Prevalence of Tobacco use, Exposure to Environmental Tobacco Smoke and Behaviour among AYUSH Health Professional Students in Bengaluru –A Cross Sectional Study

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ABSTRACT

Introduction: Hardly any studies have been done to assess the prevalence of and attitudes to tobacco usage among the AYUSH health professional students in Bengaluru, using the Global Health Professional Student Survey (GHPSS). To assess the prevalence of tobacco use, exposure to environmental tobacco smoke and behaviour among third year Ayurvedic, Homoeopathy, Unani, Naturopathy and Yoga undergraduate students in Bengaluru.

Material and methods: A descriptive cross sectional, GHPSS questionnaire based survey was conducted among 198 AYUSH health professional students.

Results: Although**,** most of the respondents have reportedly not experimented with tobacco use, some (n=32, 16.2%) of the AYUSH students had ever experimented with cigarette smoking and reported the use of chewing tobacco (n=6, 3%); Majority (n=137, 69.2%) of AYUSH students reported that an official policy banning smoking in their college buildings and clinics was present in their colleges**.** Three-fourth (n=152, 76.8%) of the AYUSH students agreed that health professionals who smoke and use other tobacco products are less likely to advise patients to stop smoking.

Conclusion: The use of both smoking and chewing forms of tobacco is prevalent among AYUSH health professional students in Bengaluru. Therefore it is necessary to promote effective cessation programs to reduce tobacco use among AYUSH healthcare students and strengthen and enforce the legislation aimed at smoke free healthcare campus premises and buildings in all AYUSH educational institutions in Bengaluru.

Keywords: AYUSH health professional students, tobacco use, environmental tobacco smoke

INTRODUCTION

Tobacco is the leading preventable cause of death and more than five million people die globally from the effects of tobacco every year -more than that of HIV/AIDS, malaria and tuberculosis.[1] Current tobacco use trends threaten to cause over 8 million annual deaths worldwide by the year 2030, and more than two third of these are projected to occur in low and middle income countries.[2] It has been reported that there is an increased trend of tobacco habits among the health care students persuing healthcare education like any other youths.[3] Ideally, health professionals ought to be role models for their patients.[4] Health professionals who themselves use either smoking or chewable forms of tobacco, give out a contradictory message to patients whom they counsel, to quit smoking or chewing tobacco. The public health community should target cigarette smoking among health professional students because this behavior endangers their own health and reduces their ability to deliver effective antitobacco counseling to their patients.[5]

India is the only country to legalize six indigenous systems of medicine parallel to modern/allopathic system of medicine. AYUSH is an acronym for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy and are the six Indian systems of medicine prevalent and practiced in India and some of the neighboring Asian countries with very few exceptions in some of the developed countries. The students in these courses are taught about the Non- clinical, Para-clinical and Clinical courses during their graduation like their Allopathic counterparts.[6] As on 1-1-2010, there were 7,85,185 registered AYUSH doctors in India. During 1980-2010, an average annual growth rate of 2.5% was observed in number of AYUSH doctors with a maximum growth rate of 11.8% recorded in 2000.[7]

The Global Health Professions Student Survey (GHPSS) was developed to track tobacco use among third-year medical, dental, nursing, and pharmacy students across countries. Data from the dental (2005), medical (2006), nursing (2007), and pharmacy (2008) GHPSS conducted in India showed high prevalence of tobacco use and a general lack of training by health professionals in patient cessation counseling techniques. Hardly any studies have been done to assess the prevalence of and attitudes to tobacco usage among the AYUSH health professional students in India using the Global Health Professional student Survey (GHPSS). This vast knowledgeable pool of manpower can be utilized to provide tobacco cessation services in future. The Ministry of Health and Family Welfare could use this information to monitor and evaluate the existing tobacco control program effort in India as well as to develop and implement new tobacco control program initiatives.

