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Beliefs of yoga practitioners about yoga as a science: A survey in Mumbai

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ABSTRACT

Context: The ancient Indian science of yoga is both an experiential science as well as a set of practices which are very suitable to be evaluated using conventional research methods. Despite the rapidly growing scientific literature on the effects of yoga and its applications, there has been no survey carried out to determine whether yoga practitioners are themselves aware of this research.

Aims: The current study aimed at conducting a survey to document the beliefs about yoga as a science among its practitioners.

Methods: The current survey was conducted chiefly on graduate students of Mumbai University as well as some of the staff. The study surveyed 972 respondents (with an average age of 26 years and a male-female ratio of 54.8:45.2), out of which 54.7 percent practiced yoga.

Results: Among the yoga practitioners, 66.1 percent were aware of scientific research on yoga and 57.6 percent associated yoga with scientific research. Interestingly, 60.4 percent of yoga users were keen to have online yoga courses. Among those who did not practice yoga (45.3 percent), 45.0 percent had no intention of starting to practice yoga.

Conclusion: The current survey, which is the first documentation of its type in India, showed interesting trends in beliefs about yoga as a scientific discipline among a predominantly young, educated, and urban Indian sample.

Key Words: Beliefs about yoga, trends in yoga, Mumbai, scientific research, yoga

INTRODUCTION

Yoga is an ancient Indian set of practices comprising a lifestyle, and was defined by Patanjali (circa 900 BC) as the “restriction of consciousness and paths of ecstatic self-transcendence or methodical transmutation of consciousness to the point of liberation from the spell of the ego” (Singh, 2006). According to Swami Kuvalayananda (1883–1966), “yoga has multiple physical, mental and spiritual benefits, and influences of the mind on the body are far more powerful than the influences of the body on

the mind” (Kuvalayananda, 1993). Nowadays, various schools of yoga have become popular all over the world, such as Iyengar yoga, Bikram yoga, Power yoga, Hatha yoga, Ashtanga yoga, Vinyasa yoga, Kundalini yoga, and so on, based on diverse categorization (Yoga, n.d.). Despite the popularity of yoga in India, little is known about the beliefs of yoga practitioners toward yoga as a science. It is important to understand these beliefs, as it will help in the promotion and implementation of yoga practices to benefit a larger population.

A paper-based self-rated questionnaire survey was conducted over a period of 3 years with 2486 participants in Essen, Germany (Cramer et al., 2013). This study was conducted to assess whether yoga was used primarily for medical complaints by the patients, and to determine the perceived benefits as well as the perceived harm of yoga practice. It was found that 12.1 percent of patients practiced yoga primarily for medical complaints and found it to be beneficial. It was also found that yoga

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was positively associated with mental health but yoga was not associated with the patients' specific diagnosis. Another similar study was conducted in the United States using cross-sectional survey data of 31,044 participants from the 2008 National Health Interview Survey's (NHIS) Alternative Medicine Supplement (Birdee et al., 2008). It was conducted to characterize yoga users, the medical reasons for yoga practice, perceptions of helpfulness, and for disclosure of use to medical professionals. Musculoskeletal conditions and mental health were found to improve the most after yoga practice in yoga users. Yet another survey was conducted in New York City, particularly by developing and validating the questionnaire "Beliefs about Yoga Scale" (BAYS) (Sohl, Schnur, Daly, Suslov, & Montgomery, 2011). Convenience sampling of 426 participants was done from outside the cafeteria at a medical center in New York City. This scale assessed the beliefs about yoga that may influence yoga practice of yoga followers and the findings of this study revealed that health benefits, expected discomfort and social norms are the important factors which influence beliefs about yoga. A survey was also conducted in a non-clinical population to understand the use of yoga in a real-world setting in the US (Quilty, Saper, Goldstein, & Khalsa, 2013). According to this survey, yoga was perceived in several ways such as an exercise activity, spiritual activity, or a way to treat a health condition. The reasons for practicing yoga were for general wellness, as a physical exercise, and for stress management. Majority of the respondents practiced yoga for better health, while the remaining ones practiced yoga for specific health conditions. According to a review, yoga practices were found to be as effective as or better than exercise in improving several health conditions in healthy as well as diseased populations (Ross & Thomas, 2010).

Some online surveys have also been conducted in the past. An anonymous online survey was conducted in 15 Iyengar yoga studios in the US on 18,160 participants, out of which only 1045 survey-sets were completed and used for statistical analysis (Ross, Friedmann, Bevans, & Thomas, 2013). The survey was conducted to assess the yoga practice and health characteristics of yoga users, and to study their beliefs regarding the effects of yoga practice on health. A cross-sectional design was used for the survey. Several standardized questionnaires were used in the assessment. It was found that yoga improved energy (84.5 percent), happiness (86.5 percent), social relationships (67.0 percent), sleep (68.5 percent), and weight reduction (57.3 percent), but beliefs did not differ substantially according to race or gender. A survey was conducted in the year 2005–2006 to investigate the practice of yoga in Australia (Penman, Cohen, Stevens, & Jackson, 2012). This 30-min web-based questionnaire was developed with the help of a yoga expert. It was found that the respondents started practicing yoga for health and fitness, but the reason for continuing yoga

practice was stress management. It was observed that one in five respondents practiced yoga for a specific health or medical condition, which improved by yoga practice. It was also observed that mental health was the primary health-related motivation for practicing yoga, as more people practiced yoga for stress management and anxiety rather than back, neck, or shoulder problems. It was observed that the respondents who practiced yoga for a longer period of time made healthy lifestyle choices such as vegetarianism, avoiding smoking, reduced alcohol consumption, and increased physical activity with reduced stress.

