

How are COPD.AR smokers? Smoking Characteristics of Populations With and Without COPD

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Abstract

Introduction: The COPD.AR Study was conducted between 2014 and 2016 in Argentina to determine the prevalence of COPD in the country. This work was carried out to compare the smoking characteristics of smokers with and without COPD of said study, to know how many of them received medical advice, the characteristics of their previous attempts to quit and their exposure to secondhand tobacco smoke.

Materials and Methods: The association between smoking characteristics and COPD was evaluated by Odds Ratio, its 95% confidence interval and p value corresponding to the hypothesis test, using the chi square technique.

Results: We included 3469 surveys of subjects older than 39 years, 42.2% men. 70.7% were current or former smokers and 53.3% had spirometric characteristics of COPD. 34.7% are current smokers, 73.4% out of which think about quitting; 64% received advice about it and only 7.3% reported having used some treatment. 40.2% of the respondents reported exposure to environmental smoke, and 56.1% reported occupational exposure to tobacco smoke. The majority of COPD.AR smokers smoke less than 20 cigarettes per day; there is a higher prevalence of COPD in men and a higher percentage of never smokers with COPD in women. A high percentage thinks of quitting smoking, a little lower among patients with COPD, who had more previous attempts to quit. Almost half of the subjects did not receive any medical advice and a very low percentage used drugs to quit. There is high exposure to secondhand smoke in homes and workplaces.

Conclusions: COPD.AR smokers smoke less than 20 cigarettes a day; there are more men, a high percentage want to quit and very few receive medical advice or drugs.

Key words: Chronic Obstructive Pulmonary Disease; COPD.AR; smokers; tobacco use; smoking cessation

Introduction

COPD.AR is the first Argentinian study on the prevalence of Chronic Obstructive Pulmonary Disease (COPD), and it showed that 14.5% of individuals of 40 years old or more suffer from this disease. This cross-sectional study established the relationship between the risk factors for developing COPD, by confirming this relationship with tobacco consumption, age, masculine gender, the low socioeconomic level and history of tuberculosis¹.

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The relationship between COPD and tobacco has been established a long time ago, and it is even recognized by the population, but COPD.AR was able to determine the magnitude of such association in our environment, which was even kept when comparing current and former men and women smokers. Also, it established that the prevalence of COPD between current and former smokers amounts to 16.9%, whereas it is much less frequent in individuals who never smoke actively (8.9%)^{2, 3}.

The fact that COPD smokers share particular characteristics has also been documented in different studies: greater dependence on nicotine, less motivation for quitting smoking, higher index of depression, more worrying about weight gain and increasing use of toxic substances^{4, 5}.

Considering these differences, we think it is important to analyze the data obtained in the COPD.AR Study regarding the smoking characteristics of surveyed individuals with and without COPD, as well as their quitting phase, the prevalence of medical advice on quitting and history of cessation attempts.

The analysis of such data could allow for the design of cessation strategies focused specifically on the characteristics typical of our population.

Thus, the purpose of this study is to know the differences in the smoking characteristics of COPD.AR smokers both with and without COPD, how many of the surveyed individuals received medical advice, which characteristics they had in previous quitting attempts, the existence of environmental smoke exposure and occupational exposure to dust and smoke.

Materials and Methods

Between August 2014 and May 2016, a study on the prevalence of Chronic Obstructive Pulmonary Disease (COPD) was carried out in Argentina for the first time. It was called COPD.AR. It was a cross-sectional study of the population ≥ 40 years of 6 urban centers with the purpose of determining the prevalence of COPD and relevant clinical characteristics in a representative sample.

The COPD.AR Study, the original source of this analysis, consists of a representative sample of a population aged 40 and over in 6 important urban centers of Argentina, including 3469 surveys: 1461 men and 2008 women.

The variable considered as the "result" of this study was the presence or absence of COPD (defined as spirometry compatible with COPD in the COPD.AR Study).

The characteristics of smoking in both groups included the variables related to the study. In order to know the smoking characteristics of the study population and compare data obtained between the population of patients with and without COPD, we analyzed the information of the COPD.AR Study, questions 21 to 38 (Annex 1) to determine:

- Status of the smoker.
- Amount of tobacco the patient consumed.
- Quitting phase.
- Medical advice.
- Attempt to quit or previous treatment.
- Exposure to secondhand tobacco smoke.
- Occupational exposure to tobacco smoke.