As a first step in this direction it is important to assess the prevalence of and attitudes to tobacco use among AYUSH health professional students in India.In order to fill the gap in knowledge in this regard,a study was carried out to assess the prevalence of tobacco usage, exposure to environmental tobacco smoke and behaviour among AYUSH health professionals i.e Ayurvedic, Homoeopathy, Unani, Naturopathy and Yoga sciences students in Bangalore, based on the GHPSS methodology.

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MATERIAL AND METHODS

A descriptive cross sectional questionnaire study, based on the methodology of the Global Health Professional Student Survey (GHPSS) was carried out during May-August 2015, with due ethical clearance, among third year undergraduate degree students of four Ayurveda, two Homeopathy, one Unani and one Naturopathy and Yogic sciences teaching institutions affiliated to the Rajiv Gandhi University of Health Sciences in Bangalore, during regular class hours. One undergraduate Ayurvedic college did not permit the participation of their students in the survey as they did not want tobacco-use prevalence data to be collected nor reported, despite anonymity and confidentiality being maintained and informed consent being taken from respondents; two post graduate teaching colleges (one Yoga and one Unani college) were not included in the study as they did not offer undergraduate degree courses. An anonymous, self administered GHPSS core questionnaire with India-specific questions was used to collect data regarding demographics, prevalence of cigarette smoking and other tobacco use, knowledge and attitudes about tobacco use and exposure to secondhand smoke. Total enumeration method was followed and third year undergraduate AYUSH students who were present on the day of data collection and willing to provide informed consent were included in the study.

STATISTICAL ANALYSIS

Microsoft office 2007 was used for the statistical analysis. Descriptive statistics like mean and percentages were used for interpretation of the data.

RESULTS

Among the 198 respondents who participated in the study, majority were in the age group 19-24 years; twenty six percent (n=52) were males and seventy four percent (n=146) were females. Among these respondents fifty eight percent (n=116) were from Ayurveda, twenty one percent (n=42) from Homeopathy, thirteen percent (n=23) from Unani and eight percent (n=17) were from Naturopathy and Yogic science.

Tobacco use prevalence: Majority (83.3%) of the respondents have reportedly not experimented with cigarette smoking. Of the minority (16.2%) of AYUSH students who had experimented with cigarette smoking, the greatest percentage (41.2%) were from Yogic sciences students and least percentage were from Homeopathy (11.9%).

Among AYUSH students who reported their age at first use of smoking, the majority belonged to the 18-19 years age group. However, one percent of the respondents (one from Homeopathy, one from Unani) have reportedly used cigarettes at age ten or younger. Among the AYUSH students who reported the number of days when cigarettes were smoked by them in the last month (30 days), only two percent of AYUSH students reported that they had smoked on all thirty days of the past month.

Use of tobacco products on college premises/property: Only a small percentage of those who smoked cigarettes (2.5%) reported to have had smoked on college premises or property during the past year and these students belonged to Unani (8.7%) and Ayurveda (2.6%) disciplines. Less than ten percent (8.7%) of AYUSH students reported that cigarettes were smoked by them in the college buildings during the past year and they belonged to Unani course.

Among the AYUSH students who reported the use of chewing tobacco (n=23, 11.6%), highest percentage (n=6, 14.3%) belonged to Homeopathy and least percentage (n=12, 10.3%) belonged to Ayurveda. Majority (95%) of AYUSH health professional students reportedly did not use any of the chewing forms of tobacco in the last one month, before the day of data collection. Among the AYUSH students who reported the use of chewing tobacco on all the thirty days (2%), highest percentage (17.4%) belonged to the Unani discipline. Seventy nine percent of AYUSH students reportedly did not use any chewing forms of tobacco on college premises or property during the past year. Among the AYUSH students who reported the use of chewing tobacco (n=6, 3%); highest percentage (17.4%) belonged to Unani and least percentage (0%) belonged to Yogic sciences discipline.

