Examining physicians' preparedness for tobacco cessation services in India: Findings from primary care public health facilities in two Indian states

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RESEARCH

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Abstract

Background

A total of 275 million tobacco users live throughout India and are in need of tobacco cessation services. However, the preparation of physicians to deliver this service at primary care health facilities remains unknown.

Aims

The study aimed to examine the primary care physicians' preparedness to deliver tobacco cessation services in two Indian states.

Method

Researchers surveyed physicians working in primary care public health facilities, primarily in rural areas using a semi-structured interview schedule. Physicians' preparedness was defined in the study as those possessing knowledge of tobacco cessation methods and exhibiting a positive attitude towards the benefits of tobacco cessation counselling as well as being willing to be part of tobacco prevention or cessation program.

Results

Overall only 17% of physicians demonstrated adequate preparation to provide tobacco cessation services at primary care health facilities in both the States. The findings revealed minimal tobacco cessation training during formal medical education (21.3%) and on-the-job training (18.9%). Factors, like sex and age of service provider, type of health facility, location of health facility and number of patients attended by the service provider, failed to show significance during bivariate and regression analysis. Preparedness was significantly predicted by state health system.

Conclusion

The study highlights a lack of preparedness of primary care physicians to deliver tobacco cessation services. Both the curriculum in medical school and on-the-job training require an addition of a learning component on tobacco cessation. The addition of this component will enable existing primary care facilities to deliver tobacco cessation services.

Key Words

Tobacco cessation, service delivery, primary care, physicians, India

What this study adds:

1. Tobacco control programs in India cannot be successful unless counselling and cessation therapy is accessible to a large number of people. For tobacco counselling and cessation therapy to be accessible for large populations we need a critical number of well-trained physicians who can provide the service
2. This study provides information regarding the level of preparedness among physicians and identified factors that influence preparedness.
3. The government in India needs to introduce tobacco cessation training into medical schools and conduct a well designed training program for on-the-job training for physicians currently in practice.

Background

Tobacco use remains a leading cause of preventable and premature deaths of six million people worldwide each year.[1-2] The World Health Organization expects tobacco-related mortality to rise to over eight million deaths by 2030 based on the current pattern of tobacco use.[2,3] In view of the increasing rate of smoking, the tobacco burden disproportionately strikes low and middle income people in countries like India.[4] India contains 111 million smokers that contribute one million deaths from smoking each year to the problem.[5,6] Among these smokers, 24.3 million represent 'hard core' smokers who smoke daily with many lighting up within just 30 minutes of waking up and declining to want to quit despite possessing knowledge of

the serious health consequences of smoking.[7] The direct health care cost due to tobacco use in India in 2004 approached 1.2 billion USD.[8] There are 275 million adult tobacco users (rural-216 million, urban-59 million) in India including 111 million smokers which is a major public health challenge.[6] Tobacco cessation leads to short-term health benefits and curbs the tobacco death burden in the long-term.[9-11] Thus, a strong case exists to support tobacco cessation services in India. However, the effectiveness and extent of tobacco cessation services in India continues to be undetermined. Currently, only 19 public smoking cessations centres operate in India.[12,13] These centres within tertiary care health facilities possess limited access to the rural population. During its first five years of operation, these centres registered only a total of 34,741 clients for tobacco cessation, which constitutes a negligible proportion of current tobacco users (275 million) in India.[6,12,13] In a recent revised guideline, Indian Public Health Standard (IPHS) mandated tobacco cessation as an essential service at primary care public health facilities. This situation presents a window of opportunity for expansion of tobacco cessation services to the vulnerable rural population.[14,15] However, currently little information exists on physicians' preparedness to provide tobacco cessation services to primary care health facilities. In this context, the study examined physicians' preparedness for tobacco cessation service delivery at primary care health facilities.

