

P2298

# UNDERSTANDING ATTITUDES AND PERCEPTIONS OF CONSUMERS IN RELATION TO ANTIBIOTIC USE FOR RESPIRATORY ILLNESS AND SYMPTOMS IN EUROPE

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## INTRODUCTION

- Antimicrobial resistance (AMR) is a public health threat and a major cause of mortality globally<sup>1,2</sup>
- Overuse and misuse of antimicrobials are considerable in respiratory tract infections and contribute to AMR<sup>1,3</sup>
- Inappropriate antibiotic use is likely to be influenced by patients' misunderstanding of how antibiotics work<sup>4-8</sup>
- The World Health Organization is leading initiatives to drive improved public understanding of antibiotics and AMR<sup>9</sup>
- It is important to assess the level of understanding of the place of antibiotics across different countries and age groups
- Data obtained on public attitudes and beliefs in relation to antibiotic use will help to generate insights that can encourage behaviour change and reduce inappropriate antibiotic use and AMR

## AIM

- To describe the use of antibiotics for respiratory symptoms and illness, and public attitudes and perceptions around antibiotics across Europe, and in the younger population specifically (25-34-year-olds)

## METHODS

### Study design

- An observational, questionnaire-based study:
  - Carried out across 12 countries (Brazil, Germany, Spain, Italy, Mexico, the Philippines, Poland, Romania, Saudi Arabia, Thailand, UK, South Africa). Here we present the findings from the European region
  - Online interviews (15-20 minutes) were conducted in May 2022
  - Information was collected on sociodemographic variables (e.g. age, sex, income) and attitudes and perceptions on antibiotic-related variables (e.g. stopping antibiotics, antibiotic resistance)
- Respondents were asked to give their response to questions using the following 7-point categorical scales:
  - Agree strongly; agree somewhat; neither agree nor disagree; disagree somewhat; disagree strongly; would rather not say; don't know. The results presented represent those indicating 'agree strongly' and 'agree somewhat', referred to in the text as 'agree'
  - Very informed; somewhat informed; neither informed nor uninformed; somewhat uninformed; very uninformed; would rather not say; don't know. The results presented represent those indicating 'very informed' and 'somewhat informed', referred to in the text as 'informed'

### Study population

- Inclusion criteria:
  - People aged 18-64 years (recruited from our research panel)
    - Respondents were awarded points that could be converted into rewards, such as vouchers
  - From any of the European countries listed above (n=1000 per country)
  - Had experienced and treated respiratory symptoms (maximum 15% per country caused by COVID-19) in the past 6 months
- Exclusion criteria:
  - Had not experienced respiratory symptoms (maximum 15% per country caused by COVID-19) that they had treated in the past 6 months
  - Indicated that they 'would rather not say' or 'did not know' what the underlying respiratory condition for their symptoms was
  - Symptoms were not part of a respiratory condition or part of a long-term illness

### Data analysis

- Data were analysed using Microsoft Excel; percentages of responses are shown. The study was descriptive and statistical analysis was not employed

## RESULTS

### Study population

- Of the respondents from Europe (n=6000), 51% (n=3041) were female and 22% (n=1346) were aged 25-34 years

### Attitudes and perceptions around antibiotics across Europe

- Overall, 58% (n=3451) of respondents agreed that they were quite knowledgeable about how antibiotics work on respiratory symptoms; however, answers to further questions demonstrated considerable misunderstanding overall, and particularly in the younger age group (Table 1)
- 45% (n=2695) of respondents agreed that antibiotics kill viruses, 43% (n=2559) agreed that antibiotics are effective for sore throat and 47% (n=2828) agreed that antibiotics relieve pain. None of these are correct
  - A higher proportion of 25-34-year-olds agreed with these incorrect statements (51% [n=680], 49% [n=658] and 53% [n=720], respectively)
- Over one-third of all respondents, 36% (n=2144), agreed that they do not have enough knowledge on how to treat respiratory symptoms without antibiotics, while this increased to 41% (n=553) of 25-34-year-olds
- Overall, 25% (n=1515) agreed that they would feel anxious about being treated for respiratory symptoms without antibiotics; in 25-34-year-olds this response ranged from 23% (n=55) in Romania to 40% (n=95) in the UK