There are as yet no published reports, which have attempted to find whether yoga practitioners are aware that the effects of yoga practice have been validated through scientific research. Hence, the present survey aimed at determining how many yoga followers were aware of the fact that certain effects of yoga have been researched systematically.

MATERIALS AND METHODS

Participants

The survey questionnaire was distributed to a section of the general population in Mumbai through participants of the National Service Scheme (NSS) in Mumbai University. The method of distribution was random, but not systematic (Zar, 1999). Most of the participants were university students, though a few other members of the staff in the campus were also given the survey questionnaire. There was no special incentive to fill it in. This study was approved by the Ethics Committee of Patanjali Research Foundation, Haridwar, and Kaivalyadhama, Lonavala. All respondents gave their consent to use the data, while concealing their identity. The only criterion to take part in the study was to have sufficient English knowledge to fill in the questionnaire. There were 1537 responses collected, out of which 972 responses were included for analysis and the remaining 565 incomplete questionnaires were excluded. Respondents' group mean age was 26 years, with 54.8 percent males and 45.2 percent females in the group.

Design of the study

The study was a cross-sectional survey. Since the participants were recruited without systematic randomized sampling, the sampling could be considered as convenience sampling.

Assessment

The questionnaire had seven questions to assess the beliefs of yoga followers toward yoga. The questionnaire was written in English. All the questions were close-ended with dichotomous or multiple options. The first question was "Do you do yoga?" and there were two options "yes" and "no." The second question was to know whether the respondents associated yoga with scientific research

and the options were “yes” and “no.” The third question was “Are you aware of scientifically proven benefits of yoga?” and the options were “yes” and “no.” The fourth question was about the school of yoga they followed and the options were (1) Patanjali yoga, Haridwar; (2) Iyengar; (3) Bikram yoga; (4) Bihar School of yoga; (5) Kaivalyadhama; (6) Shivananda yoga; (7) The Yoga Institute, Mumbai; and (8) any others. The fifth question was, “Would you be interested in learning yoga online?” and the options were “yes” and “no.” The sixth question was “Which age group do you associate with practicing yogic exercises regularly?” and the options were (1) young and fit people; (2) old but fit people; (3) old terminally ill patients; (4) middle-aged people trying to regain health; and (5) children. The respondents were asked to rank the options, with rank 1 being the group they most associated yoga with whereas rank 5 being the group they least associated yoga with. The seventh question was directed at those respondents whose response to the first question (Do you practice yoga?) was “No”; it was asked to know when the respondents were planning to start yoga and the question was “I am likely to start yogic exercise in....” There were four options: (1) less than 6 months; (2) from 6 months to 1 year; (3) 1–2 years; and (4) I have no such plans right now.

Data extraction and analysis

All data were de-identified and analyzed anonymously. The responses of the participants were noted, sorted, and counted. The results were converted into percentages. No pre hoc analysis was done.

RESULTS

In response to the first question, 54.7 percent respondents said they practiced yoga and 45.3 percent respondents said they did not practice yoga. The second question assessed whether the respondents associated yoga with scientific research. There were two options, “yes” and “no.” Fifty-seven percent respondents associated yoga with scientific research, whereas 43.0 percent did not associate yoga with scientific research. The third question assessed whether the respondents were aware of the scientifically proven benefits of yoga. Sixty-six percent respondents said they were aware of the scientifically proven benefits of yoga and 34.0 percent were unaware. The fourth question determined the most popular school of yoga among the respondents. Thirty-one percent said they followed Kaivalyadhama, 28.7 percent followed Patanjali (Haridwar) school of yoga, 15.0 percent selected “others” option, 13.7 percent followed The Yoga Institute, 4.0 percent followed Bihar School of yoga, 3.7 percent followed Bikram yoga, 2.0 percent followed Iyengar yoga, and 0.9 percent said they followed Shivanand yoga. The fifth question was whether the respondents would like to learn yoga online. Sixty percent said they would like to learn yoga online, whereas 40.0 percent said they would not want

to learn yoga online. The sixth question was, “Who do you associate with practicing yogic exercises regularly?” There were five options. Thirty-eight percent associated yoga practices with old but fit people, 35.6 percent respondents associated yoga practice with young fit people, 11.1 percent associated yoga practice with middle-aged people trying to regain health, whereas 7.1 percent associated yoga practice with old terminally ill patients and 7.3 percent associated yoga practice with children. The seventh question was for non-yoga practitioners, and assessed the time during which the respondents would start yoga practice. Forty-five percent of respondents said they had no such plans, 26.0 percent said they would start practicing yoga in less than 6 months, 15.0 percent said they would start in 6 months–1 year, and 13.0 percent said they would start in 1–2 years. Further details about the results are presented in Table 1.

