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# WHEN AND WHY DO PORTUGUESE UNIVERSITY STUDENTS START SMOKING: IMPLICATIONS FOR PREVENTION.

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## *ABSTRACT*

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The Portuguese National Health Surveys show that, contrarily to what happens in most developed countries, the Portuguese population in general starts smoking later than we were led to expect. These facts pose a question; to know if the same occurs with university students and if the transition from secondary to university favours regular smoking. To give an answer to this question, a survey took place at Minho University at the end of the school year 2002/2003. It consisted of the application of a questionnaire to a stratified sample constituted by 388 university students. The results show that although most of the students started smoking in secondary school (therefore in adolescence), a high percentage of students (about 30%), particularly female students (34%), started smoking at university. Contrarily to what happens in most developed countries, the Portuguese population in general and university students in particular start smoking later than it would have been expected.

Key words: smoking; prevention; tobacco;

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## *1. INTRODUCTION*

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In order to take effective smoking prevention measures, it is necessary to know in detail when and why people start smoking. Several authors refer that 50 to 60% of smokers started smoking before they were fifteen years old and about 90% before adult age (Nutbeam, Mendoza and Newman, 1988; Joossens, 1988; Jodral, 1992).

Rheinstein et al. mentioned by Trullén and Labarga (2002) claim that children make their first attempts to smoke around the age of 14 and become daily smokers before they are 18, pointing out that more than 80% of adult smokers start smoking before that age. Ariza and Nebot (1995) consider that the critical ages to start smoking is from 12 to 15 years old. After this age the risk of becoming regular smokers decreases significantly. According to David Byrne, the ex-European Commissioner responsible for consumer health and protection, it is almost a certainty that if a person doesn't start smoking in adolescence, this habit is rarely acquired later on (Byrne, 2001).

However, the data of the Portuguese National Health Survey carried out in 1995/96 showed that, in Portugal, 39% of the smokers began smoking between the ages of 18 and 24 and about 6% after they were 24 (DEPS, 1997, Nunes, 2002), that is to say, about 45% of actual smokers started smoking when they were over 17.

A study, using a sample of 227 teachers, undertaken in the city of Oporto in Portugal showed that 27% of the teachers who smoke started smoking when they were already teaching (30% men, 24% women) (Brandão, 2002).

The previous studies show that, contrarily to what happens in most developed countries, the Portuguese population in general starts smoking later than it would be expected.

On the other hand, the results of research undertaken on smoking onset seem to indicate that smoking is mainly a psychosocial behaviour, mainly motivated by psychosocial influences (Nutbeam, Mendoza and Newman; 1988; Hill, 1991; Flay, 1985; Becoña, Palomares and García, 1994). This means that whenever people are confronted with changes in their social environment, such as change of scholar level, change from student status to worker status, change of work place and type, etc., they run a larger risk of starting a smoking addiction.

According to Faria (1999), the transition from secondary school to university, generally implies a physical distance from family and from friends; the settling of new friendships inside and outside of the educational institution, the conquering of new spaces (physical, scholar, social, cultural), and the frequent or even daily participation in nightlife leisure activities may increase smoking risk.

These facts raise the question whether the transition from secondary education to higher education favours regular smoking by university students. In an attempt to find an answer to this question, we started an investigation in order to characterise the smoking pattern of University students; to determine the pattern of tobacco consumption by gender; the period of school life in which they started smoking regularly; the risk factors associated to smoking; and to propose means to prevent and to treat smoking addiction among university students.

This article presents the methodology, results and conclusions of the study.

## 2. METHOD

At the end of the 2002/2003 school year, a survey took place at Minho University; it consisted of the application of a questionnaire to a stratified sample constituted by 388 university students, from the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> years of the Science Teaching, Mathematics, Law and Education courses, whose characteristics are presented in Table 1. The courses were selected in a random way.

**Table 1. Study sample by courses**

Courses	N=388	
	%	f
Science teaching	24	(93)
Law	25	(98)
Mathematics	23	(90)
Education	27	(107)

In the questionnaire there were two main groups of questions: the first group of questions was intended to obtain information on the school level at which they started smoking and the second group was meant to determine the reasons why they began doing it. The questionnaire was expected to survey the smoking habits, the school level in which regular consumption began, and some factors related to consumption, especially the perception of smoking risks.

The data was entered and managed on a Statview program sheet. In order to determine the pattern of smoking frequency, distributions were made. To have a better understanding of the smoking aetiology in the sample youths (that is to say, the factors associated to the consumption), associations of variables making use of the  $\chi^2$  for being category variables were settled down. A content analysis of the question "Describe in a brief way the reasons that led you to becoming a daily smoker" was also made.