Method

Researchers conducted a cross-sectional survey using a semi-structured interview schedule during January to March 2011 under the project titled '**S**trengthening **T**obacco control **E**fforts through innovative **P**artnerships and **S**trategies' (STEPS) of the Public Health Foundation of India (PHFI).[16] The participants involved were health professionals working in primary care health facilities under administrative control of state governments in 12 districts of Andhra Pradesh (Group A) and Gujarat (Group B). Sampling done separately for two states using formula $N = D [Z_1-\alpha \sqrt{2P (1-P)} + Z_1-\beta\sqrt{P1 (1-P_1) + P_2(1-P_2)^2}]/ (P_2-P_1)^2$;where as D=Design effect=2, P_1=the estimated proportion at the time of the first survey= 0.5, P_2=the proportion expected at the time of second survey= 0.625, $Z_1-\alpha$=the z-score corresponding to a significance level (90% in this case) =1.65 and $Z_1-\beta$=the z-score corresponding to the power= 0.84. The formula yields N=390 each for STEPS intervention and control area for Andhra Pradesh and Gujarat. Therefore the sample size was estimated to be780 for each states for survey of three type of health and allied professionals i.e. physicians; pharmacists and laboratory technicians; and nurses, ANM (Auxiliary Nurse Midwifes) & ASHAs (Accredited Social Health Activists). The sampling process was completed in two steps i.e. selection of health facilities (Primary Health Centre-PHC, Community Health Centre-CHC and Health Sub Centre-HSC) and selection of health and allied health professionals working there. Systematic Random Sampling was done to select health facilities (2 CHCs, 10 PHCs, and 24 HSCs per district) after listing the health facilities in an alphabetical order for each district separately. The selection of health personnel at the health facilities was made based on their availability on the date of survey team visit. Overall the achieved sample size was 93% with 238 completed interviews of physicians (Group A -128 and Group B-110) in both the states. For the purpose of this study, only the interviews of physicians were considered for data analysis.

The survey assessed whether physicians received training in tobacco cessation during their formal medical preparation or during on-the-job training. The survey also assessed self-reported contemporary knowledge about tobacco cessation counselling and pharmacotherapy. Furthermore, the survey recorded the attitude of physicians regarding tobacco cessation counselling. The survey ascertained presence of a positive attitude when physicians agreed that the health professional's advice increases a patient's chances of quitting or reducing tobacco consumption and affirms that counselling fails to stigmatise patients. The tool also included assessment of their willingness to be a part of the tobacco cessation program.

The PHFI provided Institutional ethics clearance. The State governments gave permission for the survey. The researchers hired an external agency to conduct the survey and training of their field investigators. A pilot testing of the questionnaire occurred before the actual survey. Prior to administering the survey questionnaire, the field investigators explained the purpose of the study, the voluntary nature of participation, and the anonymous and confidential nature of the questionnaire to all participants. Researchers obtained informed written consent from all the participants.

The statistical analysis was done using SPSS (version 17.0; SPSS Inc., Chicago, IL, USA) software. A p <0.05 was set as the level of statistical significance. After review of the survey data, 230 respondent physicians comprised the final sample. Multivariate logistic regression analysis was used to identify predictors of physician's preparedness.

Results

The participating primary care physicians' average age was 34.4±8 years (Group A 36.4±8 years, Group B 32.2±7.7 years, p=0.001). Medical officers with MBBS degree represented 82.2% of the participating physicians (n=230). Other medical officers had qualification in alternative system of medicine like Ayurveda, Unani, Siddha and Homeopathy. Male physicians constituted 71% of the respondents. Only 10.4% of respondents ever reported using tobacco. Table 1 lists the demographic characteristics of study participants. Significant differences in the distribution of physicians between the two states were observed for age, sex and type of health facility characteristics.

Table 1: Demographic characteristics of the study participants by state of residence

	Group B N_1 (%)	Group A N_2 (%)	Total N (%)	p value
Mean Age (Years)	32.2±7.7	36.4±8	34.4±8	0.001
Age group				
< 35 years	79(73.1)	64(52.5)	143(62.2)	0.004
36-45 years	18(16.7)	42(34.4)	60(26.1)	
>45 years	11(10.2)	16(13.1)	27(11.7)	
Sex				
Male	86(79.6)	77(63.1)	163(70.9)	0.006
Female	22(20.4)	45(36.9)	67(29.1)	
Ever Tobacco Use Status				
Ever User	7(6.5)	17(13.9)	24(10.4)	0.065
Never User	101(93.5)	105(86.1)	214(89.6)	
Current Tobacco Use Status				
Current tobacco User	6(5.5)	3(2.5)	9(3.9)	0.227*
Current Non tobacco User	101(94.5)	119(97.5)	221(96.1)	
Type of Health Facility				
PHC	97(89.8)	39(32)	136(59.1)	0.001
CHC	11(10.2)	83(68)	94(40.9)	

PHC-Primary Health Centre, CHC-Community Health Centre

* Two cells had expected value less than five

Table 2: Distribution of different component constructs of physicians' preparedness stratified by state of residence

