

Concise report

Smoking cessation advice by rheumatologists:
results of an international survey

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Abstract

Objective. The aim of this study was to understand practices regarding smoking cessation among rheumatologists for patients with inflammatory rheumatic diseases.

Methods. A survey was sent to the rheumatologists participating in the multinational Quantitative Standard Monitoring of Patients with Rheumatoid Arthritis (QUEST-RA) group. The survey inquired about the clinical practice characteristics and practices regarding smoking cessation (proportion of smokers with inflammatory rheumatic diseases given smoking cessation advice, specific protocols and written advice material, availability of dedicated smoking cessation clinic).

Results. Rheumatologists from 44 departments in 25 countries (16 European) completed the survey. The survey involved 395 rheumatologists, of whom 25 (6.3%) were smokers, and 199 nurses for patient education, of whom 44 (22.1%) were smokers. Eight departments (18.1 %) had a specific protocol for smoking cessation; 255 (64.5%) rheumatologists reported giving smoking cessation advice to all or almost all smokers with inflammatory diseases. In a regression model, early arthritis clinics ($P=0.01$) and high gross domestic product countries ($P=0.001$) were both independently associated with advice by the rheumatologist. Nurse gives advice to most patients in 11 of the 36 (30.5%) departments with nurses for patient education.

Conclusion. Advice for smoking cessation within rheumatology departments is not homogeneous. In half of the departments, most doctors give advice to quit smoking to all or almost all patients with inflammatory diseases. However, only one in five departments have a specific protocol for smoking cessation. Our data highlight the need to improve awareness of the importance of and better practice implementation of smoking cessation advice for inflammatory rheumatic disease patients.

Key words: rheumatoid arthritis, tobacco smoking, medical advice.

Introduction

Tobacco use is the leading preventable cause of illness and death worldwide. Worldwide tobacco-related deaths

now exceed 5 million a year [1]. Cigarette smoking, the major form of tobacco use, is associated with a three times higher mortality rate than in non-smokers, with diseases attributable to smoking accounting for 60% of smokers' deaths [2]. Among the systemic autoimmune diseases, the adverse impact of smoking has been most studied in RA. Smoking has been recognized as the most important environmental risk factor for the development of RA, particularly when associated with the presence of RF and ACPA responses [3]. Moreover, smoking interacts with well-known genetic risk factors of RA, such as shared epitope genes and protein tyrosine phosphatase, non-receptor type 22 (lymphoid) (PTPN22), further enhancing the risk of RA development [3, 4]. Furthermore, smoking has been associated with the presence of subcutaneous nodules and severe extra-articular RA manifestations [5]. However, the association of smoking with RA disease activity measures remains unclear, with some

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studies showing worsening while others show no association with RA activity measures [6]. Similarly, conflicting evidence exists about the association of smoking with radiographic damage and progression in RA [4, 6–8]. Although smoking has been associated with poorer response to treatment and lower likelihood of achieving RA remission [9], two prospective observational studies did not find a positive effect of smoking cessation on RA disease activity [10, 11]. Smoking has also been associated with detrimental clinical effects in patients with other inflammatory arthritis and systemic autoimmune diseases such as AS and SLE [12, 13]. In addition, accelerated atherosclerosis and increased cardiovascular mortality in systemic autoimmune diseases, particularly RA, have been recognized as important co-morbidities, and traditional risk factors such as smoking have been identified as contributors to such increased risk [14, 15].

For these reasons and the multiple benefits of quitting smoking for health, it seems prudent to advise smoking cessation in patients with systemic autoimmune diseases. Smoking cessation is one of the European League Against Rheumatism (EULAR) recommendations for cardiovascular risk management in inflammatory arthritis patients [16]. Even brief advice for smoking cessation improves the rate of successful quitting by patients. We conducted an international survey of rheumatologists to understand the practices regarding advice for smoking cessation in patients with inflammatory rheumatic diseases.