DISCUSSION

Despite an increasing amount of research on the physiological, therapeutic, and other effects of yoga (Murphy, Donovan, & Taylor, 1997), there have been no

Table 1: Percentage-wise results of “Beliefs of yoga practitioners toward yoga” questionnaire

Question	Options	Percent
Do you practice yoga?	a) Yes	54.7
	b) No	45.3
Do you associate yoga with scientific research?	a) Scientific research, science	57.6
	b) Belief, faith	42.4
Do you know of any scientifically/research-proven benefits of yoga?	a) Yes	66.1
	b) No	33.8
Which school of yoga do you follow?	a) Kaivalyadhama	31.0
	b) Patanjali yoga, Haridwar	28.7
	c) Any other	15.4
	d) The Yoga Institute	13.7
	e) Bihar School of Yoga	4.3
	f) Bikram yoga	3.7
	g) Iyengar yoga	2.4
	h) Shivanand yoga	0.2
Interested in online yoga learning?	a) Yes	60.4
	b) No	39.5
Who do you associate with practicing yogic exercises regularly?	a) Young fit people	36.0
	b) Old but fit people	38.0
	c) Old terminally ill patients	7.0
	d) Middle-aged people trying to regain health	12.0
	e) Children	7.0
Time during which the respondents would start yoga practice	a) Less than 6 months	26.2
	b) 6 months - 1 year	15.8
	c) 1-2 years	13.0
	d) No such plans	45.0

surveys carried out to determine the level of awareness of yoga practitioners about such research. In the present study, out of 972 questionnaires correctly filled, 54.7 percent respondents practiced yoga, whereas 45.3 percent did not. This percentage in the Indian city of Mumbai is far more than the results obtained in the US (Birdee et al., 2008; Quilty et al., 2013). This is possibly not surprising as yoga originated in the Indian subcontinent.

It was interesting to note that among this sample of yoga practitioners who were chiefly (though not exclusively) university students, 57.0 percent did associate yoga with scientific research. The remaining respondents (43.0 percent) did not associate yoga with scientifically validated facts. One of the limitations of this question is that it did not describe or give details of what was meant by scientific research. For example, the respondents may have read articles on yoga by qualified physicians in newspapers or magazines and assumed that this was based on scientific research. Fairly comparable to the results of the question “Do you associate yoga with scientific research?” were the responses to the next question, i.e. “Are you aware of the scientifically proven benefits of yoga?” Here, 66.0 percent of the respondents were aware of research on yoga, while 34.0 percent were not aware of such research. For this question as well, what constitutes “scientifically proven benefits” was not clearly defined.

The percentage of respondents who followed yoga as taught by Kaivalyadhama (31.0 percent) was higher than any of the other schools of yoga. It was followed by 28.0 percent respondents, who practiced what has been called “Patanjali yoga” from the center in Haridwar. Compared to North America, Europe, and Australia, a small percentage (2.0 percent) of the sampled population followed Iyengar yoga. While 60.0 percent of the respondents mentioned that they were interested to learn yoga online, 40.0 percent of the respondents were not interested in learning yoga this way. It is possible that 60.0 percent felt confident and were ready for online instruction, whereas 40.0 percent enjoyed person-to-person interaction with the instructor. Online instruction has advantages such as convenience (no need to travel to the yoga studio; doing yoga at home) and the possibilities for making it interactive using an ever-increasing possibility for internet connectivity and online interaction.

It is also interesting to note that yoga practitioners associated yoga with “old yet fit” (38.0 percent) and “young yet fit” (35.0 percent) people in more or less comparable percentages. This may be because, nowadays, youngsters show a comparable level of interest in yoga as do older people. This also implies that yoga is considerably relevant in the lives of “the fast generation” of today. Finally, among the 45.3 percent of respondents who were not practicing yoga, 45.0 percent said they had no plans to begin yoga

practice in the near future. The remainder said they would begin yoga after time intervals ranging from 6 to 24 months.

The main limitations of the study are: (i) what exactly was meant by “scientific research” was not clearly defined, due to which reports from the internet, newspapers, and magazines that may not necessarily adhere to rigorous research methodology may have been assumed by the sample; (ii) the method used to sample the population was not systematic and randomized; however, these results can be considered a prelude for a systematic study to be conducted on a larger sample; and (iii) the sample surveyed was restricted to students of a single university in one metropolitan city due to which the findings are likely to have limited generalizability. Despite these limitations, the findings are of interest and can be considered as pilot findings for a more wide-reaching, systematically sampled survey in the future.

CONCLUSION

The current survey, which is the first documentation of its type in India, showed interesting trends in beliefs about yoga as a scientific discipline among a predominantly young, educated, and urban Indian sample. The most interesting trends in these beliefs were a sizable percentage of the sampled yoga practitioners associating yoga with scientific research as well as being aware of it, an increasing willingness for online yoga instruction, and yoga being associated as much with young people as with old people.

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