	Group B N_1 (%)	Group A N_2 (%)	Total N (%)	p value
Training*				
Curriculum training on dangers of tobacco use	104(96.3)	112(91.8)	216(93.9)	0.155
Curriculum training on tobacco cessation approaches	41(38)	26(21.3)	67(29.1)	0.006
On-Job Training in tobacco related issues	15(13.9)	23(18.9)	38(16.5)	0.312
Duration of on-the-job training				
Half to one day	10(66.7)	7(30.4)	17(44.7)	0.074**
Two to three day	4(26.7)	10(43.5)	14(36.8)	
One week or more	1(6.7)	6(26.1)	7(18.4)	
Self reported knowledge about tobacco cessation methods*				
Knowledge about effective Counselling	104(96.3)	108(88.5)	212(92.2)	0.029
Knowledge about NRT	87(80.6)	65(53.3)	152(66.1)	0.001
Knowledge about Champix/Zyban	51(47.2)	32(26.2)	83(36.1)	0.001
Knowledge of effective counselling and NRT (and/or Zyban/Champix)	84 (77.8)	54 (44.3)	138 (60)	0.001
Positive attitude towards counselling in reducing tobacco consumption				
Yes	86(79.6)	91(74.6)	177(80)	0.365
No	22(20.4)	31(25.4)	53(20)	
Positive attitude towards counselling in quitting tobacco				
Yes	88(81.5)	95(77.9)	183(79.6	0.498

			)	
No	20(18.5)	27(22.1)	47(20.4)	
Willingness to be a part of tobacco control program				
Yes	106(98.1)	119(97.5)	225(97.8)	0.753 ^
No	2(1.9)	3(2.5)	5(2.2)	
* Items under training and self reported knowledge are not mutually exclusive to each other ^ Two cells had expected value less than five				

Distribution of different component constructs of physician's preparedness: The analysis of each component of the survey indicates only a minority of respondent physicians obtained training in tobacco cessation either through formal medical school training (29%) or on-the-job training (16.5%) (Table 2). The results indicate Group B obtained more medical school based training in tobacco cessation than Group A (p=0.006). However the reverse occurred in case of on-the-job training, which was statistically insignificant. Most (92.2%) physicians (Group B > Group A; p=0.029) reported possessing knowledge on effective counselling. Around two third physicians (Group B > Group A; p=0.001) reported acquiring knowledge about nicotine replacement therapy (NRT). Six in 10 physicians reported assimilating knowledge about effective counselling and NRT and/or other drugs. Overall, physicians in Group B reported more knowledge in effective counselling and/or pharmacotherapy than physicians in Group A (p=0.001). Around four-fifths of physicians reported a positive attitude towards counselling in reducing (Group B> Group A, p=0.365) or quitting (Group B> Group A, p=0.498) tobacco use. Overall Group B conveyed a more positive attitude toward tobacco cessation than physicians in Group A (p=0.753). Almost all physicians in both states reported a willingness to be a part of tobacco control program for a healthy community (Group A > Group B; p=0.074). As far as on-the-job training, the majority of physicians attended half to one full day (45%) duration.

Physicians' preparedness to deliver tobacco cessation service: Using the definition of preparedness, the study found only 17% (Group A 9.8%, Group B 25%) of primary care physicians possessed the background to deliver tobacco cessation services at their public health facilities (Table 3). Physicians in Group B demonstrated significantly (p=0.002) more preparedness than in Group A. Physicians working in primary health care centres exhibited more preparedness than those working in community health care centres. Male physicians displayed more preparedness than their female counterparts. Interestingly, physicians working in rural primary care health facilities showed more preparedness than primary care health facilities located in urban areas. Physicians in the older age group demonstrated more preparedness than the physicians in the younger age group. As the clinical practice workload (number of patients seen) of physicians increased, the preparedness among physicians decreased. However, the difference between physician's preparedness in the two groups by age, sex, location of health facility, type of health facility and clinical practice workload failed to show significance during bivariate and regression analyses. The regression model predicted that Group B physicians at primary care health facilities demonstrated higher odds ratio (3.71) of preparedness for tobacco cessation service delivery than their counterparts in Group A.

