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# Use of clinical vignettes to screen general practitioners who can participate in a clinical trial about stopping antibiotic treatment when this is no longer necessary

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### Article history

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Sir,

Most uncomplicated respiratory tract infections seen in primary care are caused by viruses. Despite being self-limited many patients with these episodes seek care in primary care offices. Inappropriate overuse of antibiotic therapy for these conditions is widespread, with Spain being one of the European countries with the highest consumption, and this overuse being more likely to result in greater spread to the community and individual antibiotic resistance and more adverse effects [1-3]. General practitioners (GP) have generally been told not to discontinue an antibiotic regimen once it has been initiated in order to prevent the patient from acquiring resistant organisms, but this has never been proven. The main objective of the STOP-AB study was to assess if the discontinuation of antibiotic therapy when a GP no longer considers it necessary has any impact on the number of days with severe symptoms. Homogeneity of the possible patients to be included in this trial is crucial and therefore the type of doctors participating in the trial should also be homogeneous, since not all GPs believe that stopping antibiotic therapy is fair and also because not all GPs who wish to participate in a trial such as this consider that antibiotics can be discontinued in the same types of infections. Therefore, we designed a vignette-based questionnaire corresponding to different respiratory tract infections in an attempt to evaluate the rate of agreement among the GPs approached.

A group of GPs from four different autonomous communities in Spain, who had been working for at least 15 years and were confident and comfortable with the strategy of stopping an already commenced antibiotic course filled out a questionnaire with nine vignettes corresponding to patients with different respiratory tract infections. These clinical scenarios were based on a previous study, but they were slightly modified for the present study [4].

The vignettes were differentiated into two different groups: 1. Cases in which antibiotics are clearly indicated: one case of persistent sinusitis (antibiotic indicated), a case of positive-confirmed streptococcal pharyngitis and a case of radiologically-confirmed pneumonia; and 2. Cases in which antibiotics are not indicated, corresponding to cases of viral pharyngitis, viral rhinosinusitis including the common cold, uncomplicated acute bronchitis and influenza infection. The supplementary material describes the different vignettes used in this study. The study was approved by the Ethical Board of Fundació Jordi Gol i Gurina (reference number: 16/093).

Out of a total of 34 GPs invited to fill out this vignette-based questionnaire, two were excluded as they had been working for less than 15 years and another did not adequately complete the questionnaire. The mean age of the 31 GPs was  $50.6 \pm 5.3$  years, with a mean of  $24 \pm 5.4$  years of professional work, and 20 (64.5%) were men. The responses are shown in table 1. Only ten GPs (32.3%) responded appropriately to the nine vignettes and would have included the six patients with suspected viral infection in this randomised clinical trial. One doctor would have included seven patients in the trial, two more would have recruited six patients, albeit incorrectly, whereas the other 18 doctors would have recruited less than six patients.

Antibiotic prescribing varies across countries, across communities and across GPs in the same territory. This study was intended to evaluate the percentage of doctors comfortable and confident with the strategy of discontinuing an already initiated antibiotic course in an attempt to recruit homogeneous types of patients with self-limiting respiratory tract infections. The results showed that only one third of GPs gave correct responses and agreed on the types of infections with a likely viral origin, and would, therefore, be candidates to participate in this randomised clinical trial.

Clinical vignettes have a number of advantages for measuring the quality of care provided by doctors. Although it is

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Clinical scenario	Antibiotics indicated?	Number of GPs who considered discontinuing antibiotic therapy as safe
1. Viral pharyngitis	No	28
2. Bacterial rhinosinusitis	Yes	3
3. Uncomplicated acute bronchitis	No	14
4. Streptococcal pharyngitis	Yes	0
5. Influenza infection	No	29
6. Viral rhinosinusitis	No	28
7. Pneumonia	Yes	1
8. Viral rhinosinusitis	No	22
9. Common cold	No	30

unclear whether vignette responses reflect actual clinical practice or merely doctor knowledge, some studies in clinical care have shown that they can reflect actual behaviour, including acute respiratory tract infections [4–6]. Patients included in a randomised clinical trial must be homogenous and the use of these vignettes has demonstrated the capacity to identify GPs who act similarly in terms of antibiotic prescribing for otherwise uncomplicated respiratory tract infections. We believe these vignettes could be used to quickly identify clinicians who are able to participate in randomised clinical trials on appropriate use of antibiotics in primary care.