The information was primarily analyzed to describe the smoking results of the population included in the study and then to evaluate possible associations between smoking and each one of the studied variables, with the COPD condition analyzed, according to the spirometric definition.

The description of the prevalence and characteristics of smoking within the surveyed population are shown as absolute frequency and percentage over the valid surveys. Regarding the information about the prevalence and characteristics of smoking, we show 95% confidence intervals of percent values, considering that these results are also affected by the sampling used for estimating COPD prevalence.

The evaluation of the association between smoking and its characteristics and COPD was made through the association Odds Ratio, its 95% confidence interval and the p value corresponding to the hypothesis test, using the chi square technique.

Results

The population of the study included 3469 surveys in patients older than 39 years, 1461 men (42.2%) and 2008 women (57.8%). Table 1 shows the main characteristics of the surveyed population, including distribution according to sex, age, socioeconomic level and education.

TABLE 1. Selected characteristics of surveyed individuals. COPD.AR Study. Argentina. 2014-1026

Variables		N°	%
Sex	Male	1461	42.12
	Female	2008	57.88
Age groups	40-50	871	25.11
	50-59	1019	29.37
	60-69	886	25.54
	70-79	527	15.19
	80 and older	161	4.64
	No information	5	0.14
Socioeconomic level	Medium-high and high	405	11.67
	Typical medium level	643	18.54
	Medium-low	1111	32.03
	Low	1301	37.50
	No information	9	0.26
Education	None	8	0.23
	Elementary level	1201	34.62
	Secondary school	1409	40.62
	Tertiary level	391	11.27
	University degree	448	12.91
	No information	12	0.35
Total		3469	—

2450 subjects (70.7%) claimed to be current or former smokers, and 1019 (29.3%) said they were never smokers. 34.7% of the population are current smokers (1206), 30.7% being daily smokers. Table 2 shows the main smoking indicators of the surveyed population.

Less than one third of surveyed subjects never smoked (29.3%, CI: 27.0-31.5), and those with smoking history are divided into almost equal parts between current and former smokers. Among men, 20.1% never smoked, 36.6% are current smokers and 32.16% are daily smokers. As regards women, 35.9% never smoked, 33.3% are current smokers and 29.7% are daily smokers.

The prevalence of COPD found in the sample was 14.5% (CI: 13.4-15.7), with 18.4% (CI: 16.4-20.4) in men and 11.7% in women (IC: 10.3-13.1).

53.3% of both current and former smokers had spirometric characteristics of COPD. 92.9% of men with COPD were current or former smokers; 70.6% of women were current or former smokers, and 29.4% never smoked.

Table 3 shows the distribution of the smoking characteristics according to the presence or absence of COPD, as well as the evaluation of the association between COPD and the smoking condition.

As regards the number of cigarettes, 74.8% out of 1762 responses (28.1% with no information) smoked less than 20 cigarettes a day; 18.9%, between 20 and 39, 4.1% smoked between 40 and 59, and 2.2% more than 60 (table 2), with no significant differences between men and women.

TABLE 2. Smoking condition among surveyed individuals and their characteristics. COPD.AR Study. Argentina, 2014-2016

Variables	N°	%	Confidence interval	
			%	%
Smoking history (n = 3469)				
Currently smokes or smoked	2450	70.7	72.3	69.2
Never smoked	1013	29.3	31.5	27.0
No information	6	0.2		
Subtotal	3469			
Current or former smoking (n = 2450)				
Current smoker	1206	49.8	51.4	48.1
Former smoker	1218	50.2	51.9	48.6
No information	26	1.1		
Frequency of tobacco consumption (n = 1206)				
Everyday	1067	88.5	89.5	87.4
Some days	139	11.5	12.6	10.5
Cigarettes per day (n = 2450)				
< 20	1317	74.8	76.2	73.3
20-39	332	18.9	20.2	17.6
40-59	73	4.1	4.8	3.5
60+	39	2.2	2.7	1.7
No information	689	28.1		
Thought about quitting (n = 1206)				
No	298	26.6	28.1	25.2
Yes	821	73.4	74.8	71.9
No information	87	7.2		
Tried to quit (n = 1206)				
Yes	515	43.1	44.8	41.5
No	679	56.9	58.5	55.2
No information	12	1.0		

68.7% of patients diagnosed with COPD smoked less than 20 cigarettes a day; 20.7% from 20 to 39, 7.5% between 40 and 59, and 3.1% more than 60 cigarettes a day. Percentages in the group without COPD diagnosis were: 76%, 18.5%, 3.5% and 2.0%, respectively (Table 3). There was a significant difference between the group who smoked 40-59 cigarettes a day and those who smoked less than 20. Also, an association tendency is observed between COPD and the number of smoked cigarettes, with a $p < 0.05$, though it is not statistically significant for each comparison.