Table 3: Physicians' preparedness for tobacco cessation service at primary care health facilities stratified by different covariates

	Prepared N_1 (%)	Not Prepared N_2 (%)	Total N (%)	p Value
State				
Group B	27(25)	81(75)	108(100)	0.002
Group A	12(9.8)	110(90.2)	122(100)	
Location of public health facilities*				
Rural	37(18.1)	167(81.9)	204(100)	0.181
Urban	2(7.7)	24(92.3)	26(100)	
Sex				
Male	30(18.4)	133(81.6)	163(100)	0.361
Female	9(13.4)	58(86.6)	67(100)	
Type of Health Facility				
Community Health Centre	7(14)	43(86)	50(100)	0.529
Primary Health Centre	32(17.8)	148(82.2)	180(100)	
Age Group*				
<36 Years	114(79.7)	29(20.3)	143(100)	0.195
36-45 Years	54(90)	6(10)	60(100)	
>45 Years	23(85.2)	4(14.8)	27(100)	
Average number of patient seen by the physicians				
<31	12(20.7)	46(79.3)	58(100)	0.671
31-50	12(16.2)	62(83.8)	74(100)	
>50	15(15.3)	83(84.7)	98(100)	
* One cell had expected value less than five				

Table 4: Logistic regression model predicting preparedness among doctors			
Variables	Adjusted OR	95% C.I.	p value
State			
Group A	Reference category		
Group B	3.71	1.29-8.77	.014
Location of Public Health Facility			
Urban	Reference category		
Rural	2.39	.37-15.24	.357
Sex			
Female	Reference category		
Male	1.21	.50-2.92	.674
Type of Public Health Facility			
PHC	Reference category		
CHC	4.43	1.24-15.85	.092
Age Group			
> 45 years	Reference category		
36 to 45 years	1.56	.45-5.45	.483
< 36 year	.71	.16-3.05	.642
Average number of patient seen by the physicians			
>50	Reference category		
31-50	1.04	.36-3.04	.941
0-30	.59	.22-1.62	.308

Discussion

The current study most likely represents the first of its kind to identify self-reported preparedness for tobacco cessation service delivery among primary care physicians at public health facilities in India. The state wise comparison also highlights the influence of the state health system in the preparation of primary care physicians.

Tobacco use among primary care physicians: Earlier studies in India observed that 22-48% of physicians or dentists use tobacco products.[17,18] The Global Health Professional Student Survey (GHPSS) in India (2006) indicates that ever use of cigarettes and other tobacco products among third-year medical students shows rates of 28.2% and 22%, respectively.[17] However, our study indicated a lower level of tobacco use among practicing physicians. This fact may be due to various socio-demographic characteristics of the study population, time of study, implementation of national tobacco control program and response bias which might have influenced tobacco use patterns in the study population. In addition, the problem could be due to under reporting and requires further exploration.

Training in tobacco cessation techniques: The Global Health Professional Student Survey (GHPSS) India (2006) indicates less than one-quarter of medical students (22.5%) acquired knowledge about tobacco cessation approaches during their medical study.[17] This statistic falls below the current study estimate (29%), which might be related to selection of third year medical students in the GHPSS-India and presence of on-the-job training for the study participants. The Government of India developed manuals for training of physicians under the National Tobacco Control Program (NTCP) in recent years.[20,21] Currently, no published literature exists on quantity and quality of in-service training under NTCP and its outcome. When investing in capacity building efforts designers should note current levels of attitude and practice before changing curricula or other learning methods. Educating physicians in tobacco cessation techniques on a wider scale represents an urgent need.[12] Therefore the Government of India should take note of this type of finding and complete a system analysis before defining a standardised curriculum. This study indicated that a limited number of government physicians possess training in tobacco cessation. Post-graduate medical courses provide limited training opportunities for tobacco addiction treatment.[22] This study demonstrates a need to produce a critical number of well-trained tobacco cessation physicians. In order to reach a critical number of providers, efforts need to include physicians working in the primary health care system. The importance of physicians in the primary health care system relates to the ability to reach a large number of the rural population. The present policy that focuses on establishing tobacco cessation centres fails to yield wide-spread tobacco control service coverage. Imparting training to post graduate specialist physicians neglects to provide a solution for the wide-spread prevalence of tobacco use in India. The study indicated that the large proportion of 'on-the-job' training sessions lasted a half to one day (45%) duration. The length of training fails to provide adequate skill based training in using a behavioural component as a crucial part of the cessation training. Therefore, all health professionals, in formal education and on-the-job, are required to engaged in well-designed, structured and standardised training programs. The skill-based training programs need to empower the physicians to practise comprehensive tobacco cessation interventions.

