ORIGINAL ARTICLE

CME

Temporal Variation of Smoking in Argentine Physicians. Comparison between the TAMARA I (2004) and II (2013) Studies

Variación temporal del tabaquismo en médicos argentinos. Comparación entre los estudios TAMARA I (2004) y II (2013)

HORACIO M. ZYLBERSZTEJN[†MTSAC], LORENZO M. LOBO[MTSAC, FACC, FESC], WALTER MASSON[MTSAC], GRACIELA MOLINERO, ADRIANA ÁNGEL[MTSAC], ANDRÉS MULASSI[MTSAC], MARIANO A. GIORGI[MTSAC], MAURO GARCÍA AURELIO

ABSTRACT

Background: For more than a decade, the Research Area of the Argentine Society of Cardiology has carried out surveys to observe the behavior of the medical population in relation to tobacco smoking.
Objective: The aim of this work was to compare the smoking status, training and patient counseling among physicians of the TAMARA I (2004) and TAMARA II (2013) studies.
Methods: The smoking status, patient counseling and medical training in anti-smoking techniques was compared between two observational cross-sectional studies performed in Argentine physicians in 2004 and 2013. The same structured survey was used. Smoker was defined as someone who regularly consumed one or more cigarettes/day for at least one year and who had smoked in the last twelve months. Two adjustment techniques were used: logistic regression analysis and propensity score.
Results: We analyzed the surveys of 9,530 physicians (TAMARA I, n=6,497 and TAMARA II, n=3,033). Overall, mean age was 41.5±11 years, 18.6% were cardiologists and 61% were male. Using the two adjustment methods, physicians surveyed in the TAMARA II study showed a lower chance of being active smokers, an increased probability of giving medical advice at all times, and a greater probability of having training in tobacco consumption compared with subjects assessed in the TAMARA I study. Between the two studies, a significant reduction in active smoking was observed in 39% of surveyed physicians (OR 0.61, 95% CI 0.54-0.69, p=0.001).
Conclusion: After approximately one decade, this comparative analysis showed a decrease in the prevalence of active smoking in the medical population, in addition to a change in training and behavior towards patients with smoking habits.

Key words: Smoking - Epidemiology - Doctors - Cardiovascular Risk Factors - Smoke Cessation

RESUMEN

Introducción: Desde hace más de una década, en el Área de Investigación de la Sociedad Argentina de Cardiología se llevan a cabo encuestas que permiten observar el comportamiento de la población médica en relación con el tabaco.
Objetivo: Comparar el estatus de tabaquismo, la formación y el consejo a sus pacientes entre los médicos de los estudios TAMARA I (2004) y TAMARA II (2013).
Material y métodos: Se comparó el estatus de tabaquismo, el consejo a los pacientes y la formación médica en técnicas antitabaquismo de dos estudios observacionales de corte transversal realizados en médicos de la Argentina en 2004 y 2013. Se utilizó la misma encuesta estructurada. Se definió fumador al que consumía regularmente uno o más cigarrillos/día, al menos durante un año y que había fumado en los últimos doce meses. Se realizaron dos técnicas de ajuste, regresión logística y puntaje de propensión.
Resultados: Se analizaron las encuestas de 9.530 médicos (TAMARA I, n = 6.497 y TAMARA II, n = 3.033). Globalmente, la edad media fue de 41,5 ± 11 años, el 18,6% eran cardiólogos y el 61%, de sexo masculino. Utilizando los dos métodos de ajuste, los médicos encuestados en el estudio TAMARA II mostraron una menor chance de ser tabaquistas activos, una mayor probabilidad de dar consejo médico siempre y una mayor probabilidad de tener capacitación en tabaquismo con respecto a los sujetos evaluados en el TAMARA I. Entre ambos estudios se observó una reducción significativa del tabaquismo activo del 39% (OR 0,61, IC 95% 0,54-0,69; p = 0,001).
Conclusión: En este análisis comparativo, luego de aproximadamente una década se observó una disminución en la prevalencia de tabaquismo activo en la población médica, además de un cambio en la capacitación y la conducta frente al paciente fumador.

