Table 1
Unadjusted and Adjusted HR for Time to Death or Transplantation in a Cohort of Patients with Idiopathic Pulmonary Fibrosis Between 2012 and 2015 ($N = 86$).

	Unadjusted HR (95% CI)	*P*-Value	Adjusted HR (95% CI)	*P*-Value
Sex	0.89 (0.42–1.89)	.78	1.08 (0.36–3.22)	.88
Age at diagnosis, years	0.99 (0.95–1.03)	.79	1.01 (0.96–1.07)	.48
Smoking habit	0.63 (0.29–1.32)	.22	1.15 (0.43–3.08)	.48
Baseline FVC%	0.96 (0.94–0.99)	.01	0.96 (0.92–0.99)	.01
Positive ANA or RF	0.87 (0.43–1.78)	.77	1.05 (0.44–2.48)	.90
Received pirfenidone	0.27 (0.10–0.73)	.01	0.37 (0.13–1.08)	.07
Received triple therapy	0.83 (0.36–1.9)	.66	0.52 (0.17–1.59)	.25

ANA: antinuclear antibody; FVC%: forced vital capacity as percentage; IPF: idiopathic pulmonary fibrosis; RF: rheumatoid factor; HR; hazard ratio; CI: confidence interval.

present a pattern of usual interstitial pneumonia indistinguishable from IPF,[14,15] and generally associated with better survival. We believe that including autoantibodies in a survival analysis according to sex in patients with IPF is of crucial importance. Our study has been the first to include this adjustment variable and to use current diagnostic criteria to analyze the relationship between sex and survival in patients with IPF. As the patients included in our study meet the current criteria of IPF, and were evaluated by a specialist multidisciplinary group, we believe that our results are valid and can be extrapolated to other populations. However, prospective studies are needed to confirm our results.

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Perceptions and Use of the e-Cigarette Among University Students☆

Percepciones y uso del cigarrillo electrónico en estudiantes universitarios

To the Editor,

The long-term effects of use of electronic cigarettes (e-cigarette) to control smoking has generated both debate and concern in the public health arena.[1] The prevalence of this device varies among the various European countries.[2] In general, however, it appears to be more widely used by individuals aged between 15 and 24 years,[3] and e-cigarette use is positively associated with being a student.[4] Nevertheless, little is known about the use of e-cigarettes and how they are perceived among young people in Spain. This study, then, was conducted in this setting, with the aim of determining the perceptions of university students of e-cigarettes and how they use these devices.

This was a cross-sectional study conducted in a reference population of undergraduate students enrolled in the 2015–2016 academic year in the Universidad de Almeria, with a calculated sample size of 373 students. Data were collected using a self-administered online questionnaire consisting of a total of 14 items ranging from sociodemographic variables, smoking habit, physical activity, and awareness, use and perception of the e-cigarette. For

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Table 1
Sociodemographic Characteristics and Perceptions About the e-Cigarette and its Use.

	Use of the e-Cigarette				*P*-value
	No (577)		Yes (168)		
	No.	Percentage	No.	Percentage	
Age (mean±SD)	21.8±4.0		22.3±3.8		.06*
Sex					.07**
Men	241	74.4	83	25.6	
Women	336	79.8	85	20.2	
Faculty					.02**
Engineering	93	78.8	25	21.2	
Education	115	83.9	22	16.1	
Health sciences	58	72.5	22	27.5	
Economic sciences	100	82	22	18	
Experimental sciences	42	72.4	16	27.6	
Law	48	67.6	23	32.4	
Humanities	49	80.3	12	19.7	
Psychology	56	80	14	20	
Social work	16	57.1	12	42.9	
Year of study					.35**
First	168	75.3	55	24.7	
Second	132	75.4	43	24.6	
Third	106	76.8	32	23.2	
Fourth	171	81.8	38	18.2	
Smoking habit					<.01**
Smoker	125	52.5	113	47.5	
Former smoker	38	71.7	15	28.3	
Never smoker	414	91.2	40	8.8	
Physical activity					.16**
No	196	74.5	67	25.5	
Yes, <3 times/week	187	76.6	57	23.4	
Yes, ≥3 times/week	194	81.5	44	18.5	
Religion					.11**
Christian	286	79.9	72	20.1	
Muslim	8	88.9	1	11.1	
Atheist/agnostic	259	74.9	87	25.1	
Other	24	75	8	25	
Perception of harmfulness					.61**
It is less harmful	283	77.7	81	22.3	
It is equally harmful	169	78.6	46	21.4	
It is more harmful	34	63	20	37	
It is not harmful	20	83.3	4	16.7	
Don't know	71	80.7	17	19.3	
Perception of effectiveness for quitting smoking					<.01**
It is not effective	338	76.1	106	23.9	
It is effective	132	72.9	49	27.1	
Don't know	107	89.2	13	10.8	
Perception of potential for addiction					<.01**
It is less addictive	190	72	74	28	
It is equally addictive	289	82.3	62	17.7	
It is more addictive	18	47.4	20	52.6	
Don't know	80	87	12	13	
Frequency of use of e-cigarette; n=745					
Daily use	13	1.7			
Occasional use	6	0.8			
Used it to try it	149	20			
Never used it	577	77.4			
The most important reason to start using the e-cigarette; n=168					
To stop smoking	27	16.1			
To reduce tobacco consumption	20	11.9			
Out of curiosity	111	66.1			
On the recommendation of friends	4	2.4			
Because it can be used in places where conventional cigarettes are banned	6	3.6			

* *P*-value obtained by the Mann–Whitney *U* test.
** *P*-value obtained by Chi-square test.

