



## Brief summary

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# Over-prescription of antibiotics for acute conjunctivitis: a call for action to prevent antibiotic resistance in Ghana.

<sup>1</sup>Reference: Hope, P.K.F.; Lynen, L.; Mensah, B.; Appiah, F.; Kamau, E.M.; Ashubwe-Jalemba, J.; Peprah Boaitey, K.; Adomako, L.A.B.; Alaverdyan, S.; Appiah-Thompson, B.; et al. Appropriateness of Antibiotic Prescribing for Acute Conjunctivitis: A Cross-Sectional Study at a Specialist Eye Hospital in Ghana, 2021. Int. J. Environ. Res. Public Health **2022**, *19*, 11723. <https://doi.org/10.3390/ijerph191811723>

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e-mail: pkhope@mail.com

## Key Messages

- Antibiotics, though often not needed, are overprescribed in acute conjunctivitis which could lead to antibiotic resistance.
- At Bishop Ackon Memorial Christian Eye Centre (BAMCEC), a high percentage of antibiotics prescribed belong to the category recommended for only specific, limited indications due to their high potential for resistance (“Watch”).
- The irrational use of topical antibiotics in managing acute conjunctivitis could lead to antibiotic resistance and increase costs of care for patients and the health system.
- Prescribers need to be sensitized to the WHO aim that less than 40% of the antibiotics prescribed should be from the category “Watch”.

## What is the problem and why is it important?

Acute conjunctivitis is the most common presentation in primary eye care. It is defined by the onset of watery, itchy, red eyes and occasional discharge of 3 to 4 weeks. Although most cases resolve without medication, some prescribers continue to give antibiotics to patients.

Antibiotic resistance has become a public health concern. Over-use and inappropriate use of antibiotics is a known driver of antibiotic resistance.

Antibiotic resistance could complicate the treatment of future conditions such as chronic conjunctivitis, endophthalmitis, post-operative management and increase the risk of blindness. This will lead to increased cost of care and socioeconomic consequences for the patient.

Data on antibiotic use for acute conjunctivitis in Ghana is scanty, we therefore undertook this study to assess the antibiotic prescription patterns in the management of acute conjunctivitis.

## Access

- First-line antibiotics
- Low resistance potential

## WAtch

- Critically important antibiotics
- High resistance potential

## REserve

- Antibiotics for MDR organisms
- Last-resort antibiotics

## How did we measure it?

We extracted data from 201 cases entered with the diagnosis of acute conjunctivitis in the electronic medical records at BAMCEC for the period January to December 2021.

We identified all cases that were prescribed antibiotics. Use of antibiotics was deemed appropriate in the case of acute bacterial conjunctivitis which is defined as the presence of pus discharge and moderate to severe redness of the conjunctiva and occasional matting of the eyelids.

Where an antibiotic was prescribed we conducted further analysis to determine its AWARe classification.

## What did we find?

- The 55% use of antibiotics in acute conjunctivitis was in line with an expected 50% of possible bacterial causes warranting treatment. This indicates adherence to the standard treatment guidelines for acute conjunctivitis.
- However, among patients who received antibiotics, 28.8% were inappropriately prescribed.
- Furthermore, 56% of the antibiotics prescribed were in the “Watch” category (Ciprofloxacin, Tobramycin).

## Implications

- The high usage of “Watch” category antibiotics increases the risk of antibiotic resistance which could affect management of infectious eye conditions in the hospital and increase the cost of care.
- The drugs and therapeutic committee at the hospital should run continuous professional development courses for the prescribers to increase awareness about the dangers of over-use of “Watch” category antibiotics.
- The management of BAMCEC should set up a local antibiotic stewardship team that will offer guidance on and monitor the use of antibiotics in the facility to ensure compliance with best practices.
- The Ghana Eye Care Secretariat should mandate other eye care practices to replicate this study to strengthen the body of evidence on prescription practices (for acute conjunctivitis) in Ghana.