

The Prevalence of Yoga Practice: A Survey in the Kolhapur Population

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Abstract

Background: Yoga is a form of alternative medicine, which aims for an overall physical, mental, and spiritual health. Several benefits of yoga in terms of disease prevention have been well documented in literature. However, there is a lack in the studies relating to its prevalence, especially in the Indian scenario. Here we aimed to decipher the prevalence of yoga practice in the Kolhapur population.

Method: A survey was conducted on 5003 residents of Kolhapur. The survey was designed to evaluate the knowledge and practice of yoga in the respondents. Socio-demographic variables were presented by MS-Excel. Logistic regression was performed by R-studio 1.2.5001.

Results: Most of the yoga users were between 40-49 years. The primary occupation of most of them was service. Men were more likely to practice yoga, as compared to females (OR-0.29, P<0.05). Also, older (OR-1., P<0.5) and retired people (OR-1.8, P<0.05) were more like to practice yoga. Yoga was also shown to be mostly practiced among people of higher economic status as opposed to people with low economic status.

Conclusion: This is the first study on the prevalence of yoga practice in Kolhapur population. Results depict that a considerable number of people knew about yoga, but only a few of them practiced it. Additional studies are thus required for a better deduction of yoga prevalence.

Keywords: Age, gender, Yoga, integrative medicine, therapy.

Introduction

Yoga is a form of therapy that aims to improve overall physical, mental and spiritual health. It is believed to have originated in India about 2000-3000 years ago.^[1]

It includes several practices, most important ones being postures (asanas), breathing exercises (pranayama) and meditation (Dhyana).^[2] It is now being globally recognized as an alternative form of medicine, known as integrative medicine therapy.^[3,4,5]

There is increasing evidence on the use of yoga for the prevention and cure of various types of medical conditions. The therapeutic effects of yoga on physical disorders like pain and arthritis have been suggested.^[6,7] Similarly, yoga has also found positive impact on a variety of metabolic and lifestyle disorders like diabetes mellitus, cardiovascular disorders, asthma, and cancer.^[8,9,10,11,12,14] Furthermore, yoga has also been shown to be beneficial in various psychological disorders like anxiety, depression and cognition.^[15,16,17]

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While there have been several studies reporting the usefulness of yoga in improving the quality of life of people in general and providing relief in different medical conditions, studies relating to the prevalence of yoga are scanty, especially in the Indian population.^[6,4] Despite its origin and practice in India since centuries, an accurate data regarding the practice of yoga and its types is lacking. Therefore, a detailed knowledge of current prevalence, patterns and other variables associated with yoga is required.

The purpose of the current study is to determine the prevalence of yoga practitioners in the Kolhapur district of Maharashtra and draw possible associations between the various socio-demographic variables and yoga practice.

Materials and Method

This was a descriptive study conducted in the Kolhapur city of Maharashtra, India. Preliminary data on the population of the district was extracted from 2011 census and sample size was calculated as per the formula of Yamane i.e sample size (n) = $N/1+Ne^2$, where N is the population size, and e is the margin of error. Here, N= 549000, e=1.46 and n was calculated to be 4652. Based on the calculation, the study involved 5003 participants from 18-85 years.

A questionnaire comprising of the sociodemographic parameters and yoga practice among the participants was designed by an art of living international yoga teacher following literature survey of similar studies. It was validated by piloting the questionnaire among 55 patients at a yoga center in the city, following which the main study was conducted. The responses were recorded and analysed. Descriptive analysis was performed by MS-Excel. Association between variables (Odds Ratio at Confidence Interval 95 %) was calculated by logistic regression in R studio version 1.2.5001. P value <0.05 was considered as significant. Data is presented in frequencies and percentage.

Results

The mean age of the respondents was 44 ± 11.86 ranging from 18-85 years. They were predominantly male (n= 3721, 74.37 %), while females were 25.62% (n=1282). While 2730 (54.74 %) reported that they had knowledge about yoga, there were only 934 (19 %) who practiced it regularly. In general, people over the age of 30 were more likely to practice yoga, with the maximum

number of practitioners in the age group of 40-49 (n=293, 5.86%), followed by age groups <30 (n=183, 3.66%), 50-59 (n=169, 3.38%), 30-39 (n=143, 2.86%), 60-69 (n=92, 1.84%) and >70 n=54, 1.08%).