Palabras clave: Tabaquismo - Epidemiología - Médicos - Factores de riesgo vascular - Cese del tabaquismo

REV ARGENT CARDIOL 2017;85:19-24. http://dx.doi.org/10.7775/rac.v85.i1.9519

Received: 09/20/2016 – *Accepted:* 01/30/2017

Address for reprints: lorenzomartinlobo@hotmail.com

"Dr. Mario Ciruzzi" Cardiovascular Prevention and Epidemiology Council and Research Area of the Argentine Society of Cardiology
† Dr. Horacio M. Zylbersztejn died on July 22, 2016, shortly before making the final corrections of this article, which we dedicate with great admiration and affection.
MTSAC Full Member of the Argentine Society of Cardiology
FACC Fellow of the American College of Cardiology
FESC Fellow of the European Society of Cardiology

Abbreviations

BMI	Body mass index	**PS**	Propensity score
WHO	World Health Organization		

INTRODUCTION

Chronic noncommunicable diseases (NCDs) represent a global epidemic. There are underlying common and preventable risk factors: sedentarism, unhealthy diets, alcohol abuse and smoking (1).

Tobacco consumption is the major cause of preventable morbidity and mortality in the world (2). It is estimated that 44,851 people die from its related causes each year, representing 998,881 healthy years of life lost due to premature death or disability (3).

In the early fifties, Drs. Doll and Hill established a cause-effect relationship between smoking and lung cancer incidence, in a cohort study of English physicians. This study of smoking in health professionals was the beginning of a new paradigm in epidemiological research (4)

The World Health Organization (WHO) encourages medical staff members to stop smoking due to their important role as counselors in promoting healthy behaviors in the general population.

Health professionals play a critical role in reducing tobacco use. It is known that guidance and simple smoking cessation counseling may increase the chances to stop smoking (5). There is extensive scientific evidence that broadly supports the influence of physicians in the cessation of tobacco use in their patients. (6,7) On the other hand, there are several reports showing that the health professional who smokes offers less or no medical advice to his patients concerning smoking risks, (8-10) nor is he seen as an example. (11)

The prevalence of smoking among health professionals in developed countries is lower than that observed in the general population. The United States of America has a six-fold lower prevalence of smoking among physicians than that observed in the general population. (12,13) In contrast, in some developing countries, particularly in those who have failed to regulate tobacco use in offices and public places, the prevalence of smoking among health professionals is equal to or greater than that of the general population. (14, 15)

Tobacco smoking in our country health personnel is worrying since several studies have shown it to be high and similar to that of the general population.

The Research Area of the Argentine Society of Cardiology has carried out several surveys for more than a decade, allowing the observation of medical population behavior in relation to tobacco smoking (16-18) However, in the last decade there have been changes, which have increased anti-smoking policies, with advertisement regulations and the proscription of smoking in public places.

The purpose of the present study was to compare the smoking status, training and advice to patients of physicians in the TAMARA I (2004) and II (2013) studies.

METHODS

Two observational, cross-sectional studies, the TAMARA I and TAMARAII studies, were compared. The TAMARA I study was conducted between April and July 2004 and surveyed 6,497 physicians. The TAMARA II study was developed between June and December 2013, surveying 3,033 professionals. In both studies, the surveys evaluated physicians of both sexes and of different specialties, who were selected in a simple non-probabilistic manner in 22 provinces of the country and in the Antarctic territory.

The same structured survey was used as instrument in both studies.

