Title of Article: Self-medication with antibiotics for the treatment of menstrual symptoms in southwest Nigeria: a cross-sectional study

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Abstract

Background: Self-medication with antibiotics is an important factor contributing to the development of bacterial antibiotic resistance. The purpose of this study was to evaluate the prevalence of self-medication with antibiotics for the treatment of menstrual symptoms among university women in Southwest Nigeria. Methods: A cross-sectional survey was administered to female undergraduate and graduate students (n = 706) at four universities in Southwest Nigeria in 2008. The universities were selected by convenience and the study samples within each university were randomly selected cluster samples. The survey was self-administered and included questions pertaining to menstrual symptoms, analgesic and antibiotic use patterns, and demographics. Data were analyzed using descriptive statistics and logistic regression. Results: The response rate was 95.4%. Eighty-six percent (95% CI: 83-88%) of participants experienced menstrual symptoms, and 39% (95% CI: 36-43%) reported using analgesics to treat them. Overall, 24% (95% CI: 21-27%) of participants reported self-medicated use of antibiotics to treat the following menstrual symptoms: cramps, bloating, heavy bleeding, headaches, pimples/acne, moodiness, tender breasts, backache, joint and muscle pain. Factors associated with this usage were: lower levels of education (Odds Ratio (OR): 2.8, 95% CI: 1.1-7.1, p-value: 0.03); non science major (OR: 1.58, 95% CI: 1.03-2.50, p-value: 0.04); usage of analgesics (OR: 3.17, 95% CI: 2.07-4.86, p-value: <0.001); and mild to extreme heavy bleeding (OR: 1.64, 95% CI: 1.01-2.67, p-value: 0.05) and pimples/acne (OR: 1.57, 95% CI: 0.98-2.54, p-value: 0.06). Ampicillin, tetracycline, ciprofloxacin and metronidazole were used to treat the most symptoms. Doctors or nurses (6%, 95% CI: 4-7%), friends (6%, 95% CI: 4-7%) and family members (7%, 95% CI: 5-8%) were most likely to recommend the use of antibiotics for menstrual symptoms, while these drugs were most often obtained from local chemists or pharmacists (10.2%, 95% CI: 8-12%).

Conclusions: This is the first formal study to report that approximately 1 out of 4 university women surveyed in Southwest Nigeria self-medicate with antibiotics to treat menstrual symptoms. This practice could provide monthly, low-dose exposures to antibiotics among users. Further studies are necessary to evaluate the impacts of self medication on student health.