In the group of patients who developed COPD, 70.9% of men and 65.6% of women smoked less than 20 cigarettes a day; 16.9% of men and 26.2% of women, from 20 to 39; 9.3% of men and 4.9% of women between 40 and 59, and 2.9% of men and 3.3% of women, more than 60 cigarettes a day.

73.4% of 1206 current smokers think about quitting (75.4% of men and 71.8% of women); surprisingly indicating a lower percentage of intention to quit among patients with COPD (67.0%), in comparison with smokers without COPD (74.8%), with a statistically significant OR. 43.1% tried to quit sometime (42.6% men and 43.5% women); 46.5% with COPD, 42.4% without COPD, without significant differences between both. (**Figure 1**)

TABLE 3. Condition and characteristics of smoking according to COPD condition. COPD.AR Study. Argentina, 2014-2016

Variables	COPD				Total		Odds Ratio (OR)			
	Yes		No				Value	LL	UL	p
	N°	%	N°	%	N°	%				
Smoking history (n = 3469)										
Currently smokes or smoked	416	82.5	2034	68.7	2450	70.7	2.15	1.69	2.74	<< 0.001
Never smoked	88	17.5	925	31.3	1013	29.3				
No information	0	0.0	6	0.2	6	0.2				
Subtotal	504		2965		3469					
Current or former smoking (n = 2450)										
Current smoker	219	53.3	987	49.0	1206	49.8	1.19	0.96	1.47	0.116
Former smoker	192	46.7	1026	51.0	1218	50.2				
No information	5	1.2	21	1.0	26	1.1				
Subtotal	416		2034		2450					
Tobacco consumption frequency (n = 1206)										
Everyday	203	92.7	864	87.5	1067	88.5	1.81	1.05	3.11	0.031
Some days	16	7.3	123	12.5	139	11.5				
Subtotal	219		987		1206					
Cigarettes per day (n = 2450)										
< 20	202	68.7	1115	76.0	1317	74.8	1.00			0.046
20-39	61	20.7	271	18.5	332	18.9	1.24	0.91	1.7	
40-59	22	7.5	51	3.5	73	4.1	2.38	1.41	4.01	
60+	9	3.1	30	2.0	39	2.2	1.66	0.77	3.54	
No information	122	29.3	567	27.9	689	28.1				
Subtotal	416		2034		2450					
Thought about quitting smoking (n = 1206)										
No	67	33.0	231	25.2	298	26.6	1.46	1.05	2.03	0.029
Yes	136	67.0	685	74.8	821	73.4				
No information	16	7.3	71	7.2	87	7.2				
Subtotal	219		987		1206					
Tried to quit smoking (n = 1206)										
Yes	101	46.5	414	42.4	515	43.1	1.18	0.88	1.59	0.262
No	116	53.5	563	57.6	679	56.9				
No information	2	0.9	10	1.0	12	1.0				
Subtotal	219		987		1206					

Table 4 shows information regarding medical advice and support to quit smoking.

63.5% of smokers received medical advice sometime (62.9% men and 64.9% women); 34.5% don't know. 74.6% of surveyed COPD patients and 61.0% of patients without COPD at the moment of the survey had received medical advice. Thus, we can observe a higher frequency of medical advice on quitting smoking among people with COPD compared to those without COPD, with a significant OR. (**Figure 2**)