Methods

A survey was sent to rheumatology department participants in the Quantitative Standard Monitoring of Patients with Rheumatoid Arthritis (QUEST-RA group), an international collaborative effort initiated in 2005 to establish a cross-sectional database of consecutive RA outpatients. The following information was sought in the survey: gender; clinical practice characteristics [country, type of practice setting (public, private or both)]; number of rheumatologists in the department, number of nurses available for patient education and number of those rheumatologists and nurses who smoke; presence of a specific inflammatory diseases clinic, such as early arthritis or spondyloarthritis (categories that are not mutually exclusive); and practices regarding smoking cessation [existence of consensus protocol, availability of structured protocol to give verbal advice to smokers, availability of written advisory material, percentage of staff rheumatologists who give advice to all smokers with inflammatory diseases, percentage of smoker patients who are given advice by the survey responder and by the nurse, and which types of smoker were referred to a smoking cessation clinic, if present]. We did not specifically enquire about the frequency of smoking cessation advice given to each smoking patient.

The country of the survey responder was classified as high or low gross domestic product (GDP) if GDP per capita was more or less than US\$18 500, respectively (<http://www.imf.org/external/ns/cs.aspx?id=28>). The main variable of interest was smoking cessation advice

given to most of the smoker patients (defined as >80%) with inflammatory diseases. The characteristics of the rheumatologist who gave smoking cessation advice to >80% of smoker patients were compared with those who gave such advice to <80% of smoker patients using the Student's *t*-test, the Mann-Whitney *U* test or contingency tables where appropriate. Those variables bivariate showing a significance level of $P \leq 0.1$ were included in a logistic regression model. The Statistical Package for Social Sciences (SPSS) for Windows version 15.0 (IBM, Armonk, NY, USA) was used to analyse the data.

Results

The survey was sent twice electronically to 75 rheumatology departments/centres. Forty-four centres in 25 countries (16 European, 3 Asian and 2 each North American, South American and African) completed the survey. Twenty-six were public hospitals, 7 were private and 11 were both private and public. All rheumatologists from each centre participated; the number of staff rheumatologists was 395 [median by department 7, interquartile range (IQR) 4–12] and the number of nurses was 199 (median by department 2, IQR 1–7). Twenty-five rheumatologists (6.3%) and 44 nurses (22.1%) were current smokers. Eight departments (18.6%) had a specific consensus protocol for smoking cessation and 10 (22.7%) had written advice for smoking cessation. For 20 departments (45.4%) the institutions had a specific smoking cessation clinic. A designated inflammatory disease clinic was operational in 36 (81.8%) centres, with 24 (54.5%) having a designated RA clinic and 22 (50%) having a designated early arthritis clinic.

A total of 255 (64.5%) rheumatologists reported giving smoking cessation advice to almost all smokers (>80%) with inflammatory diseases. None of the rheumatologists who themselves smoked reported providing smoking cessation advice to most smoker patients. The rheumatologists from high GDP countries, from centres with a designated early arthritis clinic and from institutions having a specific smoking cessation clinic were significantly more likely to give such advice (Table 1). However, smoking cessation advice by doctors was not associated with the number of rheumatologists in a centre, other inflammatory clinics or having a specific protocol or written advice for smokers (Table 1). In a regression model, early arthritis clinics ($P = 0.01$) and high GDP countries ($P = 0.001$) were both independently associated with advice by the rheumatologist.

Nurses provided patient education in 36 centres. Most smokers were given smoking cessation advice by nurses at 11 (30.5%) of these centres. In nine of these the doctors also gave advice to most smoker patients, thus the advice of the nurses to most patients at a centre was associated with advice from the rheumatologists ($P = 0.02$).

Rheumatologists from 20 centres with a specific unit/clinic for smoking cessation reported referring patients to these clinics as follows: all patients with inflammatory

TABLE 1 Number of doctors who give advice to most patients with inflammatory rheumatic diseases

Department characteristic	Advice to all patients	Advice to some patients	P-value
Country with high GDP ^a	157/210 (74.7)	98/185 (52.9)	<0.001
Hospital activity only public	125/207 (60.1)	130/188 (69.1)	0.07
Number of staff >4	237/367 (64.5)	18/28 (64.2)	0.97
Inflammatory diseases clinic	231/353 (65.4)	24/42 (57.1)	0.28
RA clinic	186/279 (66.6)	62/108 (57.4)	0.08
Early arthritis clinic	187/263 (71.1)	68/132 (51.5)	<0.001
Having a specific protocol to quit smoking in the department	48/67 (71.6)	207/328 (63.1)	0.18
Having written advice for smoking cessation in the department	57/87 (65.5)	198/315 (62.8)	0.64
Having a smoking cessation clinic/unit in the hospital	128/180 (71.1)	127/215 (59.0)	0.01

Values given as *n/N* (%). ^aHigh GDP: gross domestic product per capita >US\$18 500.

diseases (*n* = 1 centre), only patients who asked for help (*n* = 8) and patients with lung disease or atherosclerosis associated diseases (*n* = 11).