Knowledge and attitude: Effective counselling by primary care physicians provides a way for reaching large numbers of addicted tobacco users who report at health facilities. Easy access to tobacco cessation efforts helps reduce morbidity and mortality among tobacco users.[12,13] However, this study highlights the fact that many physicians in the primary health care system lack awareness of effective

counselling techniques. One-third of physicians lack knowledge about NRT or other drugs used for tobacco cessation. A study among post graduate resident physicians in Bangalore also found that 25% physicians fail to be aware of NRT as a treatment option for tobacco cessation.[23] This finding emphasizes the need to build a capacity to deliver tobacco control services in the primary health care system. It is heartening that a majority of primary care physicians in this study show a positive attitude towards counselling in spite of their busy schedules. This opportunity can be used to expand and strengthen the current tobacco cessation programs. Different methods of maintaining motivation can assist physicians to become role models for tobacco control.

Preparedness among primary care physicians: Overall the preparedness for tobacco cessation service delivery by the primary physicians remains low. This deficiency may be due to various systematic and individual factors. The study used a multidimensional definition of preparedness that assessed both individual and systematic factors. Positive attitude and willingness to be a part of tobacco control programs, of the preparedness component construct represent individual factors while training refers to a systematic factor. The current study found that the state health system is the only significant predictor of preparedness that is responsible for design and delivery of various health services to the public, which is shaped by various policy measures and program strategies. Thus tobacco control relies on systemic factors. As other covariates remained insignificant, all the physicians irrespective of their age, sex, patient load, location and type of health facility, could participate in tobacco cessation. This situation provides an opportunity to expand the tobacco cessation service at every public health facility.

Limitation of the study: The study utilised a cross-sectional design and captured self-reported information of the participants. Sample size also limits the generalization of sex and other stratified variables. The lack of a qualitative component restricted the assessment of other psychosocial and contextual factors that may affect the preparedness of the physicians for tobacco cessation service delivery.

Conclusion

Inadequate and incomplete skill based training on tobacco cessation exists at the professional study level and during in-service training. This lack of knowledge on tobacco cessation warrants a need to assess the expansion of standardised training for tobacco cessation to the professional students and to practicing physicians in primary care via on-the-job training. The study did capture positive attitudes about tobacco cessation counselling. These results suggest a window of opportunity for motivating physicians in the provision of tobacco cessation service.

The study highlights the lack of preparedness among the primary care physicians for tobacco cessation service delivery at public health facilities. Factors like 'The State' which represents health system predicted more preparedness among physicians. Thus health system analysis leading to identification of state specific issues, should be given due emphasis during planning of tobacco cessation service delivery through public health facilities. The study indicates that primary care physicians agree to be part of tobacco control efforts which could make the integration of tobacco cessation services at primary care health settings plausible with skill based training of adequate duration for all primary care physicians irrespective of their age, sex and health facility. The use of qualitative studies is recommended to understand the individual and environmental factors that determine preparedness.

References

1. World Health Organization (WHO). WHO Report on the global tobacco epidemic, 2008 - The EMPOWER package. Geneva: World Health Organization, 2008.
2. World Health Organization. WHO REPORT on the global tobacco epidemic, 2011: Warning about the dangers of tobacco. Geneva: World Health Organization, 2011.
3. Jha P, Chaloupka FJ. Curbing the Epidemic: Governments and the Economics of Tobacco Control. Washington DC: The World Bank; 1999.
4. Giovino GA, Mirza SA, Samet JM, Gupta PC, Jarvis MJ, Bhala N, Peto R, Zatonski W, Hsia J, Morton J, Palipudi KM, Asma S; GATS Collaborative Group. Tobacco use in 3 billion individuals from 16 countries: an analysis of nationally representative cross-sectional household surveys. Lancet. 2012 Aug 18;380(9842):668-79.
5. Jha P, Jacob B, Gajalakshmi V, Gupta P, Dhingra N, Kumar R, et al. A Nationally Representative Case-Control Study of Smoking and Death in India. N Engl J Med. 2008 Mar 13;358(11):1137-47.
6. Ministry of Health and Family Welfare. Global Adult Smoking Survey (GATS)–India, 2009–10. New Delhi: Ministry of Health and Family Welfare, Govt. of India; 2010.
7. Jena PK, Kishore J. Prevalence and correlates of hardcore smoking in India. Research and Reviews: A Journal of Medicine. 2012; 2(2): 16-24.

