RESEARCH QUESTIONNAIRE

Knowledge, Attitudes, and Practices Regarding Antibiotic Use and Misuse Among Healthcare Workers at Al-Daman Hospital, Merowe, Northern State, Sudan, 2026

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Participant Information and Consent

You are invited to participate in a research study assessing healthcare workers' knowledge, attitudes, and practices regarding antibiotic use and misuse at Al-Daman Hospital, Merowe. Participation is voluntary. Your responses will be kept confidential and used for research purposes only. You may decline to participate or stop at any time without penalty. Please do not write your name or other direct identifying information.

Do you agree to participate? ☐ Yes ☐ No

Instructions: Please answer all sections relevant to your role. In Section B, select True or False only. For Sections C and D, select one response for each statement/question.

Section A: Socio-demographic and Professional Characteristics

1. A1. Age (years):

☐ <25 ☐ 25–34 ☐ 35–44 ☐ 45–54 ☐ ≥55

2. A2. Sex:

☐ Female ☐ Male ☐ Prefer not to say

3. A3. Professional category:

☐ Doctor ☐ Nurse ☐ Pharmacist ☐ Other: _____

4. A4. Current department/unit:

☐ Emergency ☐ Medical ward ☐ Surgical ward ☐ Paediatrics ☐ Obstetrics & gynaecology ☐ Outpatient department ☐ Pharmacy ☐ Other: _____

5. A5. Years of professional experience:

☐ <1 year ☐ 1–3 years ☐ 4–9 years ☐ 10–19 years ☐ ≥20 years

6. A6. Highest educational qualification:

☐ Diploma ☐ Bachelor's ☐ Master's ☐ Doctorate/PhD ☐ MD/Board qualification ☐ Other: _____

7. A7. Have you received training on appropriate antibiotic use in the past two years?

☐ Yes ☐ No ☐ Not sure

Section B: Knowledge Regarding Antibiotic Use and Misuse

Instructions: Mark only one answer for each statement: True or False.

Statement	True	False

B1. Antibiotics are used to treat infections caused by bacteria.	☐	☐
B2. Antibiotics are effective for treating viral infections such as the common cold and influenza.	☐	☐
B3. Every patient who has a fever needs antibiotic treatment.	☐	☐
B4. When empirical antibiotic treatment has been started, it should be reviewed when relevant culture results become available.	☐	☐
B5. When clinically indicated, appropriate culture specimens should be collected before starting antibiotics, provided this does not dangerously delay urgent treatment.	☐	☐
B6. A broad-spectrum antibiotic is always a better choice than a narrow-spectrum antibiotic.	☐	☐
B7. Antibiotics should be selected according to the suspected or confirmed infection, patient factors, and relevant clinical guidance.	☐	☐
B8. Patients should stop a prescribed antibiotic as soon as they feel better, even if the prescribed instructions say otherwise.	☐	☐
B9. Kidney function may need to be considered when determining the dose of some antibiotics.	☐	☐
B10. Antibiotics can cause adverse effects, including allergic reactions.	☐	☐

Section C: Attitudes Towards Rational Antibiotic Use

Instructions: Select one response for each statement.
Response scale: Strongly agree / Agree / Neutral / Disagree / Strongly disagree.

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
C1. Antibiotics should be prescribed or supplied only when there is an appropriate clinical indication.	☐	☐	☐	☐	☐
C2. Healthcare workers should follow relevant evidence-based guidelines when using antibiotics.	☐	☐	☐	☐	☐
C3. Patient or caregiver pressure can influence decisions about antibiotic prescribing or supply.	☐	☐	☐	☐	☐
C4. More training would help	☐	☐	☐	☐	☐

healthcare workers use antibiotics appropriately.					
C5. Patient education is an important part of promoting appropriate antibiotic use.	☐	☐	☐	☐	☐

Section D: Practices Regarding Antibiotic Use and Misuse

Instructions: Answer the questions relevant to your professional role. For each question, select one response: Always / Often / Sometimes / Rarely / Never.

D1. Questions for Doctors

D1.1. How often do you consult relevant clinical guidelines when prescribing antibiotics?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D1.2. How often do you check the patient's allergy history before prescribing?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D1.3. How often do you document the indication, dose, and intended duration of antibiotic treatment?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D1.4. How often do you review the patient's response and the continued need for the antibiotic?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D2. Questions for Pharmacists

D2.1. How often do you check that an antibiotic prescription is complete and appropriate before dispensing?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D2.2. How often do you counsel patients about the prescribed dose and duration?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D2.3. How often do you check for documented allergies or possible interactions when relevant?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D2.4. How often do you clarify an unclear or potentially inappropriate prescription with the prescriber?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D3. Questions for Nurses

D3.1. How often do you verify the antibiotic, dose, route, and timing against the prescription before administration?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D3.2. How often do you check for documented allergies before administration?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D3.3. How often do you document antibiotic administration and report omitted or delayed doses?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

D3.4. How often do you monitor and report suspected adverse reactions?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

Section E: Training, Guidelines, and Barriers

8. E1. Are written guidelines for antibiotic use available in your workplace?

☐ Yes ☐ No ☐ Don't know

9. E2. Can you readily access the relevant antibiotic-use guidelines when needed?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

10. E3. Which factors make appropriate antibiotic use difficult in your workplace? (Select all that apply.)

☐ Limited access to guidelines ☐ Insufficient training ☐ Heavy workload or time constraints ☐ Limited access to relevant diagnostic tests ☐ Availability or cost of medicines ☐ Patient/caregiver pressure ☐ Other: _____ ☐ No major barriers

Section F: Open-ended Questions

F1. What is the main challenge you face in promoting appropriate antibiotic use at Al-Daman Hospital?

_____
_____

F2. What changes or support would help improve appropriate antibiotic use at your workplace?

_____
_____