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## Background

Third-generation cephalosporins (3GC)- and carbapenem-resistant Enterobacterales are critical WHO priority pathogens,<sup>1</sup> causing significant morbidity and mortality in Southeast Asia.<sup>2</sup> Understanding their epidemiological burden is crucial for developing effective interventions.

## Aim

To identify the epidemiology of antimicrobial resistance (AMR) in Gram-negative bacteria (GNB) responsible for colonisation, infection, and clinical outcomes in mother-infant dyads in Indonesia.

## Methods

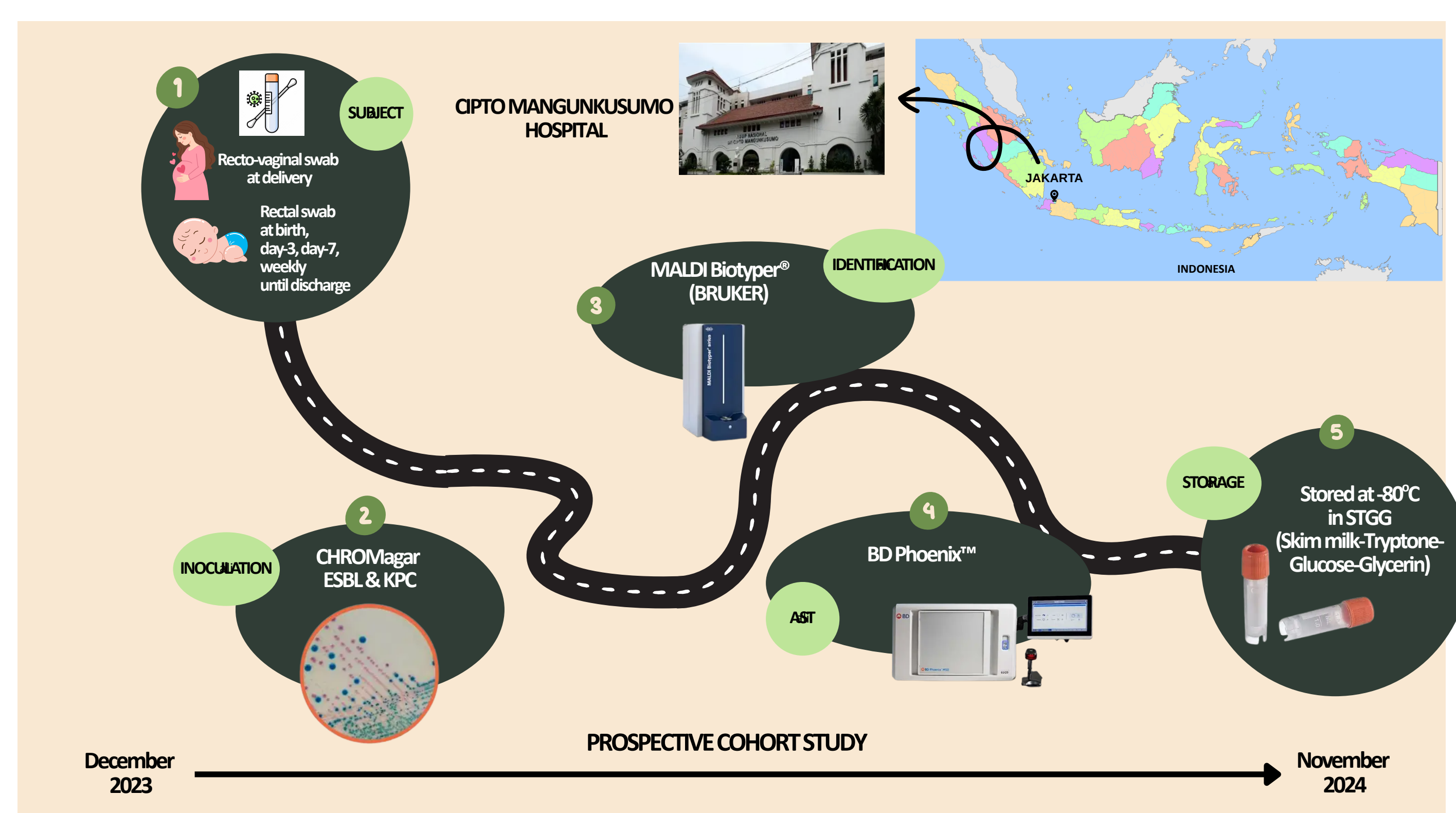


Fig1. Schematic Graph of Methodology

## Results

Among 189 mother-infant dyads, 120 mothers (63%) and 115 infants (61%) were colonised with Enterobacterales, with *Klebsiella pneumoniae* and *Escherichia coli* most frequently isolated.