Discussion

Our survey found that 64.5% of rheumatologists gave smoking cessation advice to most patients with inflammatory diseases. Fewer than 25% of departments had either a specific consensus protocol or written advice for smoking cessation. Moreover, nurses provided smoking cessation advice in fewer than one-third of departments where nurses provided patient education. Rheumatologists in high GDP countries and those in centres with an early arthritis clinic were more likely to provide advice to most smokers. Moreover, doctors who smoke are less effective at counselling smokers compared with non-smoker doctors [17]. In our survey the percentage of rheumatologists who smoked was low, but none of the smokers gave advice to most of their patients with inflammatory disease. This is the first multinational study to look at the practice of rheumatologists regarding smoking cessation advice.

Rheumatologists need to be aware of the importance of smoking cessation advice to smokers with inflammatory diseases. Brief advice versus no advice (or usual care) by the physician increases the rate of quitting (relative risk 1.66), and when the intervention is more intensive the estimated effect is greater (relative risk 1.84), without statistical differences between intensive and minimal intervention [18]. Medical advice is the most cost-effective approach to get patients to quit smoking. Such advice may be given easily and at low cost by doctors and nurses to all smokers, and advice given by multiple health professionals is more effective than advice given by one [19]. It is important to recognize that tobacco dependence is a chronic disease that often requires repeated interventions and multiple attempts to quit. Implementation of a system to assess tobacco use status (asking about tobacco use when vital signs are assessed or making it part questionnaires that are often used in rheumatology practices), preferably at every

clinic visit, will help consistently in identifying tobacco users. All tobacco users should be given clear, strong and personalized advice to quit. Each tobacco user should be asked about his/her willingness to quit. Decisions concerning pharmacotherapy for smoking cessation or more intense counselling need to be made by individual rheumatologists depending on their local health care system. An intervention programme in smoker patients with RA, SpA or CTDs has recently been published [20]. The study included verbal and written advice by the rheumatologist and a follow-up visit to the nurse in the third month for reinforcement, as well as possible pharmacological treatment to help patients quit smoking. The smoking cessation rate was 15.7% at 12 months [odds ratio (OR) compared with the cessation rate in the previous 5 years = 3.8, 95% CI 1.8, 8.1].

Our survey has several limitations. Only 44 of 75 centres completed the survey and this could have resulted in a selection bias that would favour participation by the centres most aware of smoking cessation advice. This would make it difficult to extrapolate the results. In addition, the majority of the centres were European, making it difficult to analyse the totality of the results without taking the specific characteristics of each country into account. The main variable of interest is empirical, defined as smoking cessation advice in >80% of patients given by a rheumatologist. The cut-off of 80% is used as a good parameter of compliance in other areas, e.g. a medication possession ratio (MPR) of >80% is used in medication compliance epidemiological studies. The data collected are self-reports by the responders, and self-reported practices may differ from actual practices. The majority of the participating departments were based in academic institutions and may not reflect the practices of community rheumatologists. We did not solicit information about the mode and frequency of smoking status inquiry or the frequency of smoking cessation advice, the specific attitude to advice depending on the rheumatic disease, nor did we enquire about specific therapies prescribed for smoking cessation by the rheumatologists.

Conclusions

Advice for smoking cessation within rheumatology departments is not homogeneous. Our data highlight the need to improve awareness of the importance of and better practice implementation of smoking cessation advice for inflammatory rheumatic disease patients.

Rheumatology key messages

- Advice for smoking cessation within rheumatology departments is not homogeneous.
- These data highlight the need to improve smoking cessation advice for patients with arthritis.

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