An active smoker was defined as someone who regularly consumed one cigarette/day, for at least one year and who had smoked in the last 12 months. An ex-smoker was defined as someone with a history of smoking but who had not previously smoked for a year. A non-smoker was defined as someone who had never smoked. Information was requested on the number of cigarettes consumed per day, age of onset, places where he/she smoked and whether any of these places were unauthorized areas, the time elapsed from waking up to lighting the first cigarette, if he/she smoked while being ill and cigarette consumption during pregnancy. The prevalence of some type of smoking training and the frequency with which the doctor advised his patients to quit smoking was analyzed. Physical activity was defined as walking or practicing any sport for at least 30 minutes, 3 or more times per week. Physicians were considered hypertensive, dyslipidemic or diabetic if they knew they had the disease or received specific treatment. Physicians' body mass index (BMI) was estimated using the Quetelet index (kg/m2) with weight and height obtained from the data provided in the survey .Three levels were considered: BMI <25, from 25 to 29.9 (overweight) and ≥30 (obese). Family history of coronary artery disease was defined as acute myocardial infarction before the age of 55 years in men and 65 years in women.

Statistical analysis

Information entered in an Excel database was analyzed with the SPSS program. Continuous variables were assessed with Student's t test (two samples) and ANOVA (three or more samples) provided they had normal distribution, or with the Mann-Whitney or Kruskal-Wallis test when distribution was not normal. The chi square test was used to analyze qualitative variables. A paired t test or the McNemar test (continuous and categorical variables, respectively) were used for paired data analysis.

In order to establish whether the association between the type of study (TAMARA I or II) and the probability of being an active smoker, always providing smoking cessation counseling or having training in smoking treatment was the product of confounders, two adjustment strategies

were developed:

1) First, a multivariate logistic regression model was developed; including in the adjustment model those variables that in the univariate analysis were significantly different between the two studies and age, considering it to be clinically relevant.

2) Given the non-random nature of participants in both studies and the multiple factors that may influence whether or not they participated in the TAMARA I or II studies, an additional analysis was performed using propensity score (PS). The PS allowed us to determine the propensity of individuals to be part of the TAMARA II study, according to the following baseline characteristics: age, BMI, gender, clinical or surgical specialty, emergency work, cardiology specialty, public or private work, working in Buenos Aires or the provinces, hypertension, dyslipidemia, diabetes, physical activity and previous cardiovascular history. To evaluate the PS goodness of fit, the distribution of the confounding variables was compared in the score quintiles.

Using a pairing algorithm (nearest neighbor), the participants were matched according to similar PS values (difference not greater than 5%). Finally, a sub-population of paired subjects was built to analyze the association between the type of study (TAMARA I or II) and the endpoints evaluated.

The strength of the association was expressed as odds ratio with their 95% confidence interval. An error probability ≤0.05 was considered significant.

Ethical considerations

The study was conducted following the recommendations in medical research suggested by the Declaration of Helsinki, the Guidelines for Good Clinical Practice and ethical regulations in force.

RESULTS

The study analyzed the surveys completed by 9,530 physicians (TAMARA I: 6,497, TAMARA II: 3,033). Overall, mean age was 41.5±11 years, 18.6% were cardiologists and 61% were men. The TAMARA I study showed a higher percentage of men and surgical specialties, a lower percentage of cardiologists, of obese professionals and of physicians working in public places compared with the TAMARA II study. Baseline characteristics of the overall and per study population and of the PS-matched population are shown in Tables 1 and 2, respectively.

The ratio of physicians with some training in smoking cessation techniques was significantly higher in the TAMARA II study (56.1% vs. 31.3%, p<0.001) compared with the TAMARA I study. Likewise, the percentage of professionals who always provided medical advice to quit smoking was also higher in the TAMARA II study (78, 5% vs. 73.4%, p<0.001).

The prevalence of active smoking was significantly higher in the TAMARA I study (30.0% vs. 19.7%, p<0.001). Smoking habit characteristics in the two studies are described in Table 3.

When multivariate analyses were performed, either adjusting for the variables that were statistically different between the two studies or through PS, the physicians surveyed in the TAMARA II study showed less probability of being active smokers, and greater probability of giving medical advice at all times and of having training in smoking compared to physicians evaluated in the TAMARA I study. (Table 4).