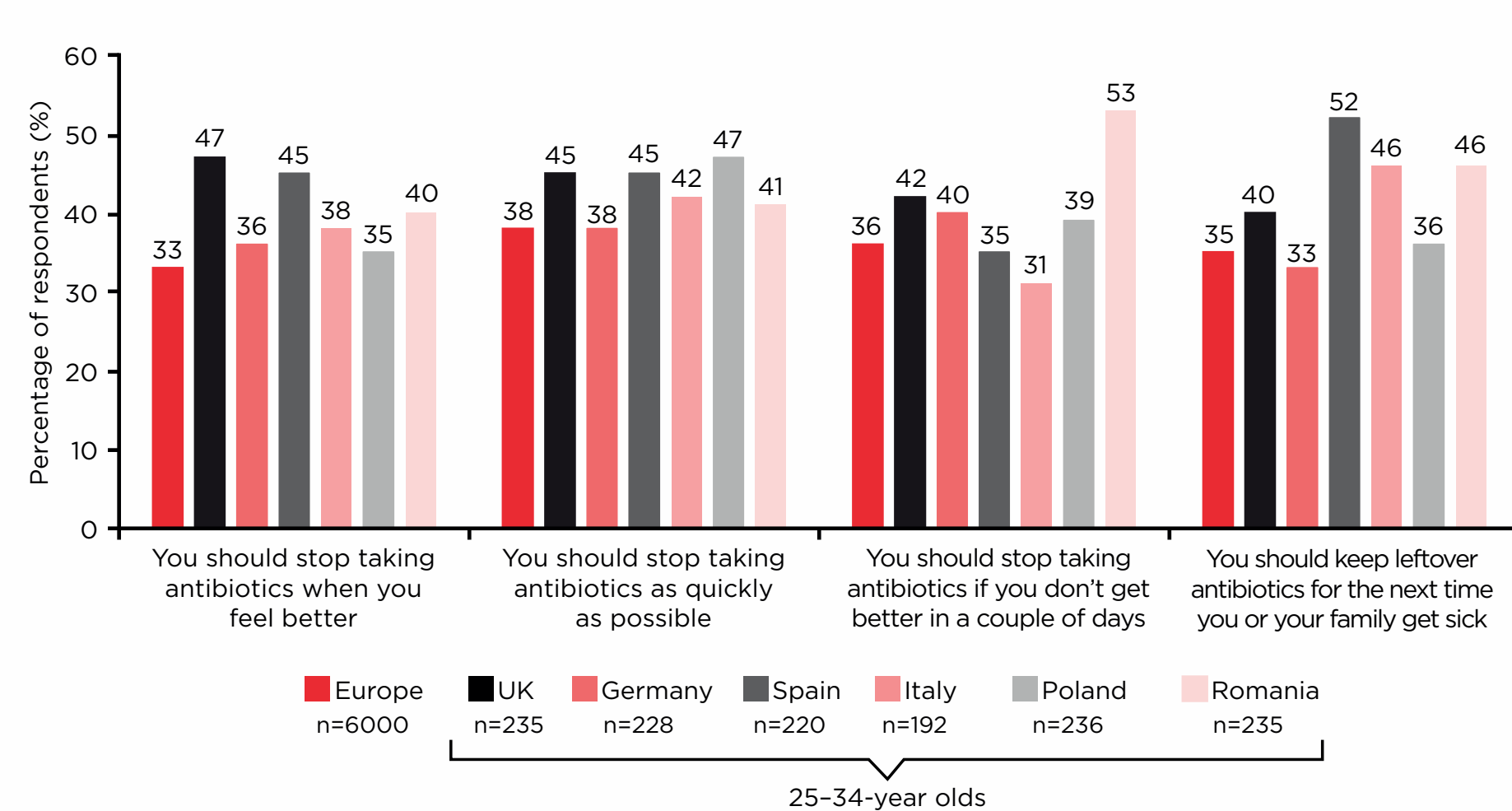
Table 1. Attitudes and perceptions around antibiotics across Europe