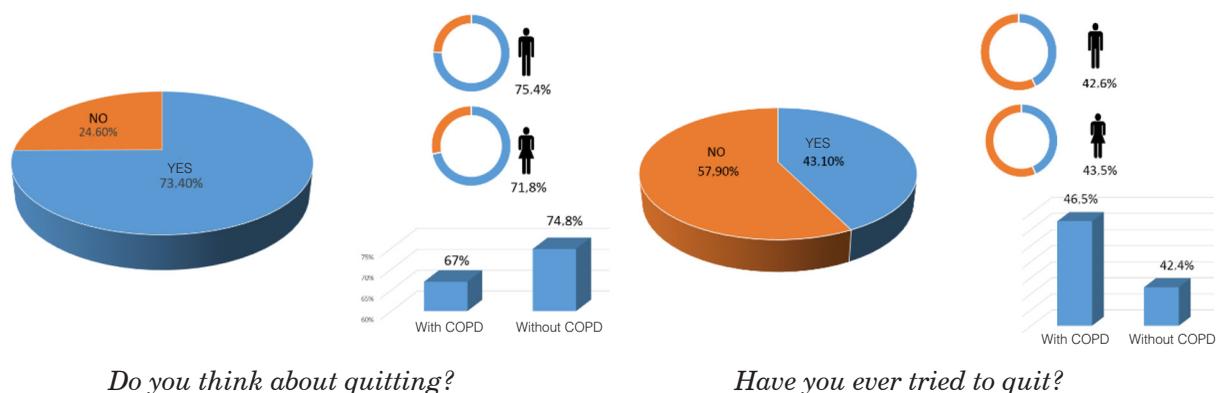


Figura 1

TABLE 4. COPD and current or former exposure to tobacco smoke. COPD.AR Study. Argentina, 2014-2016

	COPD				Total		Value	OR		p
	Yes		No					Confidence interval		
	N°	%	N°	%	N°	%		LL	UL	
Did any doctor sometime adviced you to quit smoking?										
Yes	167	74.6	616	61.0	783	63.5	1.83	1.32	2.54	0.001
No	57	25.4	386	38.2	443	35.9				
No information	187	45.5	1011	50.2	1198	49.4				
Total	411		2013		2424					
Have you ever used any medical treatment to quit smoking?										
Yes	32	9.1	87	5.4	119	6.0	1.76	1.16	2.69	0.007
No	319	90.4	1530	94.6	1849	93.9				
No information	60	14.6	396	19.7	456	18.8				
Total	411		2013		2424					
What type of medication did you use to help you quit smoking?										
Varenicline	7	21.9	17	21.5	24	20.9	No association analyzed			
Bupropion	3	9.4	15	19.0	18	15.7				
Other	2	6.3	15	19.0	17	14.8				
Nicotine Substitution Therapy (NST)	17	53.1	26	32.9	43	37.4				
No information	3	9.4	14	16.9	17	14.3				
Total	32	100.0	83	100.0	119	100.0				
Have you used anything not indicated by the doctor to quit smoking?										
Yes	26	6.3	84	4.2	110	4.6	1.55	0.98	2.44	0.056
No	383	93.4	1917	95.7	2300	95.3				
No information	2	0.5	12	0.6	14	0.6				
Total	411		2013		2424					

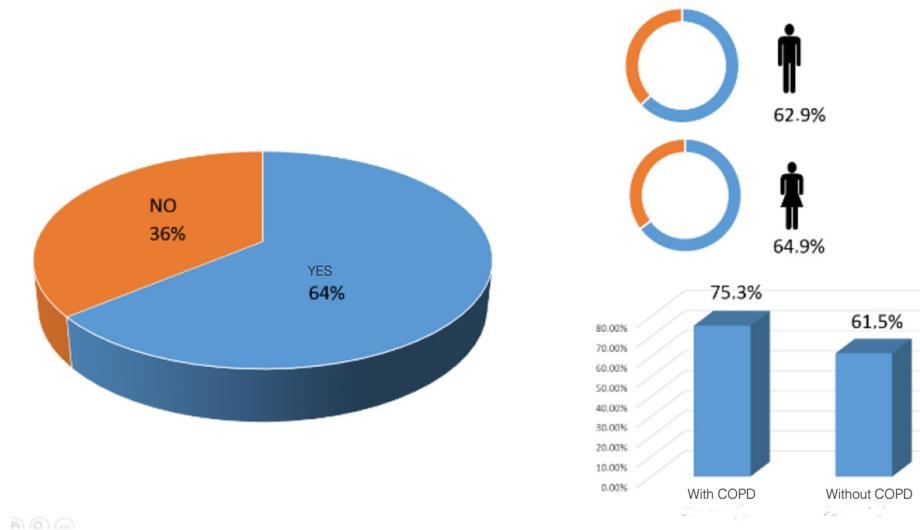


Figure 2. Medical advice

92.2% of former smokers reported they never used any smoking cessation treatment indicated by a doctor. 7.3% of current smokers claim to have used some treatment, where 11.4% represent patients diagnosed with COPD and 6.4% account for those who don't have COPD.