DISCUSSION

Smoking is a risk factor for a large variety of cardiovascular, respiratory and oncological diseases. The impact of tobacco on health places physicians of multiple specialties in direct contact with the conse-

Table 1. Characteristics of the total population and of both studies

	Total n=9,530	TAMARA I n=6,497	TAMARA II n=3,033	p
Age, years [mean (SD)]	41,5 (11)	41.5 (11)	41.4 (12)	0.45
Male gender, %	61.1	63.1	56.8	<0.001
Buenos Aires or CABA, %	40.4	40.0	41.2	0.24
Surgical specialty, %	24.0	25.2	21.3	<0.001
Cardiologist, %	18.6	16.3	23.4	<0.001
Emergency service, %	55.0	54.6	55.8	0.29
Private medical activity, %	39.1	43.1	30.8	<0.001
Cardiovascular history, %	5.2	5.4	4.7	0.13
Hypertension, %	14.9	14.8	15.0	0.35
Dyslipidemia, %	19.9	19.4	20.9	0.07
Diabetes mellitus, %	2.3	2.2	2.5	0.59
Physical activity, %	43.2	43.1	43.3	0.86
BMI, %				
<25	49.9	50.3	49.4	<0.001
≥25 and <30	37.9	38.4	36.4	
≥30	12.2	11.3	14.2	

SD: Standard deviation. CABA: Autonomous City of Buenos Aires. BMI: Body mass index.

Table 2. Characteristic of the population by propensity score matching

	Total n=5,996	TAMARA I n=2,998	TAMARA II n=2,998	p
Age, years [mean (SD)]	41.4 (11)	41.5 (11)	41.3 (12)	0.40
Male gender, %	57.2	57.4	57	0.16
Buenos Aires or CABA, %	40.4	40.0	40.8	0.71
Surgical specialty, %	21.1	20.9	21.4	0.56
Cardiologist, %	22.8	22.6	23	0.87
Emergency service, %	55.8	55.9	55.6	0.86
Private medical activity, %	31.1	31.1	31.1	0.79
Cardiovascular history, %	5	5.2	4.8	0.48
Hypertension, %	15.3	15.5	15	0.74
Dyslipidemia, %	20.3	19.6	21	0.35
Diabetes mellitus, %	2.6	2.7	2.4	0.91
Physical activity, %	43	42.8	43.3	0.60
BMI, %				
<25	50.4	51.3	49.6	0.36
≥25 and <30	36.1	35.7	36.4	
≥30	13.5	13	14	

SD: Standard deviation. CABA: Autonomous City of Buenos Aires. BMI: Body mass index.

Table 3. Characteristics of smoking habits in both studies

	Total n=5,996	TAMARA I n=2,998	p
Tobacco consumption status, %			
Active smoker	30.0	19.7	<0.001
Ex-smoker	22.4	21.7	
Non-smoker	47.6	58.6	
Medical advice, %			
Always	73.4	78.5	<0.001
Sometimes	20.9	19.2	
Never	5.7	2.3	
Number of daily cigarettes, mean±SD	13.8 ± 10	11.1 ± 9	<0.001
Age of smoking onset, mean±SD	18.1 ± 4	18.0 ± 4	0.68
Smokes in the first hour after waking up, %	37.3	34.7	0.11
Smokes at work, %	78.2	70.5	<0.001
Smokes at home, %	78.4	74.5	0.006
Smoked with respiratory or cardiovascular disease, %	25.9	22.3	0.01
Smoked during pregnancy, %	12.1	8.8	0.07

SD: Standard deviation

quences of smoking, and yet many professionals continue smoking. (19)

In a period of eight years, our group found a significant decrease in smoking, an increase in smoking cessation training, and greater concern about counseling smokers to quit the habit among Argentine doctors. These results arise from comparing two multicenter observational studies performed at different times. Due to the non-random nature of these type of studies, and in order to strengthen the results, the studies were adjusted by two different techniques: multivariate logistic regression analysis and PS matching, thus homogenizing the samples. (20)