Attitude/perception	Europe (18-64-year-olds) n=6000	25-34-year-olds (n=1346)						
		Total n=1346	UK n=235	Germany n=228	Spain n=220	Italy n=192	Poland n=236	Romania n=235
Antibiotics...								
kill viruses	45%	51%	54%	48%	50%	42%	47%	61%
are effective for sore throat	43%	49%	48%	45%	54%	55%	44%	49%
relieve pain	47%	53%	57%	46%	58%	49%	53%	57%
are effective for colds and the flu	42%	52%	51%	51%	52%	46%	55%	54%
quickly relieve symptoms	55%	60%	64%	56%	58%	67%	54%	54%
should be available on request from the pharmacy	41%	44%	53%	39%	62%	25%	42%	42%
I do not have enough knowledge to know how to treat respiratory symptoms without antibiotics	36%	41%	48%	38%	50%	35%	38%	36%
I would feel anxious about being treated for respiratory symptoms without antibiotics	25%	32%	40%	35%	31%	30%	23%	23%
I am quite knowledgeable about how antibiotics work on respiratory symptoms/conditions	58%	58%	60%	53%	61%	49%	69%	69%

### Attitudes to stopping antibiotics across Europe

- There were misconceptions around when antibiotics should be stopped (Figure 1)
  - 'You should stop taking antibiotics as quickly as possible'. 38% (n=2265) of all respondents agreed with this statement; in 25-34-year-olds this response ranged from 38% (n=87) in Germany to 47% (n=110) in Poland
  - 'You should stop taking antibiotics if you don't get better in a couple of days'. 36% (n=2140) of all respondents agreed with this statement; in 25-34-year-olds this response ranged from 31% (n=60) in Italy to 53% (n=124) in Romania

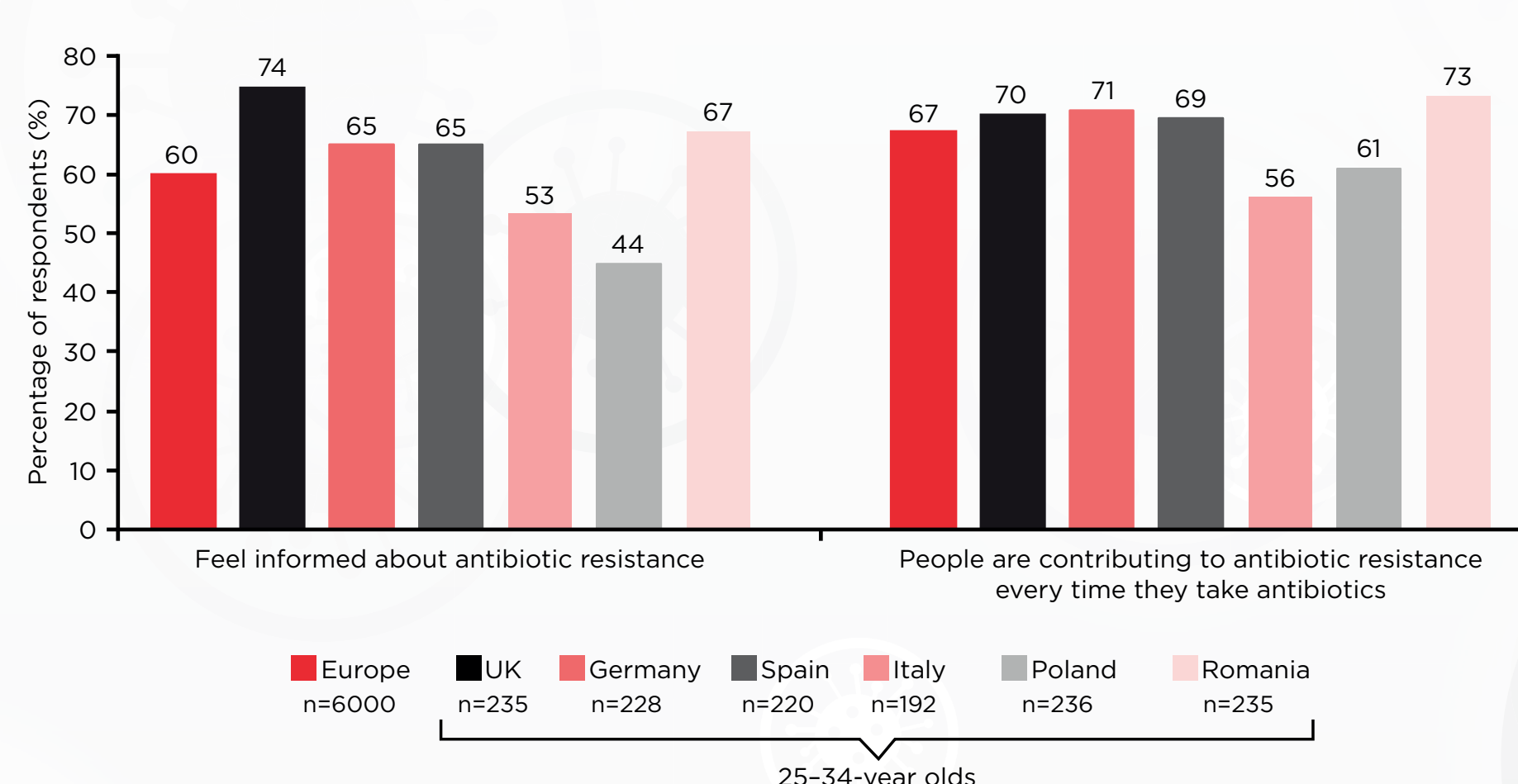
Figure 1. Attitudes to stopping antibiotics across Europe