Regarding drugs and treatments used, nicotine replacement therapy was mostly used (gum, patches, etc.), followed by Varenicline. With regard to the 31 former smokers, they used Nicotine Replacement Therapy (NRT), 38.7%; Bupropion, 22.6%; Varenicline 9.7%. 19.4% individuals used another treatment, and 6.5% don't remember. Within the group of current smokers, 88 claimed to have used some medication: 23.9% Varenicline; 12.5%, Bupropion; 35.2%, NRT; 12.5% other treatments and 12.5% don't remember.

4.6% of surveyed individuals who smoke or have smoked claimed to have undergone non-medical treatments to quit smoking, mostly patients with COPD, even though the difference wasn't enough to be statistically significant. The survey doesn't specify how those "non-medical treatments" are. 2.7% of former smokers and 6.4% of current smokers claimed to have used sometime certain method for quitting smoking that was not indicated by a doctor. With regard to environmental smoke exposure, 40.2% of the surveyed individuals reported that someone smokes within their personal environment. The exposure percentage of the COPD group is 42.1% (Table 5).

Regarding exposure to tobacco smoke in enclosed spaces for the last 30 days: 34.7% reported exposure at home (40.7% of patients with COPD); 17.4% in their workplace; 1.7% at school; 6.4% in pubs and restaurants; 2.3% in health centers and 15.9% in other places. (Figure 3)

60.7% of the study population had a smoker father, and 21.3% had a smoker mother.

Table 6 shows the distribution of surveyed individuals exposed to smoke in their workplace according to the duration of the exposure and the condition compatible with COPD.

According to the research, 54.8% of patients worked sometime in their lives, for a period of one or more years, in a workplace in which they were exposed to dust or smoke, more frequently patients compatible with COPD (60.4%) than those without COPD (53.2%). This implies, in general, higher risk of developing COPD in people exposed to dust and smoke in their workplace, with an OR of 1.30 (CI 1.07-1.57; $p = 0.0085$).

Also, the risk gradient is observed as the number of years of exposure increases: with an OR of 0.99 for the comparison between those that were not exposed and those with less than 10 years of exposure to a value of 1.82 for those with 30 years of exposure or more. 30.9% claim they underwent less than

TABLE 5. COPD and current or former exposure to tobacco smoke. COPD.AR Study. Argentina, 2014-2016

	COPD				Total		Value	OR		p
	Yes		No					Confidence interval		
	N°	%	N°	%	N°	%		LL	UL	
Does someone from your personal environment smoke frequently near you?										
Yes	212	42.1	1182	40.1	1394	40.4	1.09	0.90	1.32	0.3987
No	292	57.9	1768	59.9	2060	59.6				
No information	0	0.0	15	0.5	15	0.4				
	504		2965		3469					
Did your father smoke regularly during your childhood?										
Yes	308	61.1	1796	60.9	2104	60.9	1.04	0.85	1.28	0.6828
No	171	33.9	1040	35.3	1211	35.1				
No information	25	5.0	129	4.4	154	4.4				
	504		2965		3469					
Did you mother smoke regularly during your childhood or before you were born?										
Yes	80	15.9	658	22.3	738	21.4	0.66	0.51	0.86	0.0015
No	416	82.5	2268	76.9	2684	77.7				
No information	8	1.6	39	1.3	47	1.4				
	504		2965		3469					

