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Rheumatologists' attitudes to smoking cessation support: a pilot study

Mateusz Wójcik[1,2], Paweł Piluch[1,2] ✉, Piotr Kacprzyk[1,2], Zbigniew Lewandowski[3]

[1]Rheumaticus Student Research Group, Medical University of Warsaw, Poland
[2]Health Data Science Student Research Group, Department of Epidemiology and Biostatistics, Medical University of Warsaw, Poland
[3]Department of Epidemiology and Biostatistics, Medical University of Warsaw, Poland

Abstract

Introduction: Smoking is particularly harmful to patients with rheumatic diseases, hence rheumatologists' essential role is to actively support them in quitting. The rise in smoking rates in Poland calls for the appropriate measures. The rationale for this study was to assess feasibility and provide initial understanding as a framework for a future study on the factors determining rheumatologists' attitudes towards assisting patients to cease smoking.

Material and methods: This cross-sectional survey was conducted among physician staff in the rheumatology wards and outpatient clinic of a national reference centre in Poland. The questionnaire addressed attitudes and practices regarding smoking cessation support, with reference to the respondents' own approach and their perception of other rheumatologists.

Results: The study obtained 33 questionnaires. All respondents considered nicotine addiction and its management important and to be addressed in clinical practice. Physicians only consider the harm caused by smoking to be an area in which they have sufficient knowledge to provide professional counseling to patients, as opposed to the practical aspects of support. Prescription medication, psychological support and nicotine replacement therapy are the declared preferred methods to advise, whilst the proportion of doctors who actually make these recommendations to their patients did not vary significantly from 50%. The main obstacles identified when encouraging patients to give up smoking were a lack of time to address the issue and patients' resistance. In the study significant differences depending on the respondents' age and gender were observed.

Conclusions: Physicians are aware of key theoretical concepts and importance of supporting patients in their efforts to stop smoking, but lack practical knowledge and skills required to act effectively. Significant differences depending on the respondents' age and gender justify a stratified analyses in the intended study. The findings confirmed the feasibility and relevance of undertaking a full-scale study with stratified analyses based on at least age and gender of the physicians.

Key words: attitude of health personnel, tobacco use cessation, tobacco smoking, practice patterns.

Introduction

Those who smoke almost all regret having started and most would like to quit. While nicotine is a strongly addictive substance, the example of former smokers, currently representing around 20.6% of the population of Poland, proves that smoking is not a behaviour entirely beyond the personal control and achieving abstinence is possible [1, 2]. The benefits of smoking cessation have been confirmed in multiple studies, the most famous including several decades of continuous follow-up [3].

A range of projects and initiatives were intended to tackle the problem of tobacco use [4, 5]. Regrettably, the unforeseen rapid increase in smoking rates in Poland may reflect the ineffectiveness of the national tobacco

Address for correspondence
Paweł Piluch, Health Data Science Student Research Group, Department of Epidemiology and Biostatistics, Medical University of Warsaw, 3a Pawińskiego St., 02-106 Warsaw, Poland, e-mail: pawel.piluch@gmail.com
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control strategy [1], calling for reflection on the possible factors behind this situation and an urgent action.

The commitment of healthcare professionals is key to the success of tobacco control efforts. Rheumatologists should be familiar with the intervention strategies and actively support their patients in their efforts to quit smoking, as tobacco cessation is particularly beneficial for patients with rheumatic diseases. The development and course of these diseases, along with a poorer response to treatment, are well-documented to be affected by tobacco use [6]. American College of Rheumatology guidelines have emphasized the importance of physicians' advisory role in smoking cessation [6] and smoking cessation counselling beginning during the hospitalisation and continued afterwards has been proven to increase the quit rates [7].

Consequently, rationale for this study was to assess feasibility and provide initial insights to serve as a basis for a larger scale study of factors shaping rheumatologists' attitudes to smoking cessation support.

Material and methods

Population

This cross-sectional questionnaire study was conducted between November 2025 and May 2026 at the Eleonora Reicher National Institute of Geriatrics, Rheumatology and Rehabilitation in Warsaw, Poland. The Institute serves as a Polish reference centre, conducting research and providing medical services focused on connective tissue diseases. Questionnaires were distributed to every physician currently employed in the 3 Institute's rheumatology wards and outpatient clinic.