Table 2
Logistic regression model of factors associated with the use of the e-cigarette.*

Factors	OR	95% CI	*P*-value
Smoking habit			
Never smoker	Ref.		
Former smoker	3.82	1.72–8.46	<.05
Smoker	9.41	5.82–15.23	<.05
Sex			
Men	Ref.		
Women	0.60	0.37–0.95	<.05
Perception of addiction			
Less addictive	Ref.		
Equally addictive	0.47	0.29–0.76	<.05
More addictive	2.26	0.96–5.29	>.05

Independent variables specified in the model: age, sex (1: male; 2: female); religion (1: Christian; 2: Muslim; 3: atheist/agnostic; 4: other); smoking habit (0: never smoker; 1: former smoker; 2: smoker); physical activity (0: no; 1: yes); perception of harmfulness (0: it is not harmful; 1: it is less harmful; 2: it is equally harmful; 3: it is more harmful); perception of effectiveness for quitting smoking (0: no; 1: yes); perception of addiction (0: less addictive; 1: equally addictive; 2: more addictive).

* Hosmer and Lemeshow test (sig. 0.998).

study purposes, an invitation to participate with a link to the questionnaire was sent to the emails of the 10 897 students enrolled in the university. In total, 771 students answered the questionnaire; 745 of these were correctly completed.

Mean age of respondents was 21.9±3.9 years, 31.9% were smokers, 60.9% were non-smokers, and 7.1% were former smokers. In total, 22.6% of the participants had used an e-cigarette at some time, and 1.7% used it on a daily basis (Table 1). The logistic regression analysis showed that smokers (OR=9.41) and former smokers (OR=3.82) were more likely to use the device than non-smokers (Table 2).

In our study, most respondents (59.6%) thought that the e-cigarette was not an effective aid for quitting smoking. This coincides with the findings of Valero-Juan and Suárez del Arco,[5] and differs from those of Choi and Forster,[6] who reported a significant percentage of respondents (44.5%) who thought that the device could help stop smoking. However, advertising for this product which suggested, among other messages, that the device is useful for stopping smoking,[7] has been regulated in Spain since 2014. In line with these regulations, it is forbidden to attribute any efficacy to the device that has not been recognized by a competent body.[8] The high perception of lack of efficacy of the e-cigarette found in our study may be associated with the regulations imposed on the advertising of these devices.

Our study also shows that most students (47.1%) believe that the e-cigarette is just as addictive as the conventional cigarette. The prevalence of this view may be due, among other factors, to certain features of the e-cigarette, such as its ability to release nicotine and the similarity of its appearance and use to the conventional cigarette. With regard to the perception of harmful effects, most students (48.9%) responded that the e-cigarette is less harmful than the conventional cigarette, in line with the findings of Choi and Forster.[6]

Most respondents (66.1%) started to use the device out of curiosity. This may be because the marketing techniques of manufacturers of these devices are aimed at making them attractive to young people,[9] or because the e-cigarette is perceived to be sophisticated or modern among the young.[9] These factors may make individuals curious to use the device or to experience the sensation that it might produce. Biener et al.[10] also reported that the most common reason among participants for trying the devices was curiosity, while Tavolacci et al.[11] found that the most common reason was to give up smoking.

In our study, most e-cigarette users were smokers (67.3%). This suggests the existence of dual use, i.e. students who use conventional cigarettes along with e-cigarettes.[12] This was also reported in other studies.[6,12,13] The significant association between the consumption of tobacco and the use of the e-cigarette found in our study is consistent with other studies in students.[14,15] The relationship between the use of the e-cigarette and being a former smoker may be due to the fact that former smokers may be attracted by the device, prompting them to resume smoking[6] and leading them to try the device or to use it more frequently.

The level of use of the e-cigarette in our study is almost the same as that reported by Tavolacci et al.,[11] in which 23% of students used it, and somewhat higher than the 19% reported by Goniewicz and Zielinska-Danch.[14] Choi and Forster[6] found a level of use of 7%, while Sutfin et al.[13] reported that less than 5% of respondents had used it. The high percentage obtained in our study suggests a growing interest in the device among students.

Finally, to conclude, we found that most students believe that the e-cigarette is not effective as a smoking cessation aid, and that it is just as addictive as the conventional cigarette. The most common reason for using the e-cigarette among students is curiosity, and tobacco consumption is related to the use of e-cigarette.

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