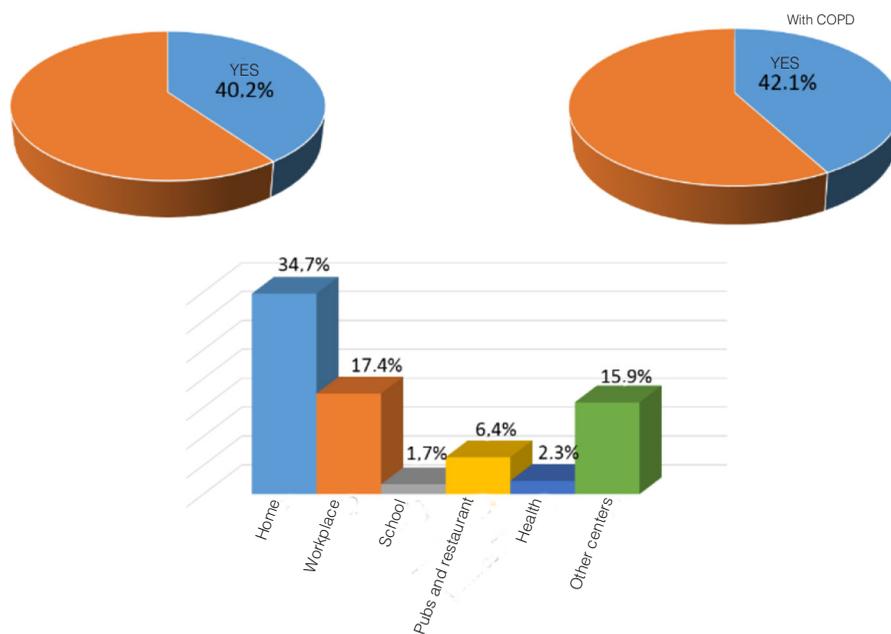


Figure 3. Exposure to tobacco smoke in enclosed spaces

TABLE 6. COPD and occupational exposure to dust and smoke according to years of exposure. COPD.AR Study. Argentina, 2014-2016

Years of exposure	COPD				Total		Vaue	OR	
	Yes		No		N°	%		Confidence interval	
	N°	%	N°	%				LL	UL
0 years	192	39.6	1316	46.2	1508	45.2	1.00		
1 to 9	76	15.7	525	18.4	601	18.0	0.99	0.75	1.32
10 to 19	74	15.3	374	13.1	448	13.4	1.36	1.01	1.82
20 to 29	48	9.9	276	9.7	324	9.7	1.19	0.85	1.68
30 and more	95	19.6	358	12.6	453	13.6	1.82	1.39	2.39
No information	19	3.8	116	3.9	135	3.9			
Total	504		2965		3469				

10 years of exposure; 23% between 10 and 19; 16.6% between 20 and 29 and 23.3% 30 or more years. The evaluation of the trend within the different levels of exposure, by means of the Test for Linear Trend ($p < 0.005$) indicates that there is a statistically significant association with respect to a trend or gradient in the relationship between COPD and the years of exposure categories.

Regarding the COPD findings, the difference was only significant among patients with 30 or more years of exposure (30.7 vs. 21.9).

DISCUSSION

Thanks to the COPD.AR Study we know about the prevalence of COPD in the country and, even though it wasn't designed to specifically analyze the smoking characteristics of surveyed patients, it allowed us to look into the relationship between tobacco consumption and exposure and the presence of COPD in Argentina.

Information about smoking both in the population with COPD and the one without COPD is very important because it allows us to know the reality of the smokers of the groups under evaluation and compare both populations.

Thus, we can observe that people with COPD are tobacco consumers, some quitted and others currently smoke. Daily smokers have higher risk of developing COPD; the higher the number of cigarettes, the higher the risk. With regard to the desire to quit smoking, it was less strong among patients diagnosed with COPD. In relation to the analysis of environmental exposure, a high percentage of subjects claimed to have had contact with environmental smoke both at home and also in the workplace.

One third of the population surveyed in the COPD.AR Study claimed to be current smokers, a much higher amount than the ones reported by other population-based studies conducted in Argentina in 2015 and 2018^{6, 7}. This significant difference could be attributed to methodological differences in the type of study and the age ranges of this cross-sectional study, given that the COPD.AR looked into the presence of COPD in the population and not the tobacco habit. The most prevalent age range published at the Third National Non-Communicable Disease Risk Factor Survey, contemporary with the COPD.AR, was from 25 to 34 years.⁷

The prevalence of COPD found in the COPD.AR was 14.5%. Compared to the PLATINO Study (2005), a classic study on the prevalence of COPD in Latin American countries, the value was slightly lower than the data obtained in Chile, Uruguay and Brazil, and significantly higher than the values of Colombia and Mexico.²This comparison is limited by the fact that it is not contemporary; the different countries have implemented strategies to reduce that prevalence on the basis of the results. We assume that ten years later, the prevalence should be reduced.

With respect to sex, there were more cases of COPD in men than in women; this coincides with the global trend. Most men with COPD were current or former smokers. It is particularly interesting that a high percentage of women with COPD were non-smokers, a very elevated number considering their non-exposure to the main risk factor.

Logically and in accordance with what has been established in every study about risk factors for COPD, the condition of being a smoker is associated with COPD, and, in this survey, there is no difference between current or former smokers concerning the risk of developing COPD. This is related to the progressive and irreversible damage produced by tobacco products, and coincides with the data obtained in IBERPOC, the population-based study of reference carried out in Spain, reporting COPD in 15% smokers, 12.8% former smokers and 4.2% never smokers⁸.