The general trend in the Argentine population appears to be similar. The National Risk Factor Surveys showed a significant decrease in the prevalence of smoking over eight years (2005: 29.7%, 2009: 27.1%, 2013: 25.1%), (21)

In the last two decades, several studies have investigated the prevalence of smoking in physicians of

Table 4. Participation in the TAMARA II study and its association with active smoking, anti-smoking counseling and medical training in anti-smoking techniques

	Multivariate model* Overall population (n=9,530)			PS paired analysis Paired population (n=5,996)		
Variable	OR	95% CI	p	OR	95% CI	p
Active smoking	0.59	0.53-0,67	<0.001	0.61	0.54-0.69	<0.001
Always anti-smoking counseling	1.27	1.13-1.43	<0.001	1.20	1.06-1.36	0.002
Medical training in smoking cessation counseling	2.76	2.50-3.05	<0.001	2.78	2.47-3.05	<0.001

* Adjusted by age, gender, body mass index, public or private work, clinical or surgical specialty, cardiology specialty and cardiovascular history.
PS: Propensity score.

different specialties, which vary in different parts of the world: Central Europe (37%), Africa (29%), Central and South America (25%) and Asia (17.5%). (20) However, when we specifically analyze the tendency to smoking in health professionals, the information is rarer. (22)

In Spain, Reyes et al., carried out a descriptive study on the evolution of smoking prevalence in a health care institution from 2001 to 2011 (before and after the implementation of an anti-smoking law), demonstrating a much faster decrease in smoking habits among the health care personnel than in the general population . (23) Similarly, Sweden and the United Kingdom showed a significant decrease in the prevalence of smoking among medical professionals after the introduction of similar strategies. (24)

Darek R. et al. carried out a review of smoking habits in Japanese physicians from 1965 to 2009. They found a significant trend towards a decline in smoking, both in men and women, similarly to our study. (25)

Health care professionals are thought to make healthier life decisions than others due to their health knowledge. A recently published study analyzed the variation of healthy behaviors among medical professionals and the general population in the United States from 2002 to 2013. It revealed that rates of obesity, diabetes, and hypertension were slightly lower in physicians, although the variation over time rose to a degree similar to that of the general population. Likewise, physicians were less likely to smoke (26), and even if doctors' smoking habits seem to vary from region to region, they are not uniformly low when viewed from an international perspective. The implementation of tobacco control policies is associated with significant smoking cessation, although results vary from country to country. (27)

The decline in the prevalence of smoking among physicians leads the fight against smoking. It is widely proven that non-smoking physicians are more willing to provide counseling to quit smoking. (28) In contrast with our findings, Abu Abdulla et al. found that many physicians, regardless of their tobacco use, miss opportunities to guide or advise patients on how to quit smoking. (22) Lim et al. demonstrated that smoking cessation rate in the population improves when the patient is stimulated by a motivational interview, independently of the association with pharmacotherapy. (29)

We must consider that the first of these studies (TAMARA I) (17) was completed shortly after the creation of the National Tobacco Control Program of the National Ministry of Health (PNCT-2003). It aims to prevent the onset of tobacco consumption, reduce smoking, protect the population from exposure to second-hand smoke and promote cessation. The health services' poor response capacity in favor of smoking cessation is considered relevant among the aspects favoring the high consumption of tobacco in Argentina. (30) Another important change was the enforcement of the National Tobacco Control Law No. 26.687 in 2011 (31), designed to adapt the country to the global tobacco control strategy and the WHO agreement. (32) As we can see, the progress in our country in terms of regulatory policies on smoking coincided with the time elapsed between the two TAMARA studies.

CONCLUSION

After approximately a decade, this comparative analysis showed a decrease in the prevalence of active smoking in the medical population, in addition to a change in its behavior towards the smoking patient, giving more advice and being better qualified. The change in the political treatment of the tobacco problem could have favored these results.

