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Impact of community nursing educational intervention on antimicrobial resistance awareness, knowledge, and attitudes in Kuantan, Malaysia

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Abstract

Background: Antimicrobial resistance (AMR) is a major global health threat driven by inappropriate antibiotic use and limited public awareness. Evidence on community-based interventions, particularly in low- and middle-income settings, remains limited. This study aimed to evaluate the effects of a community nursing educational intervention on AMR awareness, knowledge, and attitudes in Malaysia. **Methods:** A community-based pre - post intervention study was conducted in Kuantan, Malaysia, between July and September 2024. Individuals aged 15 years and older were recruited through convenience sampling from various community settings. A validated, Malay-translated questionnaire evaluating awareness, knowledge, and attitudes regarding AMR was

administered prior to and immediately following a nurse-led educational intervention. The intervention was delivered in person utilising standardised educational materials by trained nursing professionals. Paired analyses were performed to compare scores before and after the intervention. Results: A total of 505 participants were included in the study. Significant improvements were observed across all domains following the intervention. The largest improvement was observed in knowledge scores (pre: 5.94 to post: 9.53 ($p < 0.001$; $d = 1.03$), followed by awareness (pre: 2.77 to post: 4.58 ($p < 0.001$; $d = 0.94$), and attitudes (pre: 5.65 to post: 6.79 ($p < 0.001$; $d = 0.60$). Conclusion: The short-term nursing-led community education programme demonstrates significant improvements in AMR, especially in the cognitive domain. The integration of these interventions into routine community health programmes, along with repeated engagement, is recommended to strengthen long-term effectiveness and promote appropriate antibiotic use. © The Author(s) 2026.

Author keywords

Antibiotics; Antimicrobial resistance; Community education; Educational intervention; KAP; Nursing

Indexed keywords

EMTREE medical terms

adolescent; antimicrobial resistance awareness; Article; attitude; awareness; clinical assessment; community health nursing; convenience sample; female; human; human experiment; knowledge; male; nursing education; public health; questionnaire

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