Comparison of the smoking behaviour and attitudes of smokers who attribute respiratory symptoms to smoking with those who do not

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SUMMARY

General practitioners' (GPs') advice against smoking helps smokers to stop; unfortunately, GPs cannot predict which patients will quit following advice. This postal questionnaire survey suggests that where smokers attribute their respiratory symptoms to smoking, they are eight times (95% confidence interval [CI] = 3.0–23.3) more likely to believe that their health will improve if they stop smoking and six times (95% CI = 1.4–23.3) more likely to intend to stop smoking.

Keywords: *smoking behaviour; smoking cessation; patient attitude; respiratory symptoms.*

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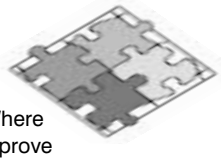
Introduction

SMOKERS with smoking-related illnesses are more motivated to try and stop smoking than others[1] and, where smokers believe health gain will result from stopping smoking, they also have greater desire to stop.[2] Additionally, elderly smokers who experience respiratory symptoms and believe these are caused by smoking rather than ageing are more motivated to attempt stopping.[3] Having smoking-related illnesses, therefore, may make smokers more motivated to stop smoking and attributing symptoms to smoking may also affect motivation. We investigated whether or not smokers who attribute their respiratory symptoms to smoking are more motivated to stop smoking than others.

Method

One thousand and five postal questionnaires with two postal reminders were sent to patients (aged 16 to 90 years) of one Leicester general practice situated in an inner-city, ethnically diverse location. To ensure that some responders experienced respiratory symptoms, approximately half of these selected (n = 505) had been issued with at least one prescription for inhaled corticosteroids in the past year. The questionnaire asked for details of age and sex and identified smokers (i.e. those smoking on most days). Smokers were also asked about current heaviness of smoking, past attempts to stopping smoking, intention (or not) to stop smoking within the next four weeks, confidence (self-efficacy) at being able to stop smoking, desire to stop smoking, thoughts given to stopping smoking and recall of anti-smoking advice from health professionals. These were enquired about because they have all been shown to be positively associated (all except for heaviness of smoking) with making quit attempts or achieving smoking cessation in prospective studies.[4] Smokers' experiences of respiratory symptoms were explored using items from the Medical Research Council questionnaire on respiratory symptoms which had been adapted in a postal questionnaire study.[5] Smokers reporting cough, phlegm or wheeze were asked whether or not they attributed these to smoking. We compared responses from smokers who attributed one or more respiratory symptoms to smoking with others using χ^2 test and Student's t-test. Forward stepwise logistic regression was used to determine smokers' characteristics associated with attributing one or more respiratory symptoms to smoking. Variables with a P-value of <0.1 were entered into the model as explanatory variables.

HOW THIS FITS IN



What do we know?

Smokers with smoking-related illnesses are more motivated to stop smoking. Where smokers believe that their health will improve as a consequence of stopping smoking, they are more likely to stop smoking.

What does this paper add?

Smokers who experience respiratory symptoms vary in their motivation to stop smoking; those who believe their respiratory symptoms are caused by smoking are more motivated to try stopping. Health professionals should consider eliciting smokers' beliefs about the aetiology of their respiratory symptoms when discussing smoking with them.

Results

The response rate was 73% (724/987 — 18 subjects not at mailing address). Of the 22.5% (163/174) responders who were smokers, 79.8% (130) reported experiencing at least one respiratory symptom. Of these, 65.4% (85) attributed at least one of their symptoms to smoking. Those attributing one or more symptoms to smoking ('attributers'; mean age = 42.8 years) were significantly younger than those who did not ('non-attributers'; mean age = 51.3 years; t = -2.60, df = 128, P = 0.011, no data missing). There were, however, no differences in the sex (attributers [male] 38% [32/85] versus 42% [19/45] of non-attributers; OR = 0.83, 95% CI = 0.40–1.73, no data missing) or heaviness of smoking (Mantel–Haenszel test for linear association, χ^2 = 3.59, P>0.05, data missing for one responder in each group) between the two groups. Recall of GPs' anti-smoking advice [attributers' recall 73% [62/85] versus non-attributers' recall 64% [29/45]; OR = 1.13, 95% CI = 0.45–2.84), data missing for six attributers and seven non-attributers] and practice nurses' advice (attributers' recall 28% [24/85] versus non-attributers' recall of 22% [10/45]; OR = 1.20, 95% CI = 0.45–3.19, data missing for 39 and 21 responders respectively) was similar in both groups.