About 81% of AYUSH health professional students reportedly did not use any of the chewing forms of tobacco in the college building during the past year. Among these AYUSH students who reportedly did not use chewing tobacco (2.5%), the highest percentage (17.4%) belonged to the Unani and least percentage (n=0) belonged to Yogic sciences discipline.

Official policy: Majority (69.2%) of AYUSH students reported that an official policy banning smoking in their college buildings and clinics was present in their colleges. Minority (19.7%) of AYUSH students reported that there is no official policy present on banning smoking in their college buildings and clinics; among them most respondents were from Homeopathy (33.3%) and the least were from Yogic sciences (11.8%) (Table-1).

Nearly three-fourth (74.7%) of AYUSH students reported that the official policy banning smoking in their college buildings and clinics was enforced. About one-fifth (20.7%) of AYUSH students reported that there is no official policy enforced on banning smoking in their college buildings and clinics.

Attempts to quit / behaviour cessation: Only two percent of AYUSH students agreed that they smoked their first cigarette less than 10 minutes as soon as they wake up. Among them highest percentage (8.7%) belonged to Unani and least percentage (0%) belonged to Homeopathy discipline.

Responsibility of counseling to quit smoking: Three-fourth (75.8%) of the AYUSH students agreed that health professionals who smoke are less likely to advise patients to stop smoking. Among them highest percentage (95.7%) belonged to Unani and least percentage (66.7%) belonged to Homeopathy discipline (Table-2).

Three-fourth (76.8%) of the AYUSH students agreed that health professionals who smoke and use other tobacco products are less likely to advise patients to stop smoking. Among them highest percentage (87.0%) belonged to Unani and least percentage (71.4%) belonged to Homeopathy discipline (Table-3).

DISCUSSION

Although AYUSH is an acronym for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy, Siddha is not included in the present study because it is not a recognized discipline among the courses coming under the purview of the AYUSH health sciences, as per the norms of the Rajiv Gandhi

	Yes, for college buildings only	Yes, for clinics only	Yes, for both college buildings and clinics	No official policy	5	Total
Ayurveda	8	6	84	18	0	116
	6.9%	5.2%	72.4%	15.5%	.0%	100.0%
Homeopathy	1	2	24	14	1	42
	2.4%	4.8%	57.1%	33.3%	2.4%	100.0%
Unani	4	0	14	5	0	23
	17.4%	.0%	60.9%	21.7%	.0%	100.0%
Yogic Science	0	0	15	2	0	17
	0%	.0%	88.2%	11.8%	.0%	100.0%
Total	13	8	137	39	1	198
	6.6%	4.0%	69.2%	19.7%	.5%	100.0%
Chi-Square Tests						
	Value	'p' value				
Pearson Chi-Square	19.876	.069				

Table-1: AYUSH students' response about whether their college has an official policy of banning smoking in College buildings and clinics

	Yes	No	Total
Ayurveda	88	28	116
	75.9%	24.1%	100.0%
Homeopathy	28	14	42
	66.7%	33.3%	100.0%
Unani	22	1	23
	95.7%	4.3%	100.0%
Yogic Science	12	5	17
	70.6%	29.4%	100.0%
Total	150	48	198
	75.8%	24.2%	100.0%
Chi-Square Tests			
	Value	'p' value	
Pearson Chi-Square	7.095	.069	

Table-2: Number of AYUSH students who responded that Health professionals who smoke are less likely to advise patients to stop smoking

	Yes	No	Total
Ayurveda	89	27	116
	76.7%	23.3%	100.0%
Homeopathy	30	12	42
	71.4%	28.6%	100.0%
Unani	20	3	23
	87.0%	13.0%	100.0%
Yogic Science	13	4	17
	76.5%	23.5%	100.0%
Total	152	46	198
	76.8%	23.2%	100.0%
Chi-Square Tests			
	Value	'p' value	
Pearson Chi-Square	2.011	.570	

Table-3: Number of AYUSH students who responded that Health professionals who use other tobacco products are less likely to advise patients to stop smoking

University of Health Sciences.[8] This publication reports the tobacco use prevalence among AYUSH health professional students and their exposure to environmental tobacco smoke.

