rates approximately 150–200 million people in this region have a diagnosed psychiatric disorder and limited access to mental health. Despite the significant burden of illness, the mental health infrastructure in this region is relatively weak, with less than 1% of the total national budgets allocated to it. There is also a shortage of psychiatrists and other mental health professionals, clinical psychologists, as well as social workers [8].

Sri Lanka has a pluralistic mental health system resulting from the complex interplay of indigenous, Ayurvedic and Western biomedical medical models. The publically funded mental health system is based on Western and Ayurvedic medicine, indigenous principles practices have a strong continuing presence in the non-government and private sectors. In Sri Lanka prevalence rate of mental disorder 40.9%,depression is more common in elderly women (30.8%) than elderly men (24.0%). Women are particularly vulnerable to mental health problems as a result of increased alcohol consumption among men and high rates of domestic violence. Sri Lanka had very high suicide rates in the 1990s.

The first Mental Health Policy of Sri Lanka—2005–2015, adopted in 2005, aimed to develop a comprehensive network of services at the community level, The national mental health action plan, developed by the Mental Health

Directorate, the NIMH and the Sri Lankan College of Psychiatrists in 2005 and revised in 2010 was the framework for implementing the mental health policy. The key components of the plan included timelines and funding allocation for the implementation of the mental health policy, a particular focus on the urgent need to strengthen human resources for mental health and clear shift in focus from mental hospital-based treatment to substantially increased community-based services and integration of mental health services into primary care [9].

1.1 Objectives

1. To study the descriptive analysis of Practice of yoga with physical state and Mental state
2. To find out the socio-demographic characteristics *of the participants.*

1.2 Hypothesis

There is no relationship between Practice of yoga with physical and Mental status.

2. METHODOLOGY

Descriptive survey was conducted on 165in Ayurvedic Internal Medical Officers under the Bachelor of Ayurveda Medicine and Surgery (BAMS). They were between the age group of 20-45 years, both male and female were included in the training program at the National Institute of Education. We have used the "Self-assessment questionnaire". The questionnaire has been already validated by the authors. Mental status was assessed using the questionnaire form Park's text book of preventive and social medicine. The questionnaire was designed on the basis of one's own mental health pulse by the William C. Menninger who was Psychiatrist and President of the Menninger foundation, Topeka, Kensas, Unite state of America. The conditions chartered in his questions are the major warning signals of poor mental health in one degree or another. If the answer to any of these questions is "yes" which was grading according to the sum of "yes" answer as 0-2(Normal mental status),3-4(Mild Impairment of mental status),5-7(Moderate Impairment of mental status) and above 8(Severe Impairment of mental status) [10].

Physical status was assessed using a anthropometric measurements as weight, height and body mass Index. It was grading according to the Under weight (Below 18.5 Kg/m^2)Normal weight (18.5-24.99 Kg/m^2)Over weight(25-29.99 Kg/m^2)Obesity I(30-34.99 Kg/m^2), Obesity II(35-39.99 Kg/m^2)Extremely Obesity(Above 40 Kg/m^2).The data was expressed by Chi-square test and was analyzed using SPSS Statistical Method (16.0 version). The level of significance for all analysis was taken as $p<0.05$.

2.1 Inclusion Criteria

Ayurvedic Internal Medical Officers, Age group between 20-45 years. Both Male and female.

2.2 Exclusion Criteria

Age below 20 years and above 50 years, Intern Medical officers, Government recruited Ayurvedic Doctors above 2 weeks.

3. RESULTS

In the present study majority were included to the age group between 20-30years (95.8%) females were high in proportion (85.5%). Buddhist (89.1%) and Sinhalese (93.3%) were also high. Most of them are unmarried (63%) and monthly income was Sri Lankan Rupees below 60000(95.2%). Majority are living in suburban area (60,6%) and education level was graduate (100%). Most of not having children (89.7%) [Table 1].

According to the Physical state in this study most of them were Normal body weight (76.4%) But Underweight 9.1%, Over weight 12.1%, Obesity 1.8% and Obesity II 6% [Table 2].

In thus study according to the mental state most of them were normal mental state (79.4%). but 15.1% in Mild Mental status Impairment as well as 5.5% in moderate Mental status Impairment. There were no severe Mental status Impairment [Table 3].

Most of them were not practicing yoga (75.8%).

P value is not less than 0.05($p=0.247$) Therefor practice of yoga is not significant with physical state.

According to the above figure reflected that Practice of yoga was decreased with increasing of Body mass Index.

P value is not less than 0.05(p=0.807) Therefor practice of yoga is not significant with mental state.