Questionnaire

The introductory set of questions focused on the physicians' personal views. Respondents were asked whether they agree with the following statements reflecting key concepts of tobacco control: 1) *I find the topic of nicotine addiction interesting;* 2) *Smoking is particularly hazardous for patients with rheumatic diseases;* 3) *Managing nicotine addiction is as important as treatment of the primary condition;* 4) *Every patient should be asked whether they smoke cigarettes;* 5) *Every patient should be asked whether they use e-cigarettes;* and 6) *Every patient who smokes should be advised to cease smoking.*

Secondly, physicians were asked to state whether they considered their knowledge sufficient to discuss with patients the consequences of smoking, the benefits and harms associated with e-cigarettes, and a variety of smoking cessation aids (nicotine replacement therapy [NRT], over-the-counter [OTC] and prescription medications). The same questions were posed related to the average rheumatologist's level of knowledge, as perceived by the respondent.

The following section focused on doctors' opinions on whether a particular potential aid to quitting smoking, including self-control (willpower), psychological support and helplines, OTC medications, prescription medications, NRT, e-cigarettes, tobacco heating devices, and snus, should be recommended; they were also asked if they actually had recommended each of these methods to their patients in the preceding week.

The final set of questions concerned the barriers to addressing patients' tobacco use that doctors identify in their own practice and expect to be encountered by other rheumatologists. Respondents were asked about 7 potential causes: lack of time to address this issue, patients' resistance to suggested treatment, lack of knowledge or experience, the belief of ineffectiveness of the interventions, lack of financial motivation, the responsibility of the GP or another medical specialist, and concern about interfering in patients' lives.

Respondents' demographic details were also collected, along with their job type (outpatient clinic or ward), personal smoking history, and the methods they had used to quit.

Data management and analysis

Study data were collected and managed using REDCap electronic data capture tools hosted at the Medical University of Warsaw. Statistical analyses were performed with SAS statistical software, version 9.4. (SAS Institute Inc.). We followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline.

The analysis of the questions with the Likert scale responses was conducted based on the 95% confidence interval for the Top Two Box Score (T2B), i.e. the percentage of responses indicating "agree" or "strongly agree". Differences depending on the age, sex, and specialisation of the respondent were assessed using a χ^2 test.

Bioethical standards

Due to the nature of the study, bioethics committee approval was not required.

Results

The study obtained 33 questionnaires and 4 (12.1%) were returned incomplete. The response rate reached approximately 70%. Table I provides an overview of the survey respondents' characteristics.

All respondents were of the opinion that nicotine addiction and its management are issues of importance and need to be addressed in clinical practice. As illustrated

in Figure 1, the lower limit of 95% confidence interval for the T2B was greater than 50% for all items.

An analysis of the relationship between the personal views on these matters and 3 selected characteristics of the respondents, i.e. gender, age and specialist status revealed that female respondents were significantly more likely (96% vs. 60%, $p = 0.02$) than men to agree that smoking cessation treatment was as important as primary disease management. Women were also significantly more inclined (100% vs. 80%, $p = 0.03$) to state that questions on e-cigarette use should be posed during an appointment.

The self-assessment of knowledge pointed only to the harm caused by smoking as the area in which respondents consider their knowledge as adequate to provide the patient with a professional consultation. All respondents agreed (lower limit of the 95% CI for the T2B to this question) with this statement themselves (Fig. 2A) and at least 70% regarding other doctors (Fig. 2B). None of the other questions received a T2B that differed significantly from 50%. The characteristics of the respondents (sex, age and specialist status) were not found to be significantly associated with answers in this section.

As illustrated in Figure 3A, almost 70% of respondents, which is significantly more than half ($p < 0.001$), agree that prescription medication, psychological support or NRT ought to be offered to patients to support smoking cessation. Meanwhile, the frequency of declared implementation of these recommendations (Fig. 3B) did not significantly vary from 50%. Other statements, regarding the self-control or willpower, and the use of OTC medications, showed neither a higher nor lower than 50% consent on application of these measures, with frequency of implementation significantly lower than 50%. Recommendations of e-cigarettes, tobacco heating devices and snus were supported by no respondents (0%, below 10% according to 95% CIs) and therefore, not advised during consultations. It is also worth noting that 27.3% of the respondents did not recommend any specified method to their patients.

