A survey of the prevalence of smoking and smoking cessation advice received by inpatients in a large teaching hospital in Ireland.

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*Abstract (must not include author information)

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Background: The adverse effects of smoking are well documented and it is crucial that this modifiable risk factor is addressed routinely. Professional advice can be effective at reducing smoking amongst patients, yet it is not clear if all hospital in-patient smokers receive advice to quit.

Aims: To explore smoking prevalence amongst hospital in-patients and smoking cessation advice given by health professionals in a large university teaching hospital.

Methods: Interviews were carried out over two weeks in February 2011 with all eligible in-patients in Beaumont Hospital.

Results: Of the 205 patients who completed the survey, 61% stated they had been asked about smoking by a healthcare professional in the past year. Only 44% of current/recent smokers stated they had received smoking cessation advice from a health professional within the same timeframe.

Conclusions: Interventions to increase rates of healthcare professional-provided smoking cessation advice are urgently needed.

Keywords: Smoking; Tobacco use cessation; Hospitals, Teaching; Lung Diseases, Obstructive/prevention & control

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Introduction

The many adverse effects of smoking are well documented and smoking impacts on such conditions as respiratory diseases (e.g. lung cancer), cardiovascular disease or low neonatal birth weight [1]. As such it is crucial that this modifiable risk factor is adequately addressed in the routine care of patients. However, there is little data on the current prevalence of smoking amongst hospital in-patients in Ireland, other than one study from 2001 which showed a smoking prevalence of 32% (n=151) [2]. This is somewhat higher than international studies (on average 20% of in-patients) [3,4].

Healthcare professional advice to quit smoking has been shown to be effective at reducing the levels of smoking amongst patients [5,6,7], particularly if followed up with further support [8,9]. Hospitalised patient populations may be highly receptive to such advice, for example one large study revealed as many as 75% of cardiac in-patient smokers are prepared to quit [10]. Therefore, this opportunity while patients are under the care of medical teams should be used to help initiate this important risk factor control, especially as even brief advice may be effective [11].

Previous data shows that a considerable number of in-patient smokers may not be receiving advice to quit from the health professionals responsible for their care **[12-14]. For example, o**ne Canadian study showed that only 59% of smokers were advised to quit during hospitalisation [12], while a recent German study found that only 39% of smoking in-patients recalled being advised to quit [13]. In Ireland, the national Survey of Lifestyles, Attitudes and

Nutrition (SLÁN) 2007 survey found that only 38% of smokers in the general population had been advised to quit smoking during a visit to their general practitioner, suggesting that there is ample room for improvement [14].

However, the current levels of smoking in hospitalised patients, and to what extent these patients receive recommended cessation advice, is unknown. We therefore aimed to explore smoking in hospital in-patients and smoking cessation advice given by health professionals in a large university teaching hospital.

Methods

Participants and setting

All eligible in-patients in Beaumont hospital were surveyed over a 2 week period from the **8th to the 21st of** February 2011. Patients were excluded if they were under 18 years of age, were unable to complete the interview (e.g. due to patients being very fatigued), unable to provide consent, unable to speak English, comatose or cognitively impaired (according to staff advice), or were infected with a resistant **transmissible** organism (eg: Methicillin-Resistant Staphylococcus Aureus or Vancomycin Resistant Enterococci positive). Eligibility of patients was assessed by the ward managers in each ward who advised which patients could be approached.

Procedure

The study was given ethical approval by Beaumont Hospital Ethics (Medical Research) Committee. Eligible patients were informed of the

study and its purpose, and provided written informed consent. They were then interviewed by one of the researchers (CB, AA). Interviews lasted around 10 minutes.

Smoking status was defined as per Table 1:

Insert Table 1 about here

Analysis

Data were analysed using descriptive and inferential statistics. Student's t-test, logistic regression and χ^2 analyses were used to assess differences between groups as appropriate.

Results

Response rate

Of 500 inpatients who were potential participants, 266 (53%) were ineligible. Ineligible patients were more likely to be older (67.6 years v 60.8 years, t=4.12 p<0.001), but no difference was observed for sex (χ^2=1.30, p=0.253).

Of the remaining 234 patients who were approached about the study, 29 (12%) refused to participate. Patients who refused were more likely to be older (OR=1.03, 95% CI 1.01-1.06, p=0.013), but no sex differences were seen (data not shown).