Regarding the frequency of tobacco consumption, as observed also in other studies, there was a higher risk of COPD in people who reported higher tobacco consumption, in line with the amount of tobacco consumed⁴⁻⁸. Those who smoke daily had a stronger COPD risk, nearly twice the risk of non-daily smokers.

With regard to COPD findings, more than half of the patients smoked less than 20 cigarettes/day, and relating to gender, the greater difference in favor of men was found in the range of 20 to 39 cigarettes a day. There weren't any differences between COPD men and women who continued smoking and claimed to smoke more than 60 cigarettes a day. It is also important to mention that, as regards the number of cigarettes per day, we observe a risk gradient with a significant value for the linear trend indicating that, the higher the number of cigarettes smoked per day, the higher the COPD risk.

It has been described that smokers who develop COPD, apart from consuming a higher number of cigarettes, have a particular inhalation pattern: deeper inhalations and greater volume of smoke, allowing for a higher number of oxidizing agents that eventually could result in the development of COPD^{4,5}.

The desire to quit smoking was a little weaker among subjects diagnosed with COPD, compared to the other current smokers. However, almost half of COPD subjects tried to quit sometime. This coincides with the characteristics of older COPD smokers, who have greater dependence, less motivation, and higher rates of depression, making them a particular population with greater difficulty to quit smoking.⁵

Concerning the medical advice, a little bit more than half of the current smokers received advice sometime, more frequently smokers diagnosed with COPD; but, one fourth of smokers diagnosed with COPD never received any advice to quit smoking, even knowing that cessation has the strongest scientific evidence to avoid the progression of the disease. This information is very important to promote improvement activities, because if we consider that smoking is the most avoidable cause of death, medical advice should be given without doubt by every healthcare professional.

There is enough scientific evidence to indicate combined treatment, both pharmacological and psychological support for smokers who are willing to quit smoking. A high percentage of former smokers said they didn't receive any pharmacological treatment to quit smoking, and only 7 out of every 100 current smokers claim to have used certain treatment. The percentage of patients with COPD is a bit higher; however, it is important to mention that the recommendation to quit smoking for patients with COPD could be conditioned, given that people with COPD smoke more frequently, and the advice given to them could be more related to the smoking habit than to the fact that they have the disease.

Another important element about medical indication for smoking cessation is the fact that there were a lot of patients who didn't answer this question ("no information" in a little less than half of the cases), clearly complicating the analysis of these data.

The low percentage of former smokers who received pharmacological treatment used the following drugs, in descending order: Nicotine Replacement Therapy (NRT), bupropion and varenicline. Within the group of current smokers: NRT, varenicline and bupropion. A change can be observed in the drug indication trend, as of the appearance of varenicline in 2016; but, surprisingly, the use of medication among current smokers is rare.

The fact that these smoking cessation treatments with proven scientific evidence are rarely used is noticeable and even disturbing, because it reflects the underuse of effective strategies for a highly

prevalent disease with high levels of mortality. The EAGLES Study clearly showed efficacy and safety of the three first-line treatment options, even in patients with stable psychiatric disease^{9, 10}.

We should also mention the surprisingly low percentage of smokers who claimed to have used some method not indicated by a doctor.

A high percentage of patients from the general sample reported that they have suffered exposure to environmental smoke, and an even higher percentage could be seen in the group of COPD patients. There is an elevated percentage of exposure, mainly at home and in the workplace. A little less than half of the COPD patients claim they are exposed to tobacco smoke at home.

Almost 7 out of 100 surveyed individuals say they suffer exposure in bars and restaurants, despite the implementation of National Law N° 26,687, an anti-tobacco law enacted on June, 13, 2011.

More than half of the study population reported that they had a smoker father, and almost one fourth had a smoker mother. This could relate to the smoking epidemic curve, with a significantly higher prevalence of male smokers before the 60s.

There was also a high percentage of exposure to dust or smoke in the workplace, even higher in patients diagnosed with COPD. Additionally, there is a risk gradient between the years of exposure and the presence of COPD which has been proven to be statistically significant.

It is extremely important to mention the known increase in the risk of COPD associated with smoking, but it would also be important to include in the study more research about occupational exposure to smoke.

We believe it would be important to conduct specific studies comparing the smoking characteristics of patients with and without COPD, since the data analyzed in this study did not have the determined purpose of comparing the smoking characteristics, and this could result in a bad interpretation of the information.

Conclusions

Most smokers smoked less than 20 cigarettes a day; there was a higher prevalence of COPD in men, and a higher percentage of never smokers with COPD in women.