The analysis further exploring the relationship between respondents' characteristics: age, gender and specialist status, and their attitude towards measures mentioned in this section and their implementation in practice, revealed that older respondents were significantly more likely to perceive self-control (willpower) as an important factor in smoking cessation (50% of older respondents compared to 12% of younger respondents, $p = 0.02$).

The analysis of the barriers encountered in motivating patients to cease smoking identified 2 most frequently mentioned issues hindering the doctors' efforts

Table I. Respondents' baseline characteristics

Variable		
Sex* [*n* (%)]		
Women	24	(70.6)
Men	5	(14.7)
Age* [*n* (%)]		
< 35	17	(50.0)
35–44	8	(23.5)
45–54	2	(5.9)
55–65	2	(5.9)
Training status* [*n* (%)]		
No specialisation, trainee	14	(41.2)
Specialist, rheumatologist	13	(38.2)
Specialist, non-rheumatologist	2	(5.9)
Workplace at the institute* [*n* (%)]		
Ward and outpatient clinic	4	(11.8)
Ward only	19	(55.9)
Outpatient clinic only	6	(17.7)

**Sum of percentages does not achieve 100% due to missing data.*

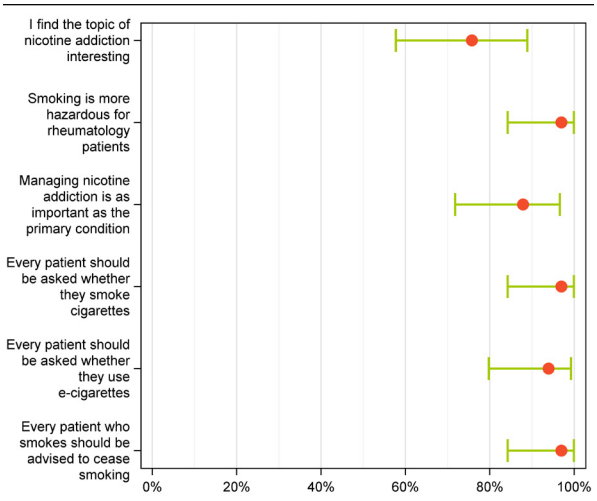

Fig. 1. Respondents' views (T2B) on tobacco control key principles.

(Fig. 4A): patient resistance (at least 55%) and lack of time to address this issue (at least 75%). Over 70% of respondents indicated these barriers influence their practice. In contrast, significantly fewer than 50% of respondents highlighted the barriers such as: concern about interfering in patients' lives, responsibility of the general practitioner or other medical provider, and lack of financial incentive. Respondents perceive that same barriers affect other rheumatologists (Fig. 4B),

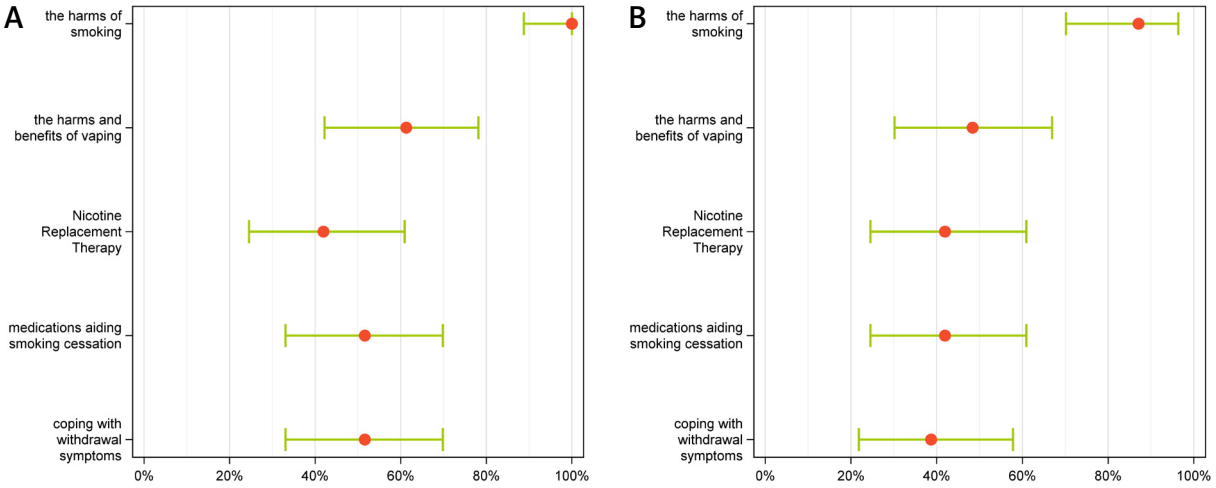

Fig. 2. Panel displays the proportion (with the 95% CI) of doctors who assess that their own knowledge (**A**) and that of the average rheumatologist (**B**) as sufficient (T2B) to discuss with patients the effects of cigarette smoking and e-cigarette use, as well as measures to support smoking cessation.