Acknowledgments

We wish to thank the generosity of Dr. Horacio M. Zylbersztejn, who summoned us for the performance and execution of this study; to him, our most sincere homage.

We are also grateful to Dr. Javier Mariani for his kindness and professionalism in statistical advice.

Conflicts of interest

None declared. (See authors' conflicts of interest forms on the website/Supplementary material).

REFERENCES

1. OMS. Global status report on NCD 2014. http://www.who.int/nmh/publications/ncd-status-report-2014/en/. Último acceso septiembre de 2016.

2. Jha P, Ramasundarahettige C, Landsman V, Rostron B, Thun M, Anderson RN, et al. 21st-century hazards of smoking and benefits of cessation in the United States. N Engl J Med 2013;368:341-50. http://doi.org/4mj

3. Pichon-Riviere A, Augustovski F, Bardach A, Colantonio L; Latinclen Tobacco Research Group. Development and Validation of a Microsimulation Economic Model to Evaluate the Disease Burden Associated with Smoking and Cost-Effectiveness of Tobacco Control Interventions in Latin America. Value Health 2011;14:S51-9. http://doi.org/fqq528

4. Doll R, Hill AB. Smoking and carcinoma of the lung; preliminary report. Br Med J 1950;2:739-48. http://doi.org/dds6k4

5. Lancaster T, Stead L, Silagy C, Sowden A. Effectiveness of interventions to help people to stop smoking: findings from the Cochrane Library. BMJ 2000;321:355-8. http://doi.org/chb7fh

6. Goldberg RJ, Ockene IS, Ockene JK, Merriam P, Kristeller J. Physicians' attitudes and reported practices toward smoking intervention. J Cancer Educ 1993;8:133-9. http://doi.org/d24rm6

7. Lancaster T, Silagy C, Fowler G. Training health professionals in smoking cessation. Cochrane Database Syst Rev 2000;(3):CD000214. http://doi.org/b4sjqw

8. Bener A, Gomes J, Anderson JA, Abdullah S. Smoking among health professionals. Med Educ 1994;28:151-7. http://doi.org/b9jrrv

9. Ohida T, Sakurai H, Mochizuki Y, Kamal AM, Takemura S, Minowa M, et al. Smoking prevalence and attitudes toward smoking among Japanese physicians. JAMA 2001;28:2643-8. http://doi.org/bwk3jj

10. Olive K, Ballard J. Attitudes of patients toward smoking by health professionals. Public Health Rep 1992;107:335-9.

11. Grossman DW, Know JJ, Nash C, Jiménez JG. Smoking: Attitudes of Costa Rican physicians and opportunities for intervention. Bull World Health Organ 1999;77:315-22.

12. Nelson DE, Giovino G, Emont S, Brackbill R, Cameron, Peddicord J, et al. Trends in cigarette smoking among US physicians and nurses. JAMA 1994;271:1273-5. http://doi.org/c4nkk3

13. Hensrud D, Sprafka M. The smoking habits of Minnesota physicians. Am J Public Health 1993;83:415-7. http://doi.org/d2zkdr

14. Mengual Luque P, Perula de Torres LA, Redondo Sánchez J, Roldán Villalobos A, Prada Vigil A, Martínez de la Iglesia J y cols. Evolución del consumo y actitud ante el tabaco de los médicos del hospital regional "Reina Sofía", Córdoba. Gac Sanit 1996;10:18-24.

15. Antoniu S. High levels of smoking in Romanian doctors. Lancet 2000;356:1420. http://doi.org/b9x6f6

16. Zylbersztejn HM, Cragnolino R, Francesia AN, Tambussi A, Mezzalira VJ, Levin RL y cols. Estudio epidemiológico del tabaquismo en médicos. Área de Investigación, Sociedad Argentina de Cardiología. Rev Argent Cardiol 2003;71:178-84.

