Background: The emergence of penicillin (PEN) and macrolide resistance of Streptococcus pneumoniae (SPN) is a major bacterial pathogen causing respiratory tract infections, bacteremia, and meningitis especially in children and in the elderly. The emergence of antimicrobial resistance in this pathogen is a matter of major concern in specific geographic settings, especially in developing countries, where invasive SPN infections are common. The objective of this worldwide multicenter study was to describe the antimicrobial resistance of SPN isolates from Latin America from 1998 to 2002: Report of SENTRY Antimicrobial Surveillance Program.

**Methods**

Antimicrobial susceptibility testing was performed using the reference broth microdilution methods for the years 1998 and 2002.

**Results**

Penicillin resistant isolates continued to be a problem in Latin America, and seem to be clustered in specific age groups and geographic regions.

**Conclusions**

- The analysis of the changes occurring when the data was stratified according to age groups showed that the susceptibility to erythromycin increased among penicillin-intermediate isolates over the years.
- There were also dramatic increases in the susceptibility to erythromycin among penicillin-intermediate isolates over the years. The increase was more pronounced among penicillin-intermediate isolates from children under 5 years of age.
- Although susceptibility rates to penicillin and erythromycin did not vary significantly during the study period (1998-2002), a trend towards increases in resistance rates were observed, especially in some Latin American countries.
- Only 13.2% of SPN pneumococcal isolates showed intermediate susceptibility to erythromycin (Table 1), and among these isolates, 33.3% were also penicillin-resistant.
- Erythromycin-resistant SPN rates were higher in the respiratory tract (URT) than in other sites (Table 2).
- The decrease in resistance rates to penicillin and clindamycin among isolates from three age groups (children, elderly) may be the result of the widespread use of pneumococcal vaccines and the changes in the serotypes related to multi-drug resistance.