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### *3. RESULTS*

#### **3.1. PREVALENCE**

As can be verified in table 2, 18% of the students smoked daily and 7% occasionally (less than a cigarette a day); 4% were ex-daily smokers and 13% were ex-occasional smokers.

The prevalence of male daily smoker students was higher than the one registered in female students (20% of the male students smoked daily while the percentage of female student smokers was 16%). In what concerns occasional tobacco consumption, the situation was different. The percentage of occasional smokers was lower among male students (4%) than among female students (8%).

**Table 2. Prevalence of regular smokers (daily and weekly), occasional smokers and non-smokers by gender**

N=384

Gender	Smoking									
	Non- smoker		Ex-smoker				Smoker Occasional			
	%	f	Occasional		Daily		Daily		%	f
Male (n=108)	56	(60)	16	(17)	5	(5)	4	(4)	20	(22)
Female (n=276)	59	(163)	13	(35)	4	(12)	8	(21)	16	(45)
Total (n=384)	58	(223)	14	(52)	4	(17)	6	(25)	18	(67)

### 3.2. WHEN AND WHY DID THEY START SMOKING?

The data in table 3 shows that 71% of the students started smoking in basic and secondary education (22% when they were 11 to 14 years old and 49% at the ages of 15 to 18) and 29% began smoking at University.

Boys started smoking more precociously than girls. 32% of the boys started smoking when they were 11 to 14 years old, 50% when they were 15 to 18 years old and 18% as University students; as for girls, 17% started smoking when they were 11 to 14 years old, 50% when they were 15 to 18 years old and 33% at University.

The data show that a high percentage of students (particularly girls) start smoking regularly at University, that is, as young adults, which contradicts the conviction expressed by many authors that defend that if students do not start smoking until the end of adolescence, hardly ever will they start smoking. This is particularly visible and worrying in women.

The data is in conformity with all epidemiological studies carried out in Portugal, evidencing that regular tobacco consumption happens later in other countries. For example, the data of the National Health Survey undertaken in Portugal in 1995 showed that 39% of smokers acquired the smoking habit between the ages of 18 and 24. (DEPS, 1997, Nunes, 2002).

**Table 3. Frequencies distribution of the scholar level in which students started smoking by gender**

N=69

Gender	n	Onset of smoking (scholar level)					
		7, 8 <sup>o</sup> or 9 <sup>o</sup> year		10, 11 or 12 <sup>o</sup> year		University	
		%	f	%	f	%	f
Male	22	31	(7)	50	(11)	18	(4)
Female	47	17	(8)	49	(23)	34	(16)
Total	69	22	(15)	49	(34)	29	(20)

### 3.3. WHY THEY STARTED SMOKING.

A content analysis of the question “Describe in a brief way the reasons that led you to becoming a daily smoker” reveals that most of the students that started smoking in secondary school did it out of curiosity, desire of trying and also because they were motivated by friends. Many of them tried, enjoyed the sensation and kept on smoking, having soon become addicted.

Most of the students that started smoking at University did it mainly because of friends’ influence, because they went out at night and smoking is normal in many nightlife places, and also because they believed that smoking would be a way of releasing stress. Curiosity was what made them start smoking. Later, they kept on smoking because it gave them pleasure.

In this study, we tried to determine whether there was any kind of relationship between the concern with the consequences of smoking and smoking. It was verified that non-smokers were more concerned with the consequences of tobacco consumption than smokers. In reality, the prevalence of daily smokers in the group of students who considered that there is a probability of a person harming his/her health, of suffering from lung cancer, and of having a deteriorated aspect due to smoking is lower than that in the group which considered that the probability of smoking affecting him/her is lower, as can be seen in table 4.

**Table 4 . Relationship between the degree of concern with the consequences of smoking and tobacco consumption**

N=384

Preoccupying	n	Smoking									
		No smoker			Ex-smoker				Smoker		
		%	f		Ocasional	Daily		Ocasional	Daily		
A lot	38	59	(130)	57	(30)	58	(10)	28	71)	23	(16)
Plenty	270	37	(82)	41	(21)	41	(7)	64	(16)	61	(41)
Not very	74	3	(6)	1	(1)	0	(0)	8	(2)	13	(9)

P<0,001

In this study, an attempt was made to determine the relationship between the concern with the risks related to smoking and the smoking onset. One could see that non-smokers were more vulnerable to feelings of concern regarding the consequences of smoking than smokers. By analysing table 5, it is possible to perceive that, when confronted with the question: "Are the negative consequences caused by smoking worrying? (the answer being the options *very much, much, not much, not at all*) non-smokers are more concerned about the consequences of smoking than smokers.