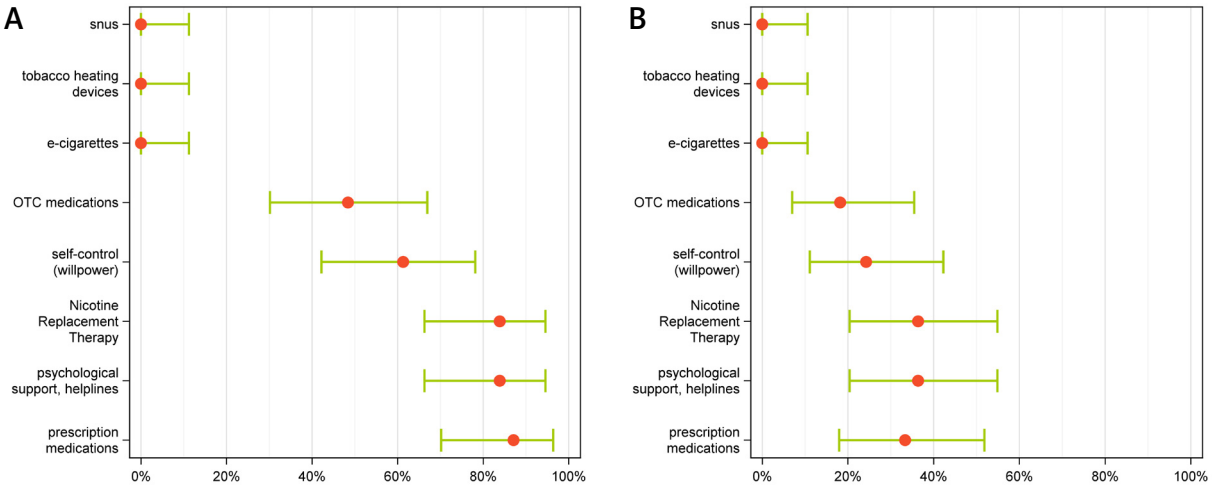

Fig. 3. Panel contrasts T2B of doctors' responses (with 95% CI) to the question of whether a given smoking cessation support measure ought to be recommended (**A**) with the declarations whether they actually recommended it to a patient in the past week (**B**).

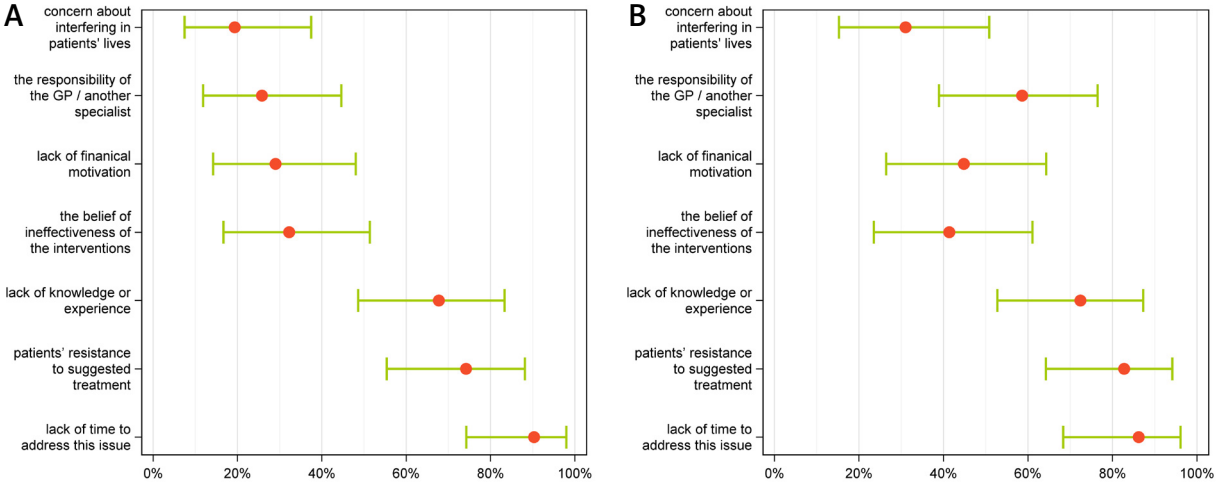

Fig. 4. A) demonstrates physicians' perceived (T2B) barriers in their own practice to support patients in cessation, while **B**) illustrates believes about barriers for an average rheumatologist.

however more than 50% believe also that other doctors may deal with lack of knowledge or experience.

