

---

**Systemic antibiotics for the treatment of neonatal chlamydial conjunctivitis: a systematic review**

---



*Student Name:* Andrew Zikic

*Program Stream:* Global Diseases

*Scholarly Paper Advisor:* Dr. Nancy Santesso

*Practicum Organization:* WHO Collaborative Centre for Evidence-Informed Policy; Systematic Reviews for WHO STI Treatment Guidelines Update

*Practicum Supervisor:* Dr. Holger Schunemann

**Background:** *Chlamydia trachomatis* is the most common cause of neonatal conjunctivitis.<sup>1</sup> Safe and effective therapies in addition to proper prophylactic strategies are needed for neonatal chlamydial conjunctivitis. The objective of this study was to conduct a systematic review of the effects of oral erythromycin, azithromycin and trimethoprim antibiotics for the treatment of neonatal chlamydial conjunctivitis.

**Search Strategy:** We searched Medline, Embase, and CENTRAL up to May 10<sup>th</sup> 2015, did not restrict by language or study type, and reviewed reference lists of relevant studies, guidelines, and systematic reviews.

**Selection Criteria:** Randomized controlled trials or non-randomized studies that assessed the effects of treatment of neonatal chlamydial conjunctivitis using erythromycin, azithromycin or trimethoprim antibiotics.

**Data Collection & Analysis:** Two independent investigators collected, extracted and analyzed data. Risk of bias and quality of evidence according to GRADE were determined.

**Results:** We included a total of 9 studies of (2 randomized & 7 non-randomized). Quality of evidence as a result of publication bias and imprecision was either low or very low. Combined event rates for clinical and microbiological cure using the most common treatment dosage, erythromycin 50 mg/kg per day for 14 days, was 125/130 (96.2%). Azithromycin clinical and microbiological cure rate was 60% for a 20mg/kg per day as a single dose and 85.7% for 20 mg/kg/d for 3 days. The most frequent complication was nasopharyngeal co-infection observed in about 22.7% to 57.6% of cases depending on the dosage. Side effects included gastrointestinal disturbances with a range of 7.1% to 42.9% depending on the dosage regimen. None of the studies found assessed trimethoprim.

**Conclusions:** We provide a comprehensive summary of the efficacy, complications and side effects of current treatments for neonatal conjunctivitis. However, more research is needed using higher quality randomized controlled trials in order to better assess current treatment practices and test newer antibiotics that may have easier dosage regimens and less side effects.

### Global Health Relevancy

- In 2013, the most recent global burden of disease study found that chlamydial infection is estimated to account for an incidence of 100 million to 1 billion cases per year worldwide.<sup>2</sup>

- To guide clinical practice in order to achieve the best health outcomes for neonates with chlamydial conjunctivitis