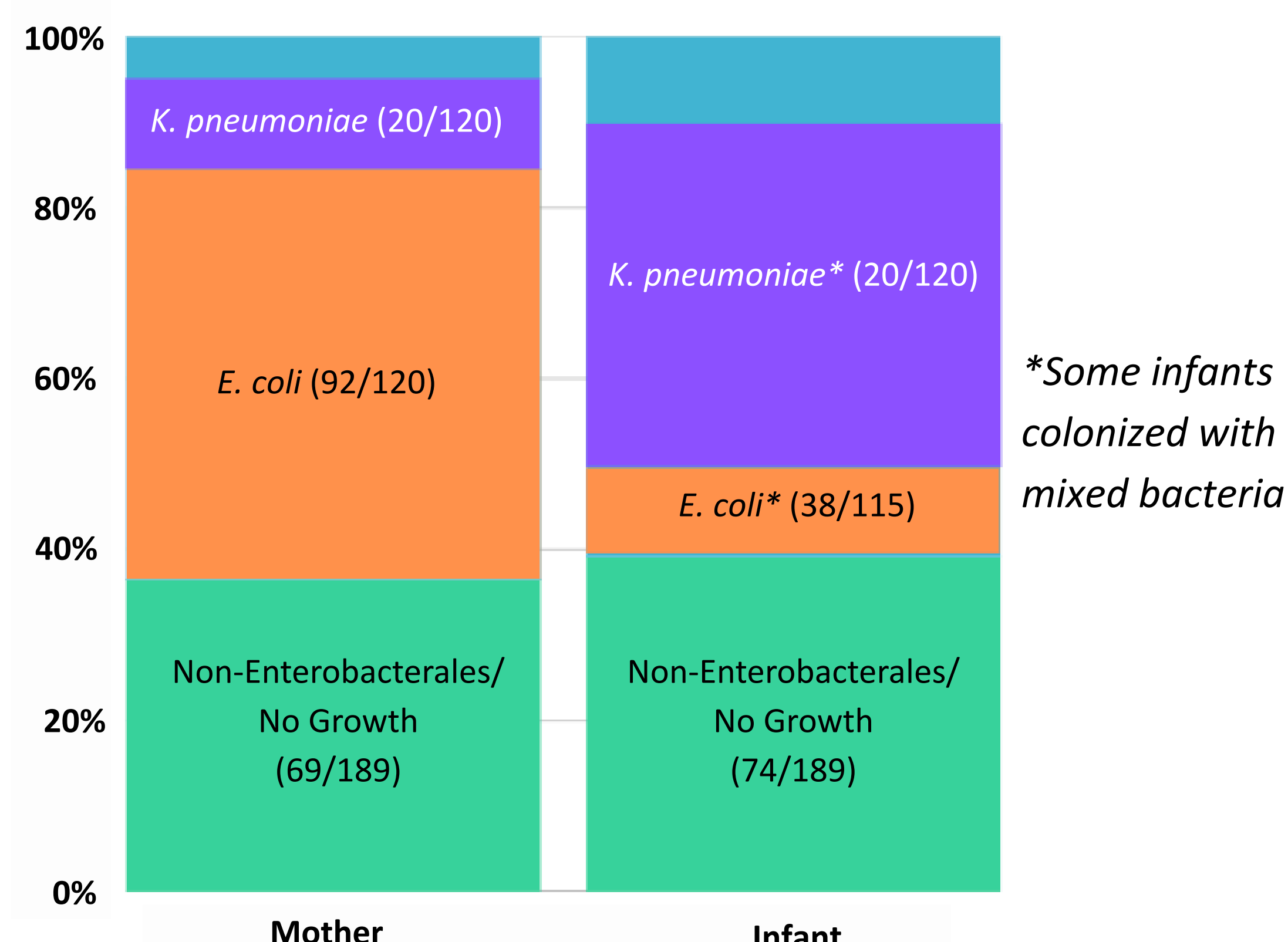


Fig2. Proportion of Enterobacterales Colonisation in Mother at Delivery and Infant at Birth until Discharge

Unique isolates of mothers and infants underwent 3GC and carbapenem non-susceptibility confirmation, of which 96% of maternal (94/98) and 99% (211/214) of infant isolates were 3GC-non-susceptible; and 12% (12/98) of maternal and 52% (111/214) of infant isolates were carbapenem-non-susceptible.