Of the 29 respondents, 7 (24.1%) were current someday smokers: 2 have always been someday smokers (6.9%), 2 (6.9%) used to be everyday smokers, smoking no more than 5 cigarettes a day, and 3 (10.3%) are former everyday smokers, previously smoking more than 5 cigarettes a day. One participant reported himself as a current e-cigarette user (3.5%), and 3 (10.3%) as former users; all of these indicated that they are currently someday smokers.

Discussion

The study met its stated objectives, with the results confirming the feasibility and relevance of performing a full study. The response rate was satisfactory; non-respondents were probably mainly persons on external placements in specialist training or on long-term leave.

All the provided principles, reflecting the core theoretical concepts of tobacco control, were considered by over the half of respondents either important or very important (Fig. 1). A broad consensus was found, with a lower 95% CI limit for T2B exceeding 80%, that the tobacco use is particularly hazardous for patients with rheumatic diseases, all patients should be asked about their smoking habits, and smoking cessation is to be advised. This highlights that doctors widely consider smoking an issue important in rheumatology and believe an active approach, extending beyond history taking, should be accepted.

It should be noted that female doctors shared a more in-depth approach to tobacco use, as they more frequently tied nicotine addiction management with the course of a primary rheumatic condition and more often suggested the interview regarding smoking should be expanded to include the use of e-cigarettes. These results suggest that it would be advisable in the future to attempt a stratified survey on a larger scale in order to more accurately characterise the groups of doctors most and least involved in supporting patients to smoking cessation.

Despite recognising the importance of the issue, doctors only feel confident when discussing the biomedical harms of nicotine addiction; almost 90% of respondents believe they are ready to hold such a conversation, and at least 70% have this opinion about other doctors. Meanwhile, a practically-oriented discussion with a patient, concerning certain methods to help quit smoking or issues relating to e-cigarettes, would often be considered more problematic. This clearly demonstrates that respondents, widely aware of the consequences of tobacco use, are unable to properly apply this knowledge into clinical practice as they lack the appropriate background to communicate with patients about the implementation of the specific solutions.

In this context, it is worth mentioning the research that indicates that in an everyday practice, doctors often do not pay much attention to addressing patients' basic factual errors or maladaptive beliefs, although correcting these misconceptions may be essential to shifting patients' perception towards an adaptive response [8]. At the same time patients' internalization of the physician's attitude that smoking may contribute to the onset of their disease, aggravate its course, and compromise the response to treatment may improve cessation outcomes. For example, the study on outpatients prior to coronary artery bypass graft surgery revealed that those who had either reduced or ceased smoking more often attributed the onset of congestive heart disease to their smoking habit [9].

Offering tools to support those who smoke in achieving nicotine abstinence is the core of tobacco control strategies. Recognised methods include, mainly, medical counselling, quitting helplines, as well as NRT and other pharmacological aids [10–13]. In our study, the respondents' selection of methods they consider suitable for recommendation to patients (Fig. 3A) indicates a tendency towards the active commitment of medical practitioners. A high level of acceptance (70%) was noted only for prescription medicines, helplines offering psychological support, and NRT (Fig. 3A). It should be emphasised that, in Poland, contrary to some other countries, all medications for the treatment of tobacco dependence, including NRT, are not covered by the National Health Fund, creating financial barriers to their use. Although the desire to quit smoking and the number of attempts are similar across different social groups, people from lower-income groups have a lower chance of success [14].

This approach may become even more frequent in the future, as the focus on the patient's strong will is the most popular among older doctors. The significant differences in preferred methods between different age groups could be explained by differences in their training and sources of knowledge. While the older respondents are experienced clinicians, the younger doctors' views may be under the greater influence of medical school.