## FUNDING

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## CONFLICTS OF INTEREST

CL reports having received research grants from Abbott Diagnostics. The other authors report no conflicts.

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**REQ-2021-001 Supplementary material****Questionnaire sent to physicians willing to participate in the STOP-AB study**

In the following clinical scenarios patients have started taking antibiotics on their own or were given by another doctor in the last 24-48 hours. You should indicate in each of these cases whether they could be eligible to participate in the STOP-AB study or not and please concisely justify your answer.

**Yes    No**

1. Mrs. C is an 18-year-old woman presenting with a sore throat, fever, and headache. Her symptoms began 2 days before with a sudden onset of fever, reaching 39°C. There is no cough. Examination only revealed the presence of tonsillar exudate. She does not have tender cervical glands. She undertook a rapid antigen detection test when symptoms began, which was negative.

  

Please justify .....

2. Ms S is a 35-year-old obese woman with 15 days of nasal congestion. She has had facial pain and greenish runny nose in the past 10 days. She has no high temperature but her severe headache persists. On physical examination, there is no fever and the only abnormal finding is pain on palpation in the maxillary area. In the last few days, she has also taken nasal decongestants.

  

Please justify .....

3. Mrs. L is a 65-year-old woman who has high blood pressure and hypercholesterolemia treated with enalapril and simvastatin. She has had a productive cough and greenish sputum for 4 days. She initially presented a temperature of 37.7°C in the first 2 days, but she is now afebrile. Her vital signs are normal as well as the rest of the examination.

  

Please justify .....

4. Mr. N. is a 24-year-old male presenting with a sore throat, fever, and headache. His symptoms began 2 days before with a sudden onset of fever, which reached 38.6°C. There is also a non-productive cough. The examination only detects the presence of tonsillar exudate and tender cervical lymphadenopathy. He undertook a rapid antigen detection test, which was positive.

  

Please justify .....

Yes No

5. Mrs. B is a 40-year-old woman who presents to you with a 48-hour fever, as high as 39°C measured at home, a non-productive cough and the presence of generalized arthralgias and myalgias. It is the time of the flu epidemic and she has also taken paracetamol to lower her temperature. The physical examination is normal and the temperature at the office is 37.5°C.

 

Please justify .....

6. Mrs. V is a 55-year-old female with a high blood pressure treated with hydrochlorothiazide. She is presenting to you with a 5-day non-productive cough, runny nose, nasal congestion, and headache. She has had an intermittent fever, which reached 38.2°C. Her physical examination only reveals the presence of an oedematous nasal mucosa.

 

Please justify .....

7. Mr. H is a 58-year-old male who presents to your office for complaints of productive cough and purulent expectoration of 2 days of evolution. His symptoms started suddenly together with an axillary temperature of 38.8°C. His vital signs are now normal, but crackles in the left lower lobe are clearly heard on auscultation.

 

Please justify .....

8. Mr. M. is a 40-year-old man who comes to the office with a 6-day non-productive cough, nasal congestion and yellowish runny nose. He has presented intermittent fever, as high as 38°C. His physical examination only reveals the presence of rhinorrhoea. He has no known allergies.

 

Please justify .....

9. Mr. P is a 20-year-old male presenting with a sore throat, headache, and non-productive cough for 3 days. He had a low-grade fever only on the first day. The examination is normal except for the presence of a mild pharyngeal erythema.

 

Please justify .....