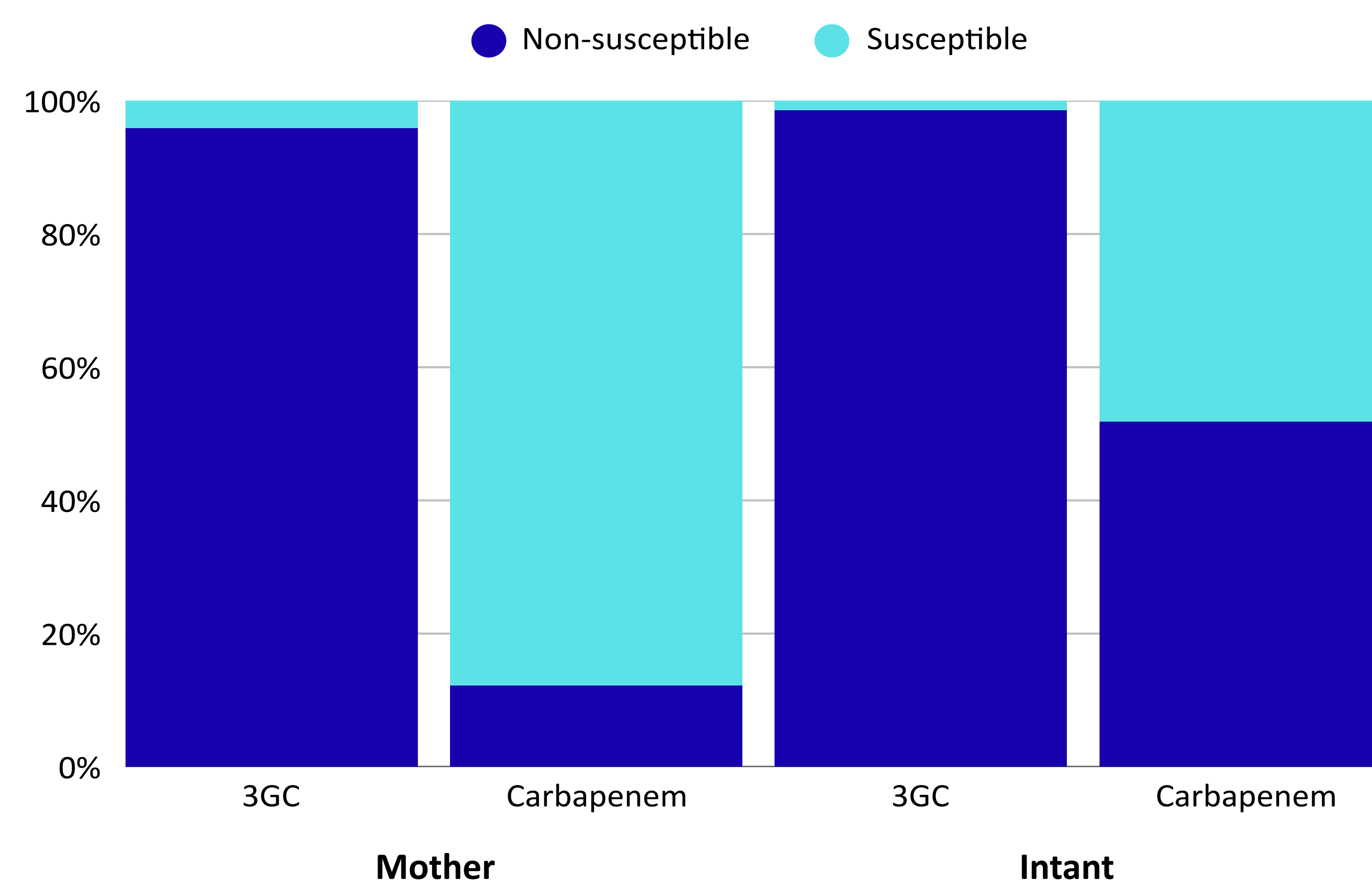


Fig3. 3GC and Carbapenem-non-susceptible Isolates Percentage Among Mother and Infant

Six cases of GNB neonatal sepsis occurred, with all isolates 3GC-non-susceptible, four carbapenem-non-susceptible, resulting in three deaths.