Most of the respondents (n=4006) were in the orange color ration card slab (i.e. 15000-100000 INR/annum), among which, only 598 practiced yoga, followed by 908 respondents in white color slab, >100000 INR/annum), among which 291 (5.82 %) were yoga users. Likewise, most respondents in the survey were engaged in service, (n=2016, 40.30 %), among which 243 (4.86 %) practiced yoga, followed by people engaged in business, (n=1036) among 174 i.e. 3.48% practiced yoga, respectively. There were 299 (5.98%) housewives, 97 (1.94 %) students, 71 (1.42%) retired people who practiced yoga in the studied population. There were 1028 respondents who had hypertension and 317 who suffered from diabetes mellitus (DM). Among the respondents, who suffered from hypertension, only 3.89 % (n= 195) practiced yoga. Similarly, among the respondents who had diabetes, only 1.33 % (n=67) practiced yoga regularly.

Association between the number of people who practiced yoga and gender revealed that males were more likely to practice yoga regularly, as compared to females. Likewise, people who were engaged in business (OR=1.9, CI 95%, P<0.05) were more likely to practice yoga, followed by retired respondents (OR=1.8, CI 95%, P<0.05) and housewives. Furthermore, economically sound people were more likely to practice yoga than those belonging to economically weaker sections as described in Table-1.

Among the people who practiced yoga regularly, pranayama was the most common form of yoga performed. Other important forms of yoga, practiced among the respondents were asanas, meditation and surya namaskar. Most people practicing yoga did a combination of forms like pranayama with asanas or pranayama with meditation. A representation of the different yoga forms practiced has been given in Figure 1. An overwhelming 79% of respondents who practiced yoga regularly identified that yoga had positive effects on both their physical and mental health. Few of them (14%) also opined for the spiritual health benefits of yoga.

Discussion

Originating from India, yoga has found its importance around the world, primarily because of its

far-reaching effects on the human health and mind.^[6,7] The positive health benefits of yoga have now been globally recognized. Despite its benefits, there are only a handful of studies highlighting its prevalence, especially in India.^[8] The lack of data on prevalence of yoga in the Indian population, necessitates the need for more studies in order to generate a consensus about yoga practice and awareness about its benefits.

A recent U.S. based study showed an increase of about ten times increase in the yoga mentions in the electronic health record, over a 10-year period, indicating the growing use of yoga globally.^[9] Similarly, a survey by the National Center for Health Statistics (NCHS), U.S.A reported increase in the yoga practice as one of the largest increases among complementary and alternative therapies from the 2002 to 2007 i.e. 5.1 % to 6.1% .^[10,11]

Males were more likely to practice yoga than females. This is in close agreement with a cross-sectional study conducted in north India.^[12] However, it is in contrast to most previous studies conducted in other countries.^[4,13,5,10,14] A gender difference in the perceived benefits of yoga have also been reported in a recent study.^[15] In the Kolhapur population, retired people, housewives, people engaged in business were more likely to practice yoga. The main barrier to yoga practice reported were time and occupational commitments, which corroborates to why retired people, housewives and people engaged in business are more likely to practice yoga, than students or the ones engaged in service.^[14, 16] Yoga has been shown to provide beneficial outcomes in the elderly. A recent review endorsed that yoga could be used as an intervention in providing physical, mental and emotional well-being to the elderly population,

thereby enhancing their quality of life.^[17] Higher earners were more likely to practice yoga. This is in line with a previous US based prevalence study, who also found that economically sound people were more likely to practice yoga regularly.^[4] The respondents practising yoga endorsed it for general wellness as well as a therapy in diseases. They also acknowledged the physical and mental benefits of it. The mental benefits of meditation, a form of yoga in curbing anxiety, depression and stress has been well documented.^[18]

It was indicated that even though a large fraction of people surveyed knew about yoga, very few of them practiced it regularly. This indicates a need to create awareness among the people regarding the benefits of practicing yoga regularly. Practice of yoga and meditation regularly has been shown to provide benefits in patients suffering from anxiety and depression.^[19,20] The World Health Organization (WHO), in its survey of 2015 estimated that about 4.5 % of Indians suffer from depression and 3% of them suffer from some form of anxiety disorders.^[21] However, when the respondents were asked if they got depressed at times, very few people agreed (1.3 %), suggesting that they were uncomfortable talking about their emotional well-being during the survey.