A high percentage of patients think about quitting smoking. The percentage is smaller in COPD patients, who paradoxically had more previous attempts to quit.

Almost half of the smokers never received medical advice; and a very low percentage used drugs to quit smoking. Just a very low percentage of patients with COPD used other methods.

There was high exposure to secondhand smoke at home and in the workplace, and 6% in bars and restaurants, despite the national law that completely prohibits smoking in enclosed areas. More than half of the patients worked sometime in a place with exposure to dust or smoke, and more cases of COPD were found in people who underwent more than 30 years of exposure.

COPD.AR wasn't specifically designed to analyze the characteristics of smoking in the population, thus the analyzed information has limitations, mainly on the data obtained from the individuals who are or were smokers. However, we think that the data obtained and the analyses are useful for characterizing the smoker population and the relationship with the existence of this disease. This information should be taken into account when organizing awareness raising campaigns or tobacco cessation programs in our country.

Clearly, the data show that the approach and treatment of smoker patients with or without COPD are insufficient.

It is absolutely necessary to improve the smoking diagnosis and its correct treatment, because tobacco cessation is and always will be the most effective measure for stopping the progression of COPD.

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Annex 1

COPD.AR Survey Questions 21 to 39

Smoking

Now I'm going to ask you about tobacco consumption.

21. Did you ever smoke cigarettes?

Yes	
No	

22. How old were you when you first smoked?

N° _____ years Doesn't know / doesn't remember

23. Throughout your life, have you smoke at least 100 cigarettes?

Yes	
No	
Doesn't know / doesn't remember	

24. Do you currently smoke cigarettes?

Everyday	
Some days	
Doesn't smoke	

25. How many days did you smoke cigarettes in the last month?

N° _____ days Doesn't know / doesn't remember

26. During the last 30 days, in average, how many cigarettes a day did you smoke the days you did smoke?

N° _____ cigarettes Doesn't know / doesn't remember

27. During the last 30 days, in average how many cigarettes did you smoke a day?

N° _____ cigarettes Doesn't know / doesn't remember

28. Did you ever smoke daily for a certain period?

Yes	
No	
Doesn't know / doesn't remember	

29. When was the last time you smoked?

_____ years
 _____ months
 _____ days

30. Did you try to quit smoking in the last year?

Yes	1
No	2
Doesn't know / doesn't answer	9

31. Do you want to quit smoking?

Yes	1
No	2
Doesn't know / doesn't answer	9

31b. How much time do you think you need to quit smoking?

N° _____ months Doesn't know / doesn't answer

32. Did a doctor ever advised you to quit smoking?

Yes	
No	
Doesn't know / doesn't answer	

32A. Did you get some advice to quit smoking in the last 12 months?

Yes	
No	
Doesn't know / doesn't answer	

32B. Have you ever used any treatment indicated by a doctor to help you quit smoking?

Yes	
No	
Doesn't know / doesn't remember	

32B1. What type of drug did you use to help you quit smoking?

Nicotine replacement therapy (gums, patches or nasal spray)	
Odranal (bupropion)	
Champix (varenicline)	
Other (tofranil, etc.) Specify:	
Doesn't know/doesn't remember	

33. Have you ever used any drug not indicated by the doctor to help you quit smoking?

Yes	
No	
Doesn't know/doesn't remember	

34. Have you ever used or did any other thing to help you quit smoking?

Yes	
No	
Doesn't know/doesn't remember	

34A. What did you do?

Hypnosis	
Acupuncture	
Other (laser, etc.)	

35. **TO EVERYONE:** now I'm going to ask you about other kinds of exposure to tobacco smoke
Do other persons from your personal environment regularly smoke near you?

Yes	
No	
No sabe / No contesta	

36. 36. In the last 30 days, did you notice someone smoking in enclosed spaces in...

	Yes	No	Doesn't know
... your house?			
... your workplace?			
... your educational institution?			
... pubs / restaurants?			
... hospitals / health centers?			
... other places?			

37. Did your father smoke regularly during your childhood?

Yes	
No	
Doesn't know	

38. ¿Did your mother smoke regularly during your childhood or before you were born?

Si	
No	
Doesn't know	

Occupational Exposure

39. Have you ever worked for one or more years in a workplace with exposure to dust or smoke?

Si	
No	
Doesn't know/doesn't answer	

39a. For how many years did you work in such places?

___ ___ years ___ ___ months