Tobacco use prevalence among AYUSH health professional students

Ever tobacco use/experimenting with cigarette smoking: From our study we found that only a minority (16.2%) of AYUSH students had ever experimented with cigarette smoking; the greatest percentage (41.2%) of those who reported ever smoking were from Yogic sciences and this prevalence of ever use of smoking tobacco reported by the Yogic sciences students is more than that of the dental (9.6%), medical (11.6%) and pharmacy (13%) students as per the GHPSS study conducted in India-2010 previously by DN Sinha et al.[9] and also the results reported in the GHPSS data of 2005-2008 by Surani et al.[10] wherein the prevalence of ever cigarette smokers was relatively lower among medical students (40%), pharmacy (26.3%), dental (22%) and nursing students (12.5%). Tobacco use endangers the health of health professions students and negatively influences the future health professions workforce to deliver effective anti-tobacco counseling when they start seeing patients.[16]

Age at initiation of smoking: Among AYUSH students who reported their age at first use of smoking, the majority belonged to the 18-19 years age group. However, one percent of the respondents (one from Homeopathy, one from Unani) have reportedly used cigarettes at age ten or younger. These age ranges are similar to that reported in other studies. Singh.I. et al (Jaipur) in 2010,[3] Surani NS et al in 2012[10] and Slovokia, 2005.[11]

Although tobacco use usually begins during adolescence, initiation also can occur during young adulthood.[12,13] Educational institutions training AYUSH health professional students should help their students quit using tobacco by providing encouragement and information to students who are considering quitting and providing assistance to students who are motivated to quit.[14] We have not been able to implement effective measures to equip our future workers with the required skills. In developing countries, incorporation of formal training on tobacco cessation in education curricula is very scarce.[17] The finding that some students initiated smoking before the age of 16 years is a cause of concern. Several factors are known to motivate pre-teenagers and teenagers to initiate tobacco use. These factors can be summed into social, physical and environmental factors. These factors should be addressed accordingly and effectively during primary and secondary school education. Primary and secondary school education should cover the harms of tobacco use so that students will be aware of the hazards of tobacco from

an early age.[18]

Current use / Cigarette smoking in the past month: Among the AYUSH students who reported the number of days when cigarettes were smoked by them in the last month (30 days), only two percent of AYUSH students reported that they had smoked on all thirty days of the past month, which is less than that reported by the GHPSS India data of 2005-2008 (Sinha and Surani).[9,10]

Smoking on college premises/property/college building

Ever use of chewing tobacco: Among the AYUSH students who reported the use of chewing tobacco (11.6%), highest percentage (14.3%) belonged to Homeopathy and least percentage (n=12, 10.3%) belonged to Ayurveda. It is lesser than the prevalence of chewing tobacco use reported by medical (40.5%), dental (28%), pharmacy (22.4%) and nursing (18.7%) students in the GHPSS India 2005-2009 study conducted by Surani et.al.[10] It is also less when compared with GHPSS Nepal 2011 country report[14] wherein, 17.6% of nursing, 33.6% of medical, 35.1% of dental and 36.2% of pharmacy students had reported use of chewing tobacco.

Use of chewing tobacco in the past month: Majority (95%) of AYUSH students reportedly did not use any of the chewing forms of tobacco in the last one month prior to the day of data collection. Among the AYUSH students who reported the use of chewing tobacco on all the thirty days (2%), highest percentage (17.4%) belonged to the Unani discipline. Minority (2.0%) of AYUSH students agreed that they smoked their first cigarette less than 30 minutes as soon as they wake up. Among them the highest percentage (8.7%) belonged to Unani discipline which is less than that reported by other disciplines, as per the GHPSS India data of 2005-2008 (Surani et al).[10] Tobacco use endangers the health of health professional students and negatively influences the future health professions workforce to deliver effective anti-tobacco counseling when they start seeing patients. This form of tobacco is commonly associated with oral cancers.[19,20] It is possible that health professions students have become aware of the hazards of tobacco use during their study at the university and have opted to quit tobacco use or underreported their use.