The data seem to support Sussman's thesis (1995) that defends that providing youths with information about the consequences of smoking can have a highly preventive effect.

**Table 5 . Relationship between the degree of concern with the consequences of smoking and tobacco consumption**

N=384

Question /Probability		Smoking habits									
		Non smoker		Ex-smoker				Smoker			
		%	f	Occasional		Daily		Occasional		Daily	
%	f	%	f	%	f	%	f	%	f		
1	High	67	(116)	14	(24)	2	(4)	5	(9)	12	(20)
	Low	54	(8)	8	(3)	17	(4)	13	(2)	33	(7)
2	High	60	(28)	16	(10)	3	(5)	5	(30)	15	(111)
	Low	67	(8)	0	(0)	0	(0)	8	(1)	25	(3)
3	High	66	(58)	17	(15)	3	(3)	3	(2)	11	(10)
	Low	44	(38)	13	(11)	6	(5)	8	(7)	30	(26)
4	High	70	(81)	15	(18)	3	(3)	3	(4)	12	(15)
	Low	27	(15)	16	(3)	8	(3)	8	(6)	40	(10)

P<0,001

#### 4. DISCUSSION

Although most of the university students started smoking daily in secondary school, a reasonably high percentage of students started smoking at University. It is also possible to see that the percentage of female students that started smoking at University is quite high (about 33%) and it is even higher than that of male students. This can be explained by the fact that many students usually develop relationships with people of their own age (conviviality within the same generation) who sometimes have different habits from the ones they had, which may include: smoking, drinking, consuming illicit drugs, having risky sexual behaviours, etc. On the other hand, it becomes easier for them to attend places of leisure, such as cafés, bars and discos where smoking is common. These factors can be of a social and environmental nature which can lead many students who until a certain point in their academic life didn't smoke to begin doing so. The influence these factors exert over students that have to leave a familiar environment to attend University is particularly intense; they are subjected to new influences and, at the same time, they feel a decrease in family control and influence in a more intense way. The transition from secondary school to university environment can work

as a risk factor for many university students, particularly for girls that come from rural environments. As it is well known, tobacco consumption among girls, mainly in rural environments, is still not an acceptable social behaviour. The statistics show that the prevalence of smoking among girls from rural environments is lower than that among girls from urban environments (Precioso, 1999).

The fact that many girls start smoking at University is of particular concern because many young adult women express the wish to become pregnant after finishing their degrees. Furthermore, many studies have revealed that many women keep on smoking during and after pregnancy (Valero and Oscar, 2002; Sasco, 1999), which may carry serious risks for pregnancy and really negative repercussions for the foetus.

It is clearly demonstrated that smoking during pregnancy increases the risk of suffering from ectopical pregnancy, of having miscarriages, premature childbirths, previous placenta, haemorrhages, precocious membrane ruptures and, as a consequence, it contributes to the increase in perinatal mortality (Valero and Oscar, 2002). On the other hand, it is known that the children of mothers that have smoked during pregnancy, as well as children exposed to environmental smoke, have a significant risk of dying of Sudden Death Syndrome (Gidding *et al.*, 1994; WHO, 1998). Valero and Oscar (2002) admit that 25% of all the cases of breastfed babies struck by the Sudden Death Syndrome could be attributed to passive smoking.

In order to prevent tobacco consumption, we suggest that the University starts providing all students in general and those who attend teacher training courses in particular (because they will be models for their future students) with training in Health Education. This can be accomplished by the most acceptable means, namely: the infusion of health themes in all the curricular subjects; the introduction of a Health Education subject (optional, for instance); the inclusion of health themes in science subjects (Biology, for instance); and extra-curricular activities.

The ideal will probably be to adopt an association of all these strategies. At present, the easiest means to implement Health Education at university would be the infusion of health themes in the whole curriculum (any subject can and should link the subject's themes to life).

We also believe it is necessary for the University to create an advising service to support smokers who intend to stop smoking.

The creation of a Smoke Free University would be another measure that would ensure non-smokers' health protection. Furthermore, it

would have a great preventive value. There would be well identified smoking areas where students, teachers, other professionals and visitors could smoke. Unfortunately, these measures have not yet been implemented, in spite of being foreseen by law and defended by most of the students, according to a study undertaken at Minho University by Precioso et al. (2002).

If the University invests in Health Education, it will certainly promote the adoption of healthier lifestyles and will qualify its students to participate more and more actively and efficiently in the creation of Schools more concerned with Health Promotion, once they become professionals.

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