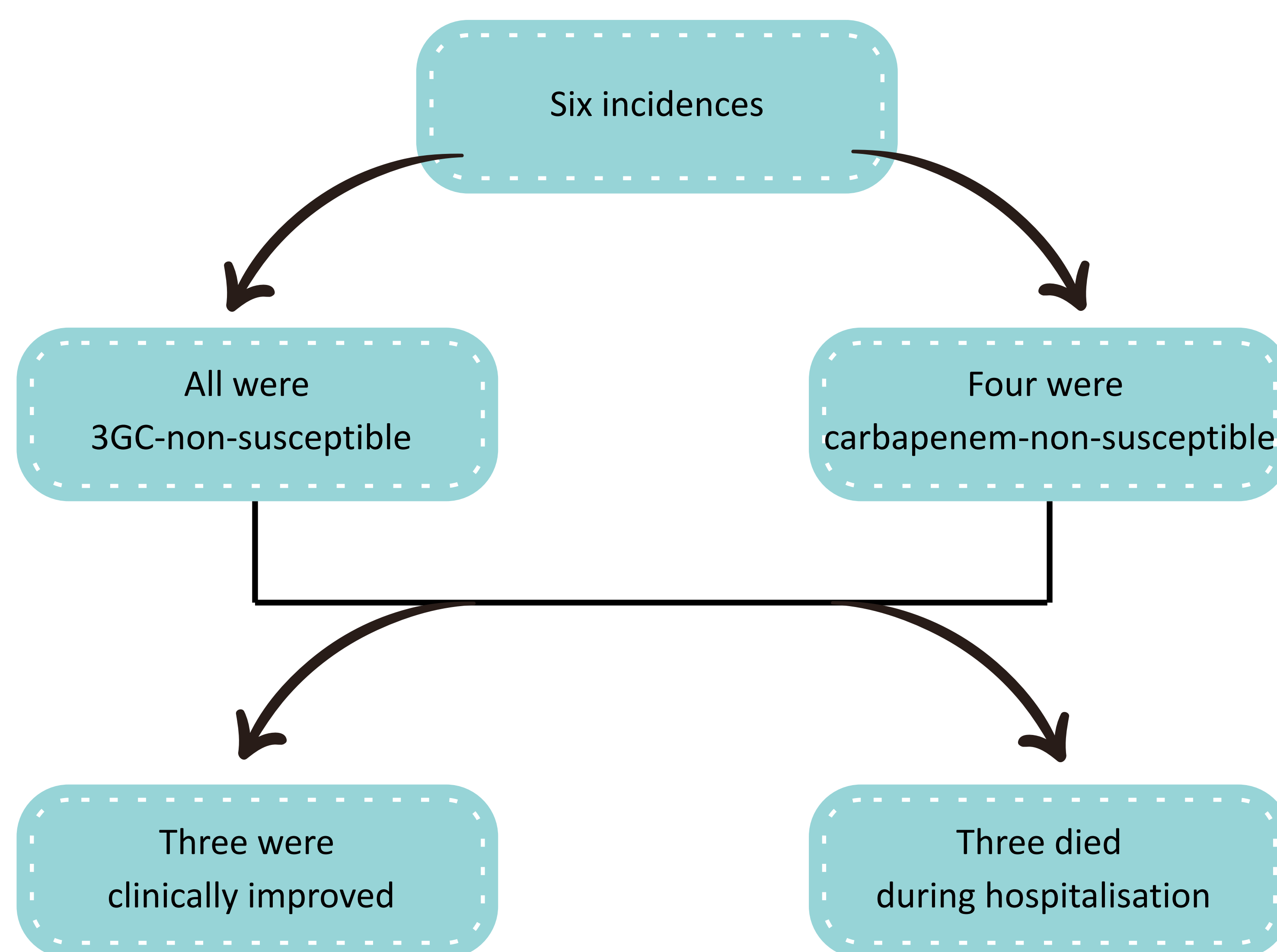


Fig4. Incidence and Outcome of GNB Neonatal Sepsis

## Conclusions

This study highlights the high prevalence of antibiotic-resistant Enterobacterales colonisation in mothers and hospitalized infants during the perinatal period. The high rates of non-susceptibility to 3GC and carbapenems suggest current neonatal sepsis guidelines may be inadequate, underscoring the need for targeted infection control and new therapeutic strategies.

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## References:

1. WHO bacterial priority pathogens list, 2024: Bacterial pathogens of public health importance to guide research, development and strategies to prevent and control antimicrobial resistance

2. Dickson BFR. 2025. Pathogen distribution and antimicrobial resistance among neonatal bloodstream infections in Southeast Asia: results from NeoSEAP, a multicentre retrospective study. *The Lancet Regional Health - Western Pacific* 62: 101617.