Chewing tobacco on college premises/property/college building: Among the AYUSH students who reported the use of chewing tobacco (3%); highest percentage (17.4%) belonged to the Unani and least percentage (n=0) belonged to Yogic sciences discipline. It is less when compared with the GHPSS India 2005-2009 study conducted by Surani et.al.[10] i.e., 16% among dental, 34.2% among medical and 41.5% among pharmacy students.
Although the reported use of tobacco in the present study may be lesser than in other studies, social desirability bias could be a factor despite anonymity and confidentiality being maintained at the time of data collection. The issue of tobacco use amongst AYUSH health professional students is a major cause of concern because it not only endangers their health, but can potentially reduce their ability to deliver effective anti tobacco counseling when they start seeing patients.

Exposure to environmental smoke/second hand smoke

Official policy banning smoking in college building, clinics: Majority (69.2%) of AYUSH students reported that an official policy banning smoking in their college buildings and clinics was present in their colleges, which is consistent with the results of other GHPSS studies carried out previously.(Sinha et al. and Nepal and Surani et. al).[9,10,14]
However a minority (19.7%) of AYUSH students reported that there is no official policy present on banning smoking in their college buildings and clinics; among them most respondents were from Homeopathy (33.3%) and the least were from Yogic sciences (11.8%). Despite these positive attitudes, knowledge of the colleges no –smoking policy, which has been in existence since 2007 and its enforcement was variable. Given the benefits of smoking restrictions as a component of comprehensive tobacco control programs has been well documented, information about the non-smoking regulations needs to be more widely disseminated.[21]
Also a minority (20.7%) of AYUSH students reported that there is no official policy being enforced on banning smoking in their college buildings and clinics. The findings of the present study suggest that further effective enforcement of ITCA (Indian Tobacco control Act) 2003[9] in AYUSH college buildings, clinics and in the entire campuses of AYUSH colleges is needed, to raise awareness of the ban on use of tobacco products at institutional, health and educational facilities and the importance of enforcing the ban**.**

Behavior/Cessation

A little more than half of the respondents (n=12 out of 32) who had ever used smoking tobacco reported that they had never received help or advice to quit the habit of smoking cigarette, which is similar to that reported by 43% of health professional students from Rajasthan in 2010.[3] Educational institutions training AYUSH health professional students should help their students quit using tobacco by providing encouragement and information to students who are considering quitting and providing assistance to students who are motivated to quit.[10]
Three-fourth (76.8%) of the AYUSH students reported that health professionals who use to smoke and use other tobacco products are less likely to advise patients to stop smoking but it is a lesser percentage than that reported by the GHPSS Jaipur study (97%).[3] Smoking among health professionals has been shown to affect their professional life.[4] Doctors who are consumers of tobacco are less likely than doctors who are non consumers to raise the issue of tobacco consumption with their patients[15] and although there are insufficient data available on the issue, it seems likely that AYUSH health professionals who are current consumers will lack credibility on tobacco cessation.

Limitations

Although efforts to maintain anonymity and confidentiality were made by not recording the name of the students and their institutions on the questionnaire there may have been some social desirability bias that led to the low prevalence of tobacco use reported by the AYUSH students. In fact one institution denied permission to conduct the study as it did not want tobacco use among their students to be reported. The findings from the study are not generalizable as regional differences among AYUSH students may be seen in different parts of India and therefore further national level GHPSS studies need to be carried out among the AYUSH students.

CONCLUSION

The use of both smoking and chewing forms of tobacco is prevalent among AYUSH health professional students in Bengaluru. Therefore it is necessary to promote effective cessation programs to reduce tobacco use among AYUSH healthcare students and strengthen and enforce the legislation aimed at smoke free healthcare campus premises and buildings in all AYUSH educational institutions in Bengaluru.

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