Bacterial Meningitis Teaching Course

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