Table 1 shows that smokers who attributed at least one respiratory symptom to smoking appeared more motivated to, or interested in, stopping smoking than others. After multivariate analysis (Table 2), a belief that stopping smoking would improve health (OR = 8.35, 95% CI = 3.00–23.3) and an intention to stop smoking within four weeks (OR = 6.14, (95% CI = 1.62–23.3) remained independently associated with smokers attributing one or more respiratory symptoms to smoking.

Discussion

Smokers who believe that one or more of their respiratory symptoms are caused by smoking are more likely to believe that health gain will occur on stopping and are more likely to intend to stop smoking than others. Intending to stop smoking is associated with making quit attempts and achieving future smoking cessation,[2,4] so smokers attributing symptoms to their habit may be more likely than others to successfully stop.

Although we obtained a 73% response rate, only 23% of responders were regular smokers, which was less than the 28–30% we expected.[6] Smokers are probably over-represented

Table 1. Comparison of smokers who attribute one or more respiratory symptoms to smoking with those who do not: attitudes to smoking and smoking behaviours.

	Symptom attribution	No symptom attribution	*P*-value	OR	95% CI
	n (%)	*n* (%)			
Tried to give up smoking in previous year					
Yes	48 (56)	16 (36)	0.019	2.15	1.14–5.11
No	36 (43)	29 (64)			
Missing	1 (1)	0 (0)			
Intends to give up smoking					
Yes	29 (34)	5 (11)	0.0036	4.30	1.53–12.08
No	54 (64)	40 (89)			
Missing	2 (2)	0 (0)			
Confident that can give up smoking					
Yes	18 (21)	15 (33)	0.13	0.54	0.24–1.21
No	67 (79)	30 (67)			
Missing	0 (0)	0 (0)			
Desires to give up smoking					
Yes	58 (68)	14 (31)	<0.001	4.45	2.03–9.75
No	27 (32)	29 (64)			
Missing	0 (0)	2 (5)			
Thoughts of stopping					
Yes	51 (60)	16 (36)	0.0088	2.70	1.27–5.75
No	37 (39)	28 (62)			
Missing	1 (1)	1 (2)			
Health will improve if stop smoking					
Yes	77 (91)	24 (53)	<0.001	8.42	3.31–21.44
Disagree/don't know	8 (9)	21 (47)			
Missing	0 (0)	0 (0)			

Table 2. Multiple logistic regression with attribution of one or more symptoms to smoking as the dependent variable.

Variable	β-coefficient	Standard error	*P*-value[a]	Exponential of β-coefficient or odds ratio (95% CI)
Health will improve if stop smoking	2.12	0.5225	0.0000	8.35 (3.00–23.25)
Intends to stop smoking within four weeks	1.82	0.6801	0.0080	6.14 (1.62–23.30)

[a]Calculated by χ^2 test.

among non-responders but, as we have no information about non-responders' attitudes and behaviours, we cannot predict how this may have affected study findings. However, the results do not appear to have been confounded by health professionals' anti-smoking advice, as recall of this was similar in both groups.

Where smokers attribute respiratory symptoms to smoking they appear more motivated than others to stop smoking. When health professionals discuss smoking with smokers, it may be useful to identify whether or not the smoker attributes any respiratory symptoms to smoking, as these smokers may be more likely try stopping after anti-smoking advice. However, where smokers do not attribute respiratory symptoms to smoking, it may be more appropriate to offer the smoker further education on the effects of smoking, rather than encouraging a cessation attempt in the near future.

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References

1. Wilkes S, Evans A. A cross-sectional study comparing the motivation for smoking cessation in apparently healthy patients who smoke to those who smoke and have ischaemic heart disease, hypertension or diabetes. *Fam Pract* 1999; **16:** 608-610.
2. Marsh A, Matheson J. Smoking attitudes and behaviour. London: HMSO, 1983.
3. Clark MA, Hogan JW, Kviz FJ, Prohaska TR. Age and the role of symptomatology in readiness to quit smoking. *Addict Behav* 1999; **24:** 1-16.
4. Coleman T. *Anti-smoking advice in general practice consultations: a description of factors influencing provision of advice and the develoepement of a method for describing smokers' responses*. [MD thesis.] University of Leicester, 1998.
5. Lennox AS, Groves J, Silcox I, Taylor R, McKie L. *The cost-effectiveness of brief training for the primary health care team in facilitating smoking behaviour change. A report to the Scottish Office Department of Health*. University of Aberdeen, 1996.
6. Wilson A, Manku-Scott T, Shepherd D, Jones B. A comparison of individual and population smoking data from a postal survey and general practice records. *Br J Gen Pract* 2000; **50:** 465-468.