Sample profile

The profile of the current sample is shown in Table 2:

Insert Table 2 about here

When compared to non-smokers, current smokers were younger and more likely to have had secondary rather than just primary education, **and there was a marginally lower prevalence of smokers who had private health insurance,** but no other differences were found. The largest sample of patients was from the neurology wards at 19% of the total surveyed population, while approximately 15% were on each the cardiology, general surgical, oncology and renal/urology wards. The remainder of patients were distributed across general medical, geriatrics, respiratory, orthopaedic, haematology, ear/nose/throat and intensive care wards**. The percentage of eligible patients in each ward specialty varied from 72% (34 of 47 patients) in the oncology wards down to 17% (6 of 35 patients) on the respiratory wards and 0% (0 of 9 patients) in the ICU.**

Smoking and attitudes to cessation advice and quitting

Current smokers, former **(including recent former)** smokers and non-smokers comprised 21% **(43 patients),** 35% **(72 patients)** and 44% **(90 patients)** of the sample respectively. Of the **43** current smokers, 70% **(30)**

reported smoking every day, while 33% **(14)** reported trying not to smoke while in hospital.

All **205** participants were asked whether they had been asked about smoking by a healthcare professional in the past year, and 61% **(143)** reported that they had. Smokers were asked whether they had received smoking cessation advice from a health professional within the past year, and whether they would like such advice while in hospital. Of the 52 responses from current or recent smokers, **23 (**44%**)** stated that they had received such advice, whereas **17 (**40**%) of the current smokers responded** that they would like advice. **There were no differences reported in levels of advice received by education or working status (data not shown).**

Regarding quit attempts, **19 (**45**%) current smokers** stated that they had stopped smoking for one day or longer in the past year because they were trying to quit smoking.

Smokers were also asked about their attitudes towards quitting (Table 3):

Insert Table 3 about here

Overall, these results show a positive attitude towards quitting, with only the statement on the difficulties in handling stress not being endorsed by the majority of participants.

Discussion

Our study showed a **patient-reported** smoking prevalence of 21% in an in-patient population. This is lower than the 32% prevalence found by a previous Irish in-patient study in 2001 [2]. The SLÁN 2007 survey demonstrated a 29% smoking prevalence across the adult general population [14]. **In our study, patient-reported rates** for those aged 46-54 years were 25% and aged 65 and over were 14%. This suggests the smoking profile of the typically older in-patient profile here, as seen in an Irish hospital, was perhaps not too dissimilar to the older Irish population. The figure is also quite similar to the smoking prevalence reported in international studies of in-patient groups [3,4,15]. **That smokers were marginally less likely to have private health insurance is also in line with current national data on smoking trends [14], albeit the numbers are small and should be interpreted with caution.**

Asking patients about smoking should be routine during any consultation, yet only **125 (**61**%) of the 205** patients in our study recalled being asked about smoking in the past year. This compares unfavourably to the 90% of inpatients who reported being asked about smoking in a German study [13]. Furthermore, smokers should always be advised to quit. However, despite patients' positive attitudes towards smoking cessation advice, patients did not

typically receive such advice. Indeed, just under half of smokers stated that they had received cessation advice while in hospital. Compared to previous studies, the 44% rate of cessation advice **reported by** smokers during their hospitalisation that we found was markedly lower than that found by Senior [12] but is similar to the percentage of in-patient smokers advised to quit smoking by hospital physicians in Germany [13] and by smokers in the general population by their general practitioners found by the SLAN 2007 survey [14].

While this rate of cessation advice is very low, it can perhaps be partially explained by the fact that only 2 out of every 5 smokers stated that they would like to receive such advice while they are in hospital. This occurred despite smokers having overall positive attitudes towards smoking cessation advice and quitting. These results perhaps contrast to previous findings on why doctors do not always discuss smoking with patients, for example one study showed that professionals assume that patients are not motivated to quit [16]. Other reasons have also been proposed, such a lack of time and training [13,17]. **Future research should investigate which of these aspects are the most important barriers towards giving cessation advice in an Irish setting**.

Our study has a number of limitations. Results are based on patient reporting, and are thus subject to the recollections and biases of each individual**, and therefore they may be inaccurate and not demonstrate the actual rate of advice and questioning**. **Selection bias was minimal as all in-patients,**

regardless of ward specialty or reason for hospitalisation, were considered eligible until further consultation with ward managers. Unfortunately, we are unable to quantify potential bias that may have occurred during declaration of ineligibility by ward managers. For example, low numbers of recruited respiratory patients may indicate that such bias did occur. No validation of smoking status such as measurement of expired carbon monoxide [3] was carried out. We surveyed less than half of the patient population; this large number of excluded patients, which were more likely to be older, suggests that the sample is not representative of the hospital population. However, of those eligible, there was a high response rate, and these patients are those who would probably be targeted by smoking cessation interventions in everyday clinical practice.