According to the above figure reflected that most of them in normal mental state were not practicing yoga.

Table 1. Frequency distribution of socio demographic characteristics in the study group

Socio-demographic characteristics		Frequency	Percentage
Age group	20-30years	158	95.8%
	31-40 years	7	4.2%
Living Area	Urban	37	22.4%
	Suburban	100	60.6%
	Rural	28	17.0%
Gender	Male	24	14.5%
	Female	141	85.5%
Civil status	Married	60	35.4%
	Unmarried	104	63%
	Divorced	1	.6%
	Widowed	0	0%
Having children	Yes	17	10.3%
	No	148	89.7%
Ethnicity	Sinhala	154	93.3%
	Tamil	9	5.5%
	Muslim	2	1.2%
Religion	Buddhist	147	89.1%
	Catholic	10	6.1%
	Hindu	5	3%
	Islam	3	1.8%
Monthly Income	Below Rs 60000	157	95.2%
	Rs 60000-100000	7	4.2%
	Above Rs100000	1	.6%
Education	Graduate	165	100%
	Post Graduate	0	0%

Table 2. Frequency distribution of Physical state in the study group

Normal (18.5-24.99 Kg/m2)	126	76.4
Over weight (25-29.99 Kg/m2)	20	12.1
Obesity 1(30-34.99 Kg/m2)	3	1.8
Obesity II (35-39.99Kg/m2)	1	.6
Total	**165**	**100.0**

Table 3. Frequency distribution of Mental state in the study group

3-4 Mild Mental Impairment	25	15.1
5-7Moderate Mental Impairment	9	5.5
Total	**165**	**100.0**

Table 4: Frequency distribution of Practice of yoga in the study group

Valid	Yes	40	24.2
	No	125	75.8
	Total	**165**	**100.0**

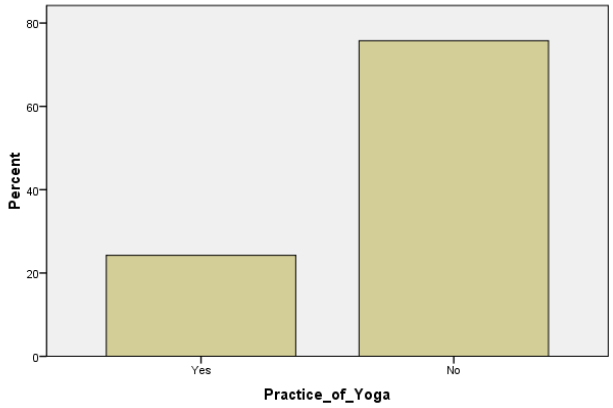

Fig. 1. Practice of yoga in percentage

Table 5. Crosstabulation and Chi-square test of Practice of yoga and Physical status

Crosstabulation

		Practice of Yoga		Total
		Yes	No	
BMI	Under weight(Below 18.99 Kg/m2)	3	12	15
	Normal(18.5-24.99 Kg/m2)	33	93	126
	Over weight(25-29.99 Kg/m2)	3	17	20
	Obesity 1(30-34.99 Kg/m2)	0	3	3
	Obesity II (35-39.99Kg/m2)	1	0	1
Total		40	125	165

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.423[a]	4	.247
Likelihood Ratio	5.943	4	.203
Linear-by-Linear Association	.015	1	.901
N of Valid Cases	165		

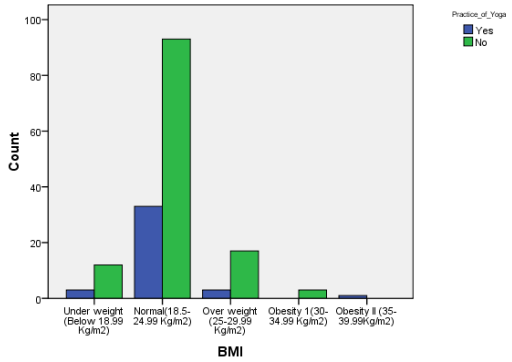

Fig. 2. Relationship between the Practice of yoga and Physical status of study group

Table 6. Chi-square test of Practice of yoga and Mental status

Crosstabulation				
		Practice_of_Yoga		Total
		Yes	No	
Mental Status	Normal Mental Status	31	100	131
	Mild Mental Impairment	6	19	25
	Moderate Mental Impairment	3	6	9
Total		40	125	165

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.430[a]	2	.807
Likelihood Ratio	.402	2	.818
Linear-by-Linear Association	.270	1	.603
N of Valid Cases	165		

