

Survey of knowledge, attitudes and prescription practice with Antimicrobials among physicians in county medical community

Dear physicians :

Greeting!

We are conducting a survey regarding to physicians' knowledge, attitudes and prescription practice with antimicrobials. We invited you to complete this 12-minute questionnaire and your responses are of great values to help us understand physicians' antimicrobials prescribing behaviors. Your personal information would be confidential and the responses were only used for academic research only. Thanks very much for your participation.

Note: If you agree to the above statements, you can continue to answer the following questions.

Personal characteristics

1. Age	_____ years
2. Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
3. Annual income(RMB)	<input type="checkbox"/> ≤4000 <input type="checkbox"/> 4001 - 5000 <input type="checkbox"/> 5001-6000 <input type="checkbox"/> 6001-7000 <input type="checkbox"/> 7001-8000 <input type="checkbox"/> >80001
4. Working place	<input type="checkbox"/> County hospitals <input type="checkbox"/> Rural primary health institutions
5. Medical specialization	_____
6. Job title	<input type="checkbox"/> Doctor <input type="checkbox"/> Attending doctor <input type="checkbox"/> Associate chief doctor <input type="checkbox"/> Chief doctor
7. Education	<input type="checkbox"/> Secondary school and below <input type="checkbox"/> High school <input type="checkbox"/> College <input type="checkbox"/> Undergraduate <input type="checkbox"/> Postgraduate and above
8. Clinical experience	_____ years
9. Number of times to participate in government-organized training about antimicrobials	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 or above

◆To what extent do you agree with the following statement? (Please note that there is no correct answer to this part of the question, please fill in according to your personal situation/attitude)
[Matrix Multiple Choice Question]

Item	Very agree	Agree	Neutral	Disagree	Very Disagree
10. Higher prescription rates of antimicrobials can lead to AMR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Antimicrobials prescribed are not selected based on the infected bacteria contributes to generation of antimicrobials resistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. The use of broad-spectrum antimicrobials is more likely to contributes to generation of antimicrobials resistance than the narrow-spectrum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Sometimes I am not sure whether the antimicrobials prescription is rational since bacterial laboratory and antimicrobials susceptibility test were inaccessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I need rapid and effective diagnostic techniques for diagnosis of infectious diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. In fact, the problem of patients buying antimicrobials in retail pharmacies without a prescription should be paid more attention to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Patient self-medication with antimicrobials is the main cause of bacterial resistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The current assessment method of the hospital is one of the reasons for the over-prescribing antimicrobials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

◆Please choose the most suitable option [matrix multiple choice]

	Always	Often	Sometimes	Rarely	Never
18. I ____ prescribe antimicrobials to avoid complaints from patients or other disputes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I ____ prescribe antimicrobials since I'm fear if patient deteriorates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I ____ prescribe antimicrobials to avoid being perceived as doing nothing for patients by colleagues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I ____ prescribe antimicrobials to make patients continue to trust me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I ____ prescribe antimicrobials since patients require and insist on it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. When I have fever, cough, runny nose, sore throat, diarrhea, headache and other symptoms, I _____ use antimicrobials.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. You _____ prescribe antimicrobials to patients with the following symptoms (fever, cough, runny nose, sore throat, diarrhea, headache).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. you _____ educate the patient about the rational use of medications, including that cannot reduce the dose by yourself during the course of treatment, cannot change the drugs, and cannot stop the medication immediately when the symptoms are relieved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. You _____ tell the patient to buy antibacterial drugs with a prescription and that they cannot self-medication with antimicrobials.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. You _____ inform the patient about the adverse drug reaction of the antimicrobials.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. You _____ actively learn the latest antimicrobials knowledge through the Internet or books.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. You _____ take the initiative to participate in the rational antimicrobials use training organized by the supplier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. When selecting antimicrobials for patients with bacterial infections, you _____ consider the susceptibility of bacteria to drugs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. You _____ use antimicrobials by intramuscular or intravenous injection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Given 10 patients with URIs, how many patients of them would you prescribe antimicrobials to _____?

33. A 4-year-old girl has diarrhea for 4 days (3 stools/day). She has no fever at examination nor during the last few days. Which treatment do you propose?

a) amoxicillin p.o.; b) TMP/SMX ** p.o.; c) amoxicillin-clavulanic acid p.o.;

d) no antimicrobials treatment, only oral rehydration; d) I don't know

34. Which condition can use antibacterial drugs for prevention?

- a) Measles, chickenpox and other diseases
- b) Patients with coma, shock, poisoning, heart failure, tumor, application of adrenal cortex hormones, etc.
- c) Patients with indwelling urinary catheters, indwelling deep venous catheters and establishing artificial airways
- d) Fever in immunodeficiency patients
- e) Common cold

35. A 6-year-old child has a fever of 38°C, purulent rhinitis and angina for two days. At inspection, the throat is reddish. Which treatment do you recommend?

- a) TMP/SMX ** p.o.
- b) Amoxicillin p.o.
- c) Amoxicillin-clavulanic acid p.o.
- d) No antimicrobials
- d) I don't know

36. Which one of the following antimicrobials is safe during pregnancy?

- a) Amoxicillin
- b) Ciprofloxacin
- c) Gentamicin
- d) Vancomycin
- d) I don't know

37. Which one of the following antimicrobials is not suitable for neonatal infection?

- a) Cephalosporins
- b) Penicillins
- c) Clindamycin
- d) Aminoglycosides
- e) I don't know

38. Methicillin resistant - Staphylococcus aureus is susceptible to?

- a) Amoxicillin-Clavulanate Potassium
- b) Cefotaxime
- c) Ceftriaxone
- d) Vancomycin
- e) I don't know

39. What is the purpose of the three-level management of antimicrobials?

- a) Standardize the use of antibacterial drugs in the first, second and third levels
- b) Medication according to the severity of infection
- c) Management of rational clinical use of antibacterial drugs
- d) All of the above
- e) I don't know

40. What is the mechanism of action of β -lactam antimicrobials?
- a) Interference with nucleic acid replication and transcription
 - b) Affect the permeability of cell membrane
 - c) Inhibit the activity of mucin transpeptidase and prevent the synthesis of cell wall
 - d) a dihydrofolate reductase inhibitor
 - e) Interference with bacterial protein synthesis
41. In case of having respiratory infectious symptoms, when does the child need antimicrobials?
- a) Cough, stuffy nose or runny nose without fever
 - b) Cough, stuffy nose or runny nose with fever
 - c) Including one of the following symptoms: fast breathing, chest in-drawing or stridor
 - d) both b) and c)
 - e) I don't know
42. What are the most common adverse reactions of penicillin G?
- a) Liver and kidney damage b) Allergic reaction c) Hertz reaction
 - d) Double infection e) I don't know
43. According to the recommendation of the Chinese authorities, the proportion of antimicrobial prescriptions for outpatients does not exceed _____?
- a) 10% b) 20% c) 30% d) 40% e) 50%

Notes: Items and their measured characteristics were as following:

Items No.10 – 12: Ignorance;

Items No. 13 – 17: Responsibility of others;

Items No. 18 – 20: Fear;

Items No. 21 – 22: Complacency;

Items No. 23 – 24,30-31: Prescription behavior;

Item No. 25-27: Medication education;

Item No. 28-29: Self-leaning;

Item No. 32: Behavior to prescribe antimicrobials for URIs

Item No. 33-43: knowledge