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Invasive meningococcal disease trends, South Africa, 2018-2022

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Background

In South Africa, despite no routine meningococcal vaccine use, invasive meningococcal disease (IMD) has been steadily declining since a 2006 epidemic of serogroup W. Globally, there have been reports of significant decreases in invasive bacterial infections during the COVID pandemic, with a potential risk of experiencing an upsurge now that COVID-19 containment measures are reduced. We describe the trends in IMD incidence by age group and serogroup, in South Africa, over the past five years.

Aim/Methods

From 2018-2022 we conducted national surveillance of laboratory-confirmed IMD. At the national reference laboratory, meningococcal serogroup was determined from Neisseria meningitidis isolates by slide agglutination and PCR, or directly from cerebrospinal fluid or blood using PCR. Incidence rates were calculated using mid-year population estimates and incidence rate ratios (IRR) were estimated using Poisson regression.

Results

From 2018-2022, 384 episodes of laboratory-confirmed IMD were reported, of which 295 (77%) were serogrouped. Overall incidence declined 22% each year ($p< 0.001$, from 0.21/100,000 persons in 2018 to 0.05/100,000 persons in 2021, with a slight increase in 2022 to 0.11/100,000 persons). Serogroup B was dominant in all years (incidence ranging from 0.07-0.02/100,000 persons from 2018-2022), followed by serogroup W (ranging from 0.04-0.01/100,000) and Y (0.03-0.02/100,000). IMD incidence was highest in infants and children 1-4 years of age and peaked again in young adults (15-24 years). Despite overall disease incidence decreasing in each age band over the years, significant increases in serogroup Y IMD were noted in infants (IRR 1.22, 95% confidence interval 1.22-1.23, $p< 0.001$) and young adults (IRR 1.16, 95% CI 1.16-1.16, $p< 0.001$).

Conclusions

Although IMD incidence in South Africa is currently low, serogroup Y IMD has increased in infants and young adults. IMD surveillance should continue to monitor secular trends, particularly in a country with no routine meningococcal disease vaccination programme.