A lower proportion of physicians consider certain interventions to be appropriate than those who have actually implemented them (Figs. 3A, B), that may be attributed to the barriers discussed below. It was also reported in the literature that primary care doctors are more likely to provide advice on smoking cessation than rheumatologists, with the gap between the attitudes and their actual implementation in clinical practice [15]. This phenomenon is not limited to a particular specialty – neurologists, often managing diseases caused and

aggravated by smoking, also appear to make insufficient use of appropriate methods to support smoking cessation among patients in their care [16].

Respondents reported recommending to patients the same methods that were most frequently stated as worth recommending, again relying rather on the involvement of specialists in the smoking cessation process. Self-control was recommended significantly less often; however, the value of the patient's own efforts should not be underestimated, since research in health psychology has shown that, for nicotine addiction treatment, relying on "powerful others", such as medical professionals, can, surprisingly, be a strong negative predictor of abstinence [17]. Surprisingly, respondents were even less likely to support the use of OTC medicines. State-of-the-art medical knowledge contradicts this approach, for instance, cytisine. which is an OTC drug in Poland, has been proven to be even more effective in smoking cessation than both placebo and nicotine replacement therapy, with no inferior in success rates compared to varenicline [18]. Adverse events during the therapy were also not found to be more common comparing to placebo or varenicline.

No participant agreed that e-cigarettes, tobacco heating devices, and snus should be recommended to the patients addicted to nicotine. Consequently, neither of these methods was advised by the participants. This approach is fully justified and consistent with current literature. Although e-cigarettes contain lower levels of harmful substances than combustible cigarettes and are advertised as effective tools for quitting smoking, they are not to be recommended to patients due to serious medical and ethical concerns that have been raised. There is not enough reliable evidence to prove the effectiveness of e-cigarettes in supporting smoking cessation; moreover, some evidence suggests that smokers using e-cigarettes actually may be less likely to quit smoking completely than those who haven not used them, which is often linked to a shift towards so-called dual use. Due to the short time e-cigarettes have been on the market, also the long-term safety has not been evaluated yet [19–21].

The barriers (Figs. 4A, B) to supporting patients in smoking cessation appear to be of various origins. The most common barriers are perceived knowledge gaps, the anticipated negative reaction of the patient, and a lack of time to address the issue. Respondents do not expect other doctors to take on this responsibility, nor do they expect financial compensation. Furthermore, they have no hesitation about interfering in patients' lives, although they are discouraged by the expected opposition.

Such a diverse set of obstacles indicates the need for a more comprehensive approach to anti-smoking initiatives rather than only extensive training. The process should engage not only clinicians, but also patients and healthcare administrators, responsible for the organisation of medical practice.

What is striking about the respondents' own smoking history is the lack of current everyday and former smokers, combined with the proportion of occasional smokers being approximately 4 times higher than in the general Polish population. Although this is an unusual finding, the sample size is insufficient to draw any valid conclusions.

Patients seek a doctor who supports them as a partner, rather than issuing paternalistic instructions; the clinical challenge is to address gaps in patient understanding, correct misconceptions, strengthen self-efficacy, and successfully introduce permanent behavioural change along with the available aids [22]. At the same time, despite strong awareness of the harmful effects of smoking and the need for patients to quit, the respondents lack the tools to help them achieve that goal. The patient may experience disappointment if they are instructed to stop smoking but receive no effective support from their physician, leading them to undertake ineffective attempts and lose motivation due to repeated failures.

Study limitations

The main limitation of the study was the small number of respondents, recruited from a single referral centre, thus not allowing for extrapolation that may serve as a rationale for developing policy recommendations. Moreover, to the best of our knowledge, no major research similar to the Danish study has been conducted in Poland to assess the effectiveness of smoking cessation efforts in patients with rheumatic conditions [23]. A comprehensive nationwide study is essential to provide a framework for urgent initiatives aiming at providing rheumatologists with a toolkit to effectively support patients in their struggle with nicotine addiction; an exploration of the perspectives of patients who smoke would also provide further valuable insights.

Conclusions

There is a discrepancy between the level of physicians' understanding of the principles of tobacco control and their practical competence in their implementation. The findings confirmed the feasibility and relevance of undertaking a full-scale study with stratified analyses based on age and gender of the physicians to establish a detailed characteristics of doctors who may benefit from additional training in smoking cessation interventions.

Disclosures

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