### Attitudes and perceptions towards antibiotic resistance across Europe

- Over one-half of respondents felt that they were informed about antibiotic resistance (Figure 2)
  - 'Before today, how informed or uninformed did you feel about antibiotic resistance? By antibiotic resistance we mean the way in which bacteria can overcome the effectiveness of these medicines'. 60% (n=3570) of all respondents felt they were informed about AMR; in 25-34-year-olds this response ranged from 44% (n=103) in Poland to 74% (n=173) in the UK
  - 'To what extent do you agree or disagree with this statement: People are contributing to antibiotic resistance every time they take an antibiotic?'. 67% (n=4011) of all respondents agreed; in 25-34-year-olds this response ranged from 56% (n=107) in Italy to 73% (n=172) in Romania

Figure 2. Attitudes and perceptions towards antibiotic resistance across Europe



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### DISCLOSURES

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### WEBSITE

[www.grip-initiative.org](http://www.grip-initiative.org)

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## CONCLUSIONS

- Over one-half of all respondents from European countries believed they were quite knowledgeable about how antibiotics work for respiratory symptoms/conditions, and two-thirds felt informed about antibiotic resistance
  - However, across Europe, although with variation, there were still profound misbeliefs surrounding antibiotic usage and resistance, especially in 25-34-year-olds. This highlights the importance of helping the public to understand that what they think they know is not necessarily correct. The appropriate use of antibiotics would support a reduction in antibiotic overuse and AMR
- Over one-third of 25-34-year-old respondents thought that they did not have enough knowledge to know how to treat respiratory symptoms without antibiotics; this could be an area of focus for future communications
- Across all age groups in Europe, a quarter of respondents felt anxious about being treated without an antibiotic for respiratory symptoms, rising to one-third in 25-34-year-olds
- Despite numerous efforts across Europe to improve public knowledge and attitudes towards antibiotic use, our findings regarding the analysed sample are in line with other research investigating the public's understanding of how antibiotics work. Another European survey found that close to one-third (30%) of respondents took antibiotics for cold and flu, nearly two out of five (39%) incorrectly thought that antibiotics do kill viruses, and more than one in ten (11%) indicated they did not know<sup>10</sup>
- The variation between countries in relation to stopping antibiotics may suggest that guidance on the correct usage of antibiotics is conflicting across Europe. This may cause confusion among patients and subsequently lead to inappropriate antibiotic use
- Different innovative channels of communication (e.g. social media) may be required to increase health literacy with regards to understanding the appropriate use of antibiotics, especially in the younger population