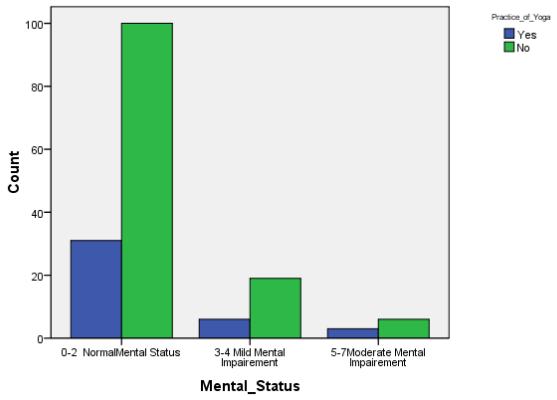

Fig. 3. Relationship between the Practice of yoga and Mental status of study group.

4. DISCUSSION

In the present study total sample size was 165 participants and majority were included to the age group between 20-30years (95.8%) females were high in proportion (85.5%). Buddhist (89.1%) and Sinhalese (93.3%) were also high. Most of them are unmarried (63%) and monthly income was Sri Lankan Rupees below 60000(95.2%). Majority are living in suburban area (60,6%) and education level was graduate (100%). Most of not having children (89.7%) . Most of them were not practicing yoga (75.8%) and only 24.2% were practicing yoga. According to the physical state with practice of yoga, P value is not less than 0.05(p=0.247) therefor practice of yoga is not significant with BMI. Ashutosh Chauhan,et,al(2017) indicated that yoga practice significant with BMI and has potential to control BMI [11].

As well as mental state with practice of yoga P value is not less than 0.05(p=0.807) therefor practice of yoga is not significant with mental state in this study. Derebail Gururaja, et,al(2011)mentioned that yoga helps to improve the mental health and statistically significant with *P*<0.05 in his study[12]. Catherine Woodyard,et,al(2011) show that yogic practices enhance muscular strength and body flexibility, promote and improve respiratory and cardiovascular function, promote recovery from and treatment of addiction, reduce stress, anxiety, depression, and chronic pain, improve sleep patterns, and enhance overall well-being and quality of life [13].

Andreas Michalsen,et ,al(2012) mentioned that yoga may help to improve patient self-efficacy, self-competence, physical fitness, and group support, and may well be effective as a supportive adjunct to mitigate medical conditions, but not yet as a proven stand-alone, curative treatment. As well as that review suggest positive benefits of yoga, various methodological limitations (including small sample sizes, heterogeneity of controls and interventions) limit the generalizability of these promising study findings and yoga may have potential to be implemented as a beneficial supportive/adjunct treatment that is relatively cost-effective, may be practiced at least in part as a self-care behavioral treatment, provides a life-long behavioural skill [14].

Jia liu et,al has mentioned that online mental health survey in a medical college in china during the covid 19 out break included the 58.5% females and 90 41.5% males.As well as Among the female students in a state of depression, 33 (26.0%) students had mild depression symptoms, 16 (12.6%) students had moderate depression symptoms, 1 (0.8%) student had moderate to severe depression symptoms, and 0 (0%) students had symptoms of severe depression. Among the male students in a state of depression, 20 (22.2%) students had mild depression symptoms, 6 (6.7%) students had moderate depression symptoms, 0 (0%) students had moderate to severe depression symptoms, and 1 (1.1%) student had severe depression symptoms [15].

Sufficient references about similar studies having provided that the attribution of yoga for improve Physical and mental status. In this study Lack of a yoga practicing group may be considered as a limitation of this study because only 24.2% were practicing yoga even including yoga module in their degree program.

5. CONCLUSION

In this study practice of yoga is not significant with Physical and mental state. Although in thus study15.1% in mild mental status impairment as well as 5.5% in moderate mental status impairment and Underweight 9.1%, Over weight 12.1%, Obesity 1.8% and Obesity II 6%. It is necessary to commence the programs to improve physical state, mental state and the Quality of life in internal medical doctors.

6. SUGGESTIONS

- In the Training program of Internal Ayurvedic doctors should introduce improving mental and Physical health.
- In the Training Module should be include Stress management.
- Counseling should be Introduce, and monitoring at least up to confirmation
- In the Training program should be introduce food pattern to develop *Sathwa guna* in the mind.
- In the Training program should be introduce food pattern to maintain correct body weight.
- In the Training program should be promote practicing of yoga Asana and Pranayama for daily regimen and their medical practice.
- In the Training program should be introduce Ethical yoga practically.
- Large scale survey study should be introduce to find further findings.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the authors.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/70873