Overall, our results show that there is a significant shortcoming in addressing the issue of smoking while patients are in contact with the healthcare services. The results herein suggest that interventions to increase rates of healthcare professional-provided smoking cessation advice are urgently needed. **Such advice would probably best come from dedicated smoking cessation staff, to ensure that all smokers receive at least brief advice on cessation. Future research should implement interventions to increase rates of smoking cessation advice given to patients, and then audit their effectiveness.**

Conflict of interest

None.

Table 1: definitions of smoking status used in the present study

Current smokers	**Non-smokers**		
	Recent smokers	**Ex-smokers**	**Non-smokers**
-patients who have smoked at least 100 cigarettes in their life -patients who are currently regularly smoking -smoking may include use of cigarettes, cigars, pipes,	**-patients who have smoked at least 100 cigarettes in their lives and have stopped smoking completely in the past 12 months -these patients were asked the same question addressed to current smokers regarding being advised to quit by a healthcare professional in the past 12 months**	**-patients who have smoked at least 100 cigarettes in their lives and have stopped smoking completely more than 12 months ago**	**-patients who have never in their lives smoked a minimum of 100 cigarettes and who are not smoking regularly at the time of the study**

Table **2**: Sample description by current smoking status

	Non-smokers (n=162)	Current Smokers (n=43)	Odds ratio (χ^2)	95% CI (df)	p-value
Age, mean (SD)	62.4 (18.7)	55.0 (16.6)	0.98	0.97-0.997	0.022*
Men (%)	**96 (59%)**	**24 (56%)**	0.89	0.45-1.76	0.738
Private insurance	**65 (40%)**	**11 (26%)**	0.51	0.24-1.09	0.083
Education					
Primary (ref)	**62 (38%)**	**9 (21%)**	-	-	-
Secondary	**45 (28%)**	**22 (51%)**	3.31	1.39-7.88	0.007**
Tertiary	**55 (34%)**	**12 (28%)**	1.45	0.56-3.71	0.435
Employment status					
Working (ref)	**45 (28%)**	**14 (33%)**	-	-	-
Unemployed	**34 (21%)**	**12 (28%)**	1.10	0.45-2.68	0.830
Retired	**83 (51%)**	**17 (39%)**	0.66	0.30-1.48	0.317
Marital status					
Single (ref)	**32 (20%)**	**10 (23%)**	-	-	-
Married	**86 (53%)**	**19 (44%)**	0.71	0.30-1.68	0.433
Separated	**44 (27%)**	**14 (33%)**	1.02	0.40-2.58	0.970
Primary diagnosis/ward specialty					
Neurology	**31 (19.1%)**	**8 (18.6%)**	χ^2 =	df=8	0.621
Renal/ Urology	**24 (14.8%)**	**6 (14.0%)**	6.236		
Cardiology	**23 (14.2%)**	**5 (11.6%)**			
Oncology	**23 (14.2%)**	**8 (18.6%)**			
General Surgical	**22 (13.6%)**	**6(14. 0%)**			
General Medical	**10 (6.2%)**	**2 (4.7%)**			
Geriatric	**7 (4.3%)**	**2 (4.7%)**			
Respiratory	**2 (1.2%)**	**3 (7.0%)**			
Other	**20 (12.3%)**	**3 (7.0%)**			
Length of hospital stay in days (median, interquartile range)	8. 5 (4-27)	7 (3-14)	0.99	0.98-1.003	0.187
Emergency admissions	**63 (39%)**	**15 (35%)**	**0.84**	**0.42-1.70**	**0.545**

*p<0.05, **p<0.01

Table **3**: Attitudes towards quitting

	Yes	**No**	**Unsure**
Your health would improve in the short term	**27 (57%)**	**16 (34%)**	**4 (9%)**
Your health would benefit in the long term	**34(72%)**	**9 (19%)**	**4 (9%)**
You would put on weight	**24 (51%)**	**20 (43%)**	**3 (6%)**
It would be harder to handle stress in your life	**18 (38%)**	**23 (49%)**	**6 (13%)**
You would feel you had done something worthwhile	**37 (79%)**	**9 (19%)**	**1 (2%)**

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