



**A CROSS-SECTIONAL RESEARCH CONDUCTED IN MALATYA PROVINCE, TURKEY:
KNOWLEDGE LEVELS AND AWARENESS ABOUT RATIONAL ANTIBIOTIC USE AND
ANTIMICROBIAL RESISTANCE BEFORE AND AFTER GRADUATION**

This study has been planned to raise awareness on the rational antibiotic using and the issue of “antibiotic resistance” which has become increasingly important in our country by the senior students in our faculty and the family physicians in Malatya province. The questions were prepared in the form of multiple-choice and gap filling. For multiple choice questions, please select only one option. You can leave blank questions you don't want to answer.

We would like to thank all the participants in our study in advance for their contributions.

FIRST SECTION: Demographic Information

- Age: _____ Gender: ☐ Female ☐ Male
Where you live most (city): _____
How many years have you been in the profession?
☐ I'm a student yet
☐ 1-5
☐ 6-10
☐ 11 and above

SECOND SECTION: Personal Antibiotic Using Data

1. When was the last time you used antibiotics for yourself?
☐ in the last one week
☐ in the last one month
☐ in those last six months
☐ I haven't used it in the last one year
2. Which of the following conditions did you feel the most need to start antibiotics for yourself?
☐ high fever
☐ sore throat
☐ prolonged cough and sputum excretion process
☐ diarrhea
3. What path did you follow before starting antibiotic treatment for yourself?
☐ I went to the physician and used the antibiotic prescribed for my diagnosis.
☐ I started the antibiotic myself, which I thought would be appropriate from the ones that existed in my house.
☐ I said I was a doctor at that pharmacy and got the antibiotic over the counter.
☐ At the suggestion of my friends/family members, I procured the antibiotic from them.
4. Your behavior during an antibiotic treatment process that you started to use in general?
☐ I use the first one-two days and stop using when my symptoms are improved.
☐ I try to use it, but when I feel the slightest side effect, I quit immediately.
☐ In any case, I try to complete the prescribed treatment period.
☐ Even if antibiotics are prescribed, I don't start treatment at all, I try to find alternative solutions.

THIRD SECTION: Decision on Starting Antibiotic Treatment

5. As a physician, what is your biggest concern about scheduled antibiotic treatment for a patient?
 - start antibiotics even though he doesn't need to
 - avoid starting antibiotics even though it should
 - start a drug from that wrong group
 - overlook important features of the drug and the patient
6. In your opinion, which of the following is the most important finding that pushes physicians to write antibiotics?
 - Elevated CRP
 - Presence of pyuria
 - Presence of fever
 - Leukocytosis
7. In your opinion, which of the following is the most important condition that leads primary care physicians to prescribe antibiotics?
 - the suspected unproven infection
 - the patient/patient's relatives pressure the doctor to start antibiotic treatment
 - that doctor wants to feel safe.
 - inability of the physician on the level of knowledge about infectious diseases

FOURTH SECTION: Rational Antibiotic Using

8. In your opinion, which of the following is the most important characteristic of an antibiotic in a physician's choice of antibiotics?
 - Spectrum
 - mechanism of action
 - ease of using
 - good transition to infection area / tissue
9. In your opinion, which of the following is the most necessary criteria for starting the correct antimicrobial treatment?
 - that patient has a fever
 - high acute phase reactants
 - having a positive culture result
 - impaired hemodynamics in that patient
10. In your opinion, which of the following is the most important principle to consider for rational antibiotic use?
 - whether or not there is an infectious disease that requires using antibiotics
 - general condition of the patient
 - presence of immunosuppression
 - a history of recent infections
11. In your opinion, which of the following is not the rational purpose of antibiotic use?
 - common cold treatment
 - simple cystitis treatment
 - treatment of opportunistic infections
 - treatment of invasive diarrhea
12. In your opinion, which of the following is the most important feature of empirical antibiotic use?
 - be broad-spectrum
 - be narrow-spectrum
 - cover the most likely infection factors
 - include combined treatments as much as possible