17. Zylbersztejn HM, Cardone A, Vainstein N, Mulassi A, Calderón JG, Blanco P y cols. Tabaquismo en médicos de la República Argentina: Estudio TAMARA. Rev Argent Cardiol 2007;75:109-16.

18. Zylbersztejn HM, Masson WM, Lobo LM, Manente DG, García Aurelio MJ, Angel AA y cols. Tabaquismo en médicos de la República Argentina: Estudio TAMARA II. Rev Argent Cardiol 2015;83:222-31. http://doi.org/bx82

19. Informe OMS sobre la epidemia mundial de tabaquismo 2013. http://www.who.int/tobacco/global_report/2013/summary/es/. Último acceso septiembre de 2016.

20. Pattanayak CW, Rubin DB, Zell ER. Métodos de puntuación de propensión para crear una distribución equilibrada de las covariables en los estudios observacionales. Rev Esp Cardiol 2011;64:897-903. http://doi.org/cnjwt9

21. Tercera Encuesta Nacional de Factores de Riesgo para Enfermedades no transmisibles. Presentación de los principales resultados. Ministerio de Salud de la Nación. Argentina 2013. http://www.msal.gob.ar/images/stories/publicaciones/pdf/11.09.2014-tercer-encuentro-nacional-factores-riesgo.pdf. Último acceso septiembre 2016.

22. Abdullah AS, Stillman FA, Yang L, H Luo, Zhang Z, Samet JM. Uso de tabaco y prácticas para dejar de fumar entre los médicos en los países en desarrollo: Una revisión bibliográfica (1987-2010). Revista Internacional de Investigación del Medio Ambiente y Salud Pública 2014;11:429-55.

23. Reyes Urueña JM, Burón PA, Sala Serra M, Serra Pujadas C, Diaconu A, Macia Guilà F. Temporal evolution of tobacco consumption among health care workers in a Catalonian hospital, Spain. Rev Esp Salud Pública 2013;87:407-17.

24. WHO. Health professional organizations and tobacco control. Disponible en: http://www.who.int/tobacco/research/cessation/organizations/en/. Último acceso septiembre 2016.

25. Smith DR, Wada K. Declining rates of tobacco use in the Japanese medical profession, 1965-2009. J Epidemiol 2013;23:4-11. http://doi.org/bx83

26. Dayoub E, Jena AB. Chronic disease prevalence and healthy lifestyle behaviors among US health care professionals. Mayo Clinic Proc 2015;90:1659-62. http://doi.org/bx84

27. Shang C, Chaloupka F, Kostova D. Who Quits? An overview of quitters in low and middle-income countries. Nicotine Tob Res 2014;16:S44-S55. http://doi.org/bx85

28. Smith DR, Leggat PA. Una revisión internacional del consumo de tabaco en la profesión médica: 1974-2004. BMC Public Health 2007;7:115. http://doi.org/dfz45x

29. Lim G, Park I, Parque S, Song S, Kim H, Kim S. Eficacia de dejar de fumar Uso de la entrevista motivacional en pacientes que consultan a un neumólogo. Tuberculosis y Enfermedades Respiratorias 2014;76:276-83. http://doi.org/bx86

30. Programa Nacional de Control del Tabaco - Ministerio de Salud de la Nación. http://www.msal.gob.ar/tabaco/index.php/institucional/programa-nacional. Último acceso septiembre de 2016.

31. Ley Nacional para el Control del Tabaco Nro 26687 - Boletín Oficial de la República Argentina. http://www.msal.gob.ar/images/stories/bes/graficos/0000000658cnt-2011-11_Ley-Nacional-Control-Tabaco_ley-26687.pdf. Último acceso septiembre de 2016.

32. OMS - CONVENIO MARCO de la OMS para el CONTROL DEL TABACO. http://www.who.int/tobacco/framework/WHO_fctc_spanish.pdf. Último acceso septiembre de 2016.