

## **Antibiotic Prescribing Pattern and Associated Risk Factors Promoting Antibiotic Resistance: A Cross-Sectional Study in a Regional Hospital in Ghana**

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**Abstract :** Inappropriate prescribing of antibiotic is a common healthcare concern globally resulted in an increased risk of adverse reactions and the emergence of antimicrobial resistance. The wrong antibiotic prescribing habits may lead to ineffective and unsafe treatment, worsening of disease condition, and thus increase in health care costs. The study was to examine the antibiotic prescribing pattern and associated risk factors at Regional Hospital in the Bono region of Ghana. A retrospective cross-sectional study was conducted to describe the current prescribing practices at the Hospital from January 2014 to December, 2021. A systematic random sampling method was used to select the participants for the study. STATA version 16 software was used for data management and analysis. Descriptive statistics and logistic regression analysis were used to analyze the data. Statistical significance set at  $p < 0.05$ . Antibiotic consumption was equivalent to 11 per 1000 inhabitants consuming 1 DDD per day. Most common prescribed antibiotic was amoxicillin/clavulanic acid (14.39%) followed by erythromycin (11.44%), and ciprofloxacin (11.36%). Antibiotics prescription have been steadily increased over the past eight years (2014:  $n=59,280$  to 2021:  $n=190,320$ ). Prescribers above the age of 35 were more likely to prescribe antibiotics than those between the ages of 20 and 25 (COR=21.00; 95% CI: 1.78 - 48.10;  $p=0.016$ ). Prescribers with at least 6 years of experience were also significantly more likely to prescribe antibiotics than those with at most 5 years of experience (COR=14.17; 95% CI: 2.39 - 84.07;  $p=0.004$ ). Thus, the establishment of an antibiotic stewardship program in the hospitals is imperative, and further studies need to be conducted in other facilities to establish the national antibiotic prescription guideline.

**Keywords :** antibiotic, antimicrobial resistance, prescription, prescribers

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