8. John RM, Sung HY, Max W. Economic Cost of Tobacco Use in India, 2004. Tob Control. 2009 Apr;18(2):138-43
9. US Department of Health and Human Services. The health benefits of smoking cessation: a report of the Surgeon General. Rockville, MD: US Department of Health and Human Services, Centres for Disease Control, Office on Smoking and Health, 1990.
10. Kulik MC, Nusselder WJ, Boshuizen HC, Lhachimi SK, Fernandez E, Baili P, Bennett K, Mackenbach JP, Smit HA. Comparison of Tobacco Control Scenarios: Quantifying Estimates of LongTerm Health Impact Using the DYNAMO-HIA Modeling Tool. PLoS One.2012; 7(2): e32363.
11. Peto R, Lopez AD, Boreham J, Thun M, Heath Jr C. Mortality from smoking in developed countries 1950-2000. Indirect estimation from National Vital Statistics. Oxford (UK): Oxford University Press; 1994.
12. Varghese C, Kaur J, Desai NG, et al. Initiating tobacco cessation services in India: challenges and opportunities. WHO South-East Asia Journal of Public Health. 2012; 1(2): 159-168.
13. Murthy P, Saddichha S. Tobacco cessation services in India: Recent developments and the need for expansion. Indian J Cancer. 2010 Jul;47 Suppl 1:69-74.
14. Director General of Health Service, Government of India. Indian Public Health Standard- Guideline for Primary Care Centres (PHC), revised 2012. New Delhi: Ministry of Health and Family Welfare, Government of India, 2012.
15. Director General of Health Service, Government of India. Indian Public Health Standard- Guidelines for Community Health Centre, revised 2012. New Delhi: Ministry of Health and Family Welfare, Government of India, 2012.
16. Public Health Foundation of India (PHFI) [Internet]. New Delhi: PHFI, 2011. Available from: http://www.ctchp.org, accessed on July 18, 2012.
17. Sarkar D, Dhand R, Malhotra A, Malhotra S, Sharma BK. Perceptions and attitude towards tobacco smoking among physicians in Chandigarh. Indian J Chest Dis Allied Sci. 1990 Jan-Mar;32(1):1-9.
18. Saddichha S, Rekha DP, Patil BK, Murthy P, Benegal V, Isaac MK.. Knowledge, Attitude and Practices of Indian Dental Surgeons Towards Tobacco Control: Advances towards Prevention. Asian Pac J Cancer Prev. 2010;11(4):939-42.
19. Sinha DN, Singh G, Gupta PC, Pednekar M, Warrn CW, Asma S, Lee J. Linking India Global Health Professions Student Survey data to the World Health Organization Framework Convention on Tobacco Control. Indian J Cancer. 2010 Jul;47 Suppl 1:30-4.
20. Sinha DN, Gupta PC. Tobacco control practices by medical physicians in developing world; a questionnaire study. Indian J Public Health, 2004; 48: 144-6.
21. Directorate General of Health Services. Training manual for physicians. New Delhi: Ministry of Health and Family Welfare, 2011. Available from http://www.whoindia.org/LinkFiles/Tobacco_Free_Initiative_Training_Manual_for_Physicians_-Tobacco_Control_.pdf; accessed 2 May 2012.
22. Directorate General of Health Services. Tobacco dependence treatment guidelines. New Delhi: Ministry of Health and Family Welfare, 2011. Available from http://whoindia.org/LinkFiles/Tobacco_Free_Initiative_Tobacco_Dependence_Treatment_Guidelines.pdf; accessed 2 May 2012.
23. Benegal V, Bajpai A, Basu D, Bohra N, Chatterji S, Galgali R, Goel D, Isaac MK, Jhanwar V, Lenin R, Madhavan P, Mittal A, Mohandas E, Murali T, Murthy P, Nagpal R, Nambi S, Subramaniam CR, Parkar S, Rao P, Reddy M, Sarin A, Sudhakar T, Tripathi B, Varghese M.. Proposal to the Indian Psychiatric Society for adopting a specialty section on addiction medicine (alcohol and other substance abuse). Indian J Psychiatry. 2007 Oct;49(4):277-82.
24. Mony PK, Jayakumar S. Preparedness for tobacco control among post graduate residents of a medical college in Bangalore. Indian J Community Med. 2011 Apr; 36(2):104-8.

CONFLICTS OF INTEREST

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ETHICS COMMITTEE APPROVAL

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