13. In your opinion, which of the following is the most important aim of combined antibiotic use?
- the need to get that infection under control as soon as possible
 - reduction of toxicity
 - expansion of the target group of microorganisms
 - effectively maximum plasma concentration
14. Which of the following do you think most accurately describes the aim of chemoprophylaxis?
- an optional procedure to prevent a potentially developing infection
 - it is a routine procedure that should be performed on all individuals in an endemic area.
 - it is a mandatory procedure that the state applies to protect persons in an endemic area.
 - protective procedure done to all individuals for diseases at high risk of death
15. Which of the following do you think is not the purpose of surgical prophylaxis?
- prevent surgical site infections
 - reduce postoperative infectious morbidity and mortality
 - all patients who have undergone surgery to avoid developing that infection must start
 - avoid adverse changes in patient and hospital microbial flora
16. What you most want to hear when a pharmaceutical company employee comes to you to tell you about an antibiotic?
- highlight its effectiveness and indications
 - he has done many scientific clinical trials to support his rhetoric
 - emphasis on ease of using, side effects and less drug-drug interactions
 - support its presentation with medical and paramedical elements / promises

FIFTH SECTION: Antimicrobial Resistance

17. In your opinion, which of the following is the most important condition that can occur as a result of irrational antibiotic use?
- high cost and economic loss
 - serious side effects and toxicity
 - drug interactions that may occur with other drugs
 - antimicrobial resistance
18. What is antibiotic resistance?
- suppression and destruction of microbial flora
 - those narrow-spectrum antibiotics no longer work
 - no longer should broad-spectrum antibiotics be used in all conditions
 - neutralization of all antibiotics by inappropriate and unnecessary antibiotic use
19. Which of the following is the most common cause of penicillin direct in Staphylococci?
- B-lactamase enzyme secretion
 - modifying enzymes
 - decrease in membrane permeability
 - gains a new PBP (penicillin-binding Protein)
20. Which of the following do you think could raise national awareness about antibiotic resistance?
- frequently raising the issue in written and visual media
 - preparation of public spotlight, brochures and posters highlighting antibiotic resistance
 - providing periodic trainings to all physicians before and after graduation
 - the implementation of penal sanctions by developing strict antibiotic use policies

SIXTH SECTION: Antibiotic Training before Graduation at Medical School

21. Do you find the antibiotic training given during your medical education adequate?
 - Yeah
 - No
 - that's partly
 - I have no idea/don't want to state
22. In your opinion, which of the following may be the best method of prescribing antibiotics for the candidate who will graduate?
 - he/she is particularly active in the outpatient clinic in senior student groups looking after patients
 - writing prescriptions through virtual patient scenarios
 - internet/written sources by memorizing previously written prescriptions
 - adopting the prescribing habits of assistant / specialist physicians/teachers
23. When you want to develop a slogan about antibiotic resistance, which of the following would be your motto?
 - either consciousness or resistance to that antibiotic develops
 - he kills unconscious using antibiotics
 - don't touch that antibiotic.
 - other, please specify (.....)

SEVENTH SECTION: Antibiotic Knowledge

24. Please write three antibiotic groups that are contraindicated during pregnancy?
 - I.
 - II.
 - III.
25. Please write three antibiotic groups should be adjusted in patients with kidney failure.
 - I.
 - II.
 - III.
26. Please write three antibiotic groups that act by inhibiting cell wall synthesis?
 - I.
 - II.
 - III.
27. Please write two antibiotic molecules that can be used in surgical prophylaxis?
 - I.
 - II.
28. Write in the spaces next to the most common possible factors of the following 3 clinical conditions in which you plan to start empirical antibiotic treatment?
 - I. A. cryptic tonsillitis :
 - II. Acute simple cystitis :
 - III. Community-acquired pneumonia :

THANK YOU FOR YOUR PARTICIPATION