To the best of our knowledge, this is probably the first study on yoga prevalence in Kolhapur population. The sample size and selection of respondents might put a limitation of the study. It is subject to recall bias, being questionnaire based and cross-sectional. However, as this is a very preliminary study, there is a need of more studies like this, to evaluate the prevalence of yoga in a population in order to deduce a conclusion about the prevalence of yoga practitioners.

Table 1. Factors associated independently with yoga, calculated by logistic regression (n=5003)

Variable	Subcategories	Odds Ratio	Confidence Interval		P-value
Gender	Female	1.00 (Reference)			
	Male	0.2931	0.2294	0.3748	< 0.05
Age	< 30	1.00 (Reference)			
	30 to 39	0.42833	0.29904	0.6143	< 0.05
	40 to 49	0.27295	0.19703	0.3792	< 0.05
	50 to 59	0.30872	0.21795	0.4381	< 0.05
	60 to 69	0.45478	0.29682	0.6951	< 0.05

Ration Card Colour	No Card	1.00 (Reference)			
	Orange	0.066223	0.032944	0.127	< 0.05
	White	0.16074	0.079195	0.3117	< 0.05
	Yellow	0.092986	0.030071	0.2649	< 0.05
Occupation	Service	1.00 (Reference)			
	Business	1.9486	1.5444	2.4568	< 0.05
	Education	0.42835	0.28216	0.6493	< 0.05
	Housewife	1.5597	1.1684	2.0857	< 0.05
	Retired	1.8756	1.211	2.8843	< 0.05
	Self-Employee	0.88758	0.61501	1.2565	0.5120555

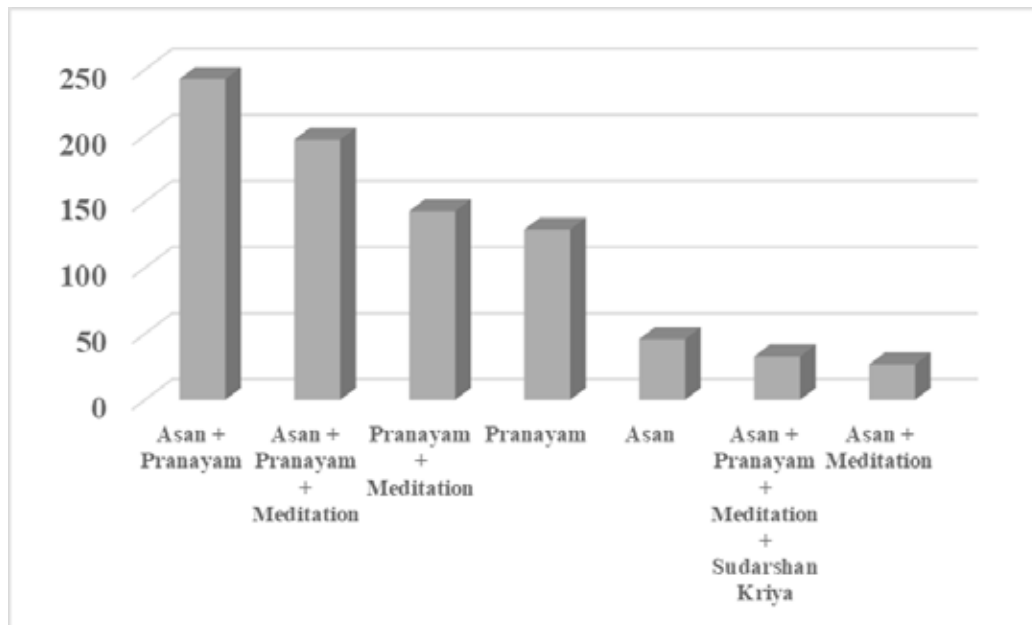


Figure 1. Representation of the number of respondents practicing different forms of yoga. Y-axis depicts the number of respondents.

Conclusion

Although people in the Kolhapur population know about yoga, only a few of them practiced it. As it is a first study of its kind, more studies are required on different populations to acquire information on the yoga prevalence. Lower socioeconomic group is unaware about the yoga. To reduce the mental stress, minimize respiratory disease, weight control regular yoga practice is necessary, but this practice is very rarely seen in the city.

Ethical Clearance: Was obtained from the Institution review board (IRB).

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