Knowledge, attitude and practice questionnaire on AMR for Private Practitioners

Instructions

I. **Please answer all the questions in the questionnaire**

II. **Tick the most suitable answer/s**

III. **There are four sections in the following questionnaire**

a. **First section is your professional profile data**

b. **Second section contains questions related to your knowledge regarding antimicrobial resistance**

c. **Third section contains questions pertaining to attitude towards antimicrobial resistance and stewardship**

d. **Fourth section contains questions directed to the daily practice**

SECTION A : DEMOGRAPHIC PROFILE

1. Gender :

1. Male	2. Female	3. Others

2. Age : ☐

3. Clinical Practice:

1. Private hospitals/ Nursing Homes	2. Private Clinic

4. Type of health facility

1. Primary care	2. Secondary care	3. Tertiary care

5. Qualification:

6. Professional Status:

a. General practitioners	b. Specialist/consultant	c. Residents	d. Other: Specify

7. Years of professional experience ☐

8. Are you willing to take part in an Interview related to Antimicrobial Resistance if the investigator contacts you later?

Yes	No

SECTION B: MEDICAL PRACTITIONERS' KNOWLEDGE QUESTIONNAIRE

1. What do you think is the difference between an antibiotic and an antimicrobial?

a.	Antibiotics are drugs that kill only bacteria, whereas antimicrobials are those drugs that kill viruses, fungi bacteria and protozoa
b.	An antibiotic and an antimicrobial are not different, both are the same
c.	Not sure

2. Which among the following antibiotics are safe to use in a pregnant lady?

1. Amoxicillin	2. Ciprofloxacin	3. Gentamicin	4. Cotrimoxazole

3. Which among the following antibiotic more effectively crosses blood brain barrier

1. Clindamycin	2. Ceftriaxone	3. Vancomycin	4. Amikacin

4. Which among the following antibiotics would show best activity against anaerobic organisms?

1. Ciprofloxacin	2. Metronidazole	3. Trimethroprim-Sulfamethoxazole	4. Ceftriaxone

5. The most effective way of administering aminoglycoside antibiotics like gentamicin is

1. Orally, Three times daily	2. Parenteral, Once daily	3. Parenteral, Three times daily

6. Ceftriaxone is an empiric treatment choice for acute Bacterial Meningitis

1. Yes	2. No	3. Not sure

7. Should erythromycin be used to treat upper respiratory tract infection

1. Yes	2. No	3. Not sure

8. For an adult patient with Group A Streptococcus Pharyngitis,
Is treatment with azithromycin 500mg for 3 days justified?

1. Justified	2. Not justified	3. Not sure

ANTIBIOTIC RESISTANCE

9. Antibiotic resistance develops when human body grow resistant to antibiotics

1. True	2. False	3.Not sure

10. Antibiotic resistance develops when bacteria grow resistant to antibiotics

1. True	2. False	3.Not sure

11. Methicillin resistant *Staphylococcus aureus* is sensitive to

1. Cefuroxime	2. Cefazolin	3. Ceftriaxone	4. Cefipime

12. Gut commensal flora is an important reservoir of resistant genes both in the hospital and community settings

1. True	2. False	3.Not sure

13. An antibiotic will always be effective in treating the same infection again in the future

1. Yes	2. No	3. Not sure

14. How would you describe the term Anti-microbial Stewardship?
    1. Optimal selection, dosage, and duration of antimicrobial treatment. ☐
    2. Optimal selection, dosage, and duration of antimicrobial treatment providing the best clinical outcome for the treatment. ☐
    3. Optimal selection, dosage, and duration of antimicrobial treatment providing the best clinical outcome for the treatment or prevention of infection, with minimal toxicity to the patient and minimal impact on subsequent resistance. ☐

DRIVERS OF ANTIBIOTIC RESISTANCE

15. Which among the following human factors are drivers of antibiotic resistance?

    a. Overprescription and over consumption of antibiotics

1. Yes	2. No

    b. Inadequate knowledge of antibiotics among prescribers

1. Yes	2. No

    c. Lack of awareness regarding Antibiotic resistance among the prescribers

1. Yes	2. No

    d. Using broad spectrum antibiotics (antibiotics that are effective against variety of organisms)

1. Yes	2. No

    e. Inappropriate empirical choices

1. Yes	2. No

    f. Inappropriate dose prescription

1. Yes	2. No

    g. Inappropriate duration of course

1. Yes	2. No

h. Self-medication by the patient

1. Yes	2. No

i. Patients not adhering to the course of antibiotic therapy

1. Yes	2. No

j. Lack of appropriate guidelines

1. Yes	2. No

k. Lack of local antibiogram and culture sensitivity test facilities

1. Yes	2. No

l. Lack of good infection control practices in hospitals

1. Yes	2. No

m. Substandard quality of drugs

1. Yes	2. No

n. Use of antibiotics in animals

1. Yes	2. No

o. Polypharmacy

1. Yes	2. No

16. Which among the factors associated with bacteria could be a cause for Antimicrobial resistance?

a. Mutations in the bacteria

1. Yes	2. No

b. Rapid bacterial adaptation to the new conditions

1. Yes	2. No

c. Resistant bacteria transmitted from animals to humans

1. Yes	2. No

17. Which among the environmental factors are drivers for Antimicrobial Resistance?

a. Antibiotic residues in the surface water and soil.

1. Yes	2. No

b. Improper pharmaceutical waste management leading to antimicrobials in the environment

1. Yes	2. No

c. Contaminated hospital environment due to lack of infection control

1. Yes	2. No

SECTION C : MEDICAL PRACTITIONERS' ATTITUDE QUESTIONNAIRE

1. I think antibiotics are overused among community general practice

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

2. Antibiotics are overused in hospitals

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

3. Antibiotic guidelines and the Committee on antibiotics are more of an obstacle to clinical care than an aid

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

4. Prescribing fewer antibiotics can reduce the risk of antibiotic-resistant infections

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

5. It would be more useful to develop a local guideline than the international ones.

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

6. Antibiotic resistance is a serious world-wide problem

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

7. Antibiotic resistance is a serious problem in India

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

8. The selection of an antibiotic must be based on the expiry date, cost and availability of the drug than the cause of the infection

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

9. We should consider the patient's demand for antibiotics even if it is not necessary to prescribe antibiotic

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

10. I would prefer a restricted/ reserve antibiotic than looking for an alternative

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

11. Over the counter availability of antibiotics in pharmacies DOES NOT contribute to antibiotic resistance

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

13. In general, promotion of drugs by pharmaceutical companies play an important role in the antibiotic prescription

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

18. Infection control programs and antimicrobial stewardship programs are necessary for reducing antibiotic resistance of proper hygiene and sanitation

1. Strongly agree	2. Agree	3. Neutral	4. Disagree	5. Strongly disagree

SECTION: D MEDICAL PRACTITIONERS'

PRACTICE QUESTIONNAIRE

1. Have you prescribed antibiotics in the past 6 Months?

   Yes (If yes go to question 2)

   No (If No, Go to Question 3)

2. Most common medical conditions for which you prescribe antibiotics? (Please tick the options applicable to you and answer the sub questions for the relevant answers only)

   1. Community acquired respiratory tract Infection
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

   2. Acute Pharyngitis
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

   3. Acute Otitis media
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

   4. Ventilator Associated Pneumonia
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

   5. Urinary Tract Infection
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

   6. Skin and Soft tissue infections
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

   7. Blood stream Infection
      a. Which is the most commonly Prescribed antibiotic for the above condition……..

8. Acute Infectious Diarrhea

   a. Which is the most commonly Prescribed antibiotic for the above condition……..

CLINICAL SCENARIOS

19. What will be your recommendation in the following scenarios:

   a. A patient with Acute bronchitis/cough since for 5 days; no fever; lung examination shows normal; Presence of purulent sputum; would you recommend antibiotics ?

1. Yes	2. No	3. Unsure

   b. Watery diarrhea since 3 days; no foul smelling; no fever; Stool examination +other examinations are normal; would you recommend antibiotics

1. Yes	2. No	3. Unsure

   c. A patient with purulent nasal discharge since 5 days; no fever reported; no cough and an otherwise normal examination; would you recommend antibiotic?

1. Yes	2. No	3. Unsure

   d. A woman aged 40 with complaints of diarrhea since 4 days. (3 watery stools per day). There is no fever. On history taking, She had been treated with Ciprofloxacin for urinary tract infection. What will be your recommendation?

a.

   e. A 32 year old male with complains of fever (102.2 F), sore throat and nasal discharge since 3 days. Which antibiotic will you recommend?

a.

   f. During your ward rounds, you have two patients with impaired kidney function. Patient A is a 65 year-old male affected with lower limb cellulitis. He has been on Clindamycin. Patient B is a 64 year-old woman with diabetes & is on empirical treatment for sepsis with gentamicin and ceftriaxone. Which case needs to adjust the antibiotic dosage?

1. Patient A	2. Patient B	3. Patient A and Patient B	4. Neither Patient A nor Patient B

AVAILABILITY OF ANTIBIOTIC POLICY AND RESISTANCE PATTERN

4. What influences or guides your prescription of antibiotics (Tick all that is applicable)

   a. Previous experience/ Knowledge / training

   b. Seeking advice from a colleague

   c. Seeking advice from a microbiologist

   d. Use of local/national guidelines

e. Others : Specify ……

5. The local antibiotic resistance pattern is available in my clinic / hospital

1. Yes	2. No	3. Not applicable in my setting

6. I receive frequent and periodic updates on the resistance patterns of the organisms?

1. Yes	2. No

If yes, which are all the most common sources of the information?

a. Clinical/microbiology laboratory
b. Medical journals
c. Pharmaceutical Industry
d. Colleague
e. Textbooks
f. Scientific Meetings
g. Scientific Journals

7. Do you have access to a microbiology laboratory (referral)?

1. Yes	2. No

8. Do you usually recommend culture and antibiotic sensitivity testing results before prescription of definitive antibiotic therapy ?

1. Yes	2. No

9. Do you have any existing antibiotic policy or infection control program in the hospital?

1. Yes	2. No	3. Not applicable

10. Do you have Antimicrobial Stewardship Program or Committee in your hospital?

1. Yes	2. No	3. Not applicable

DECISION MAKING

11. How confident do you feel in the following scenarios?
    a. Making an accurate diagnosis of infection?

1. Not confident at all	2. Slightly confident	3.Somewhat confident	5. Fairly confident	6. Completely Confident

    b. Not prescribing an antibiotic when the patient has fever, does not match the severity criteria and you are not sure about your diagnosis.

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4. Fairly confident	5. Completely Confident

c. Choosing the appropriate antibiotic

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4. Fairly confident	5. Completely Confident

d. Using a combination antibiotic therapy if appropriate

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4. Fairly confident	5. Completely Confident

e. Choosing between Intra Venous route and oral administration

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4. Fairly confident	5. Completely Confident

f. Interpretation of the microbiological results

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4. Fairly confident	5. Completely Confident

g. Streamlining /stopping the antibiotic treatment based the clinical evolution and investigations

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4. Fairly confident	5. Completely Confident

h. Planning the duration of the antibiotic treatment

1. Not confident at all	2. Slightly confident	3.Somewhat confident	4.Fairly confident	5.Completely Confident

12. Among the following factors, which factors would you consider before switching from Intravenous to oral antibiotics?

f. Hemodynamically stable patient

g. Patient is eating

h. Able to absorb

i. Availability of an orally bioavailable antibiotic for switch

j. All of the above

13. If you are administering an antibiotic that is known to cause toxicity, what measures do you usually use in your daily practice to monitor the effects?

……
……
……

14. Which inflammatory markers do you usually check in your daily practice to guide antibiotic therapy?

……

PATIENT EDUCATION AND FOLLOWUP

15. How often do you address the following topics to your patient?

a. Correct daily dose and duration

1. Never	2. Rarely	3. Sometimes	4. Often	5. Always

b. Why an antibiotic is not being given

1. Never	2. Rarely	3. Sometimes	4. Often	5. Always

c. Not to use others' antibiotics

1. Never	2. Rarely	3. Sometimes	4. Often	5. Always

d. Not to share antibiotics with someone else

1. Never	2. Rarely	3. Sometimes	4. Often	5. Always

e. Advice to return to hospital to check patient compliance to therapy

1. Never	2. Rarely	3. Sometimes	4. Often	5. Always

16. Have you received or attended any formal training on antimicrobial prescribing in the last one year?
    a. Yes ☐
    b. No ☐

17. Do you think training doctors on antimicrobial resistance and stewardship will bring positive change in the antimicrobial prescribing practices?
    a. Yes ☐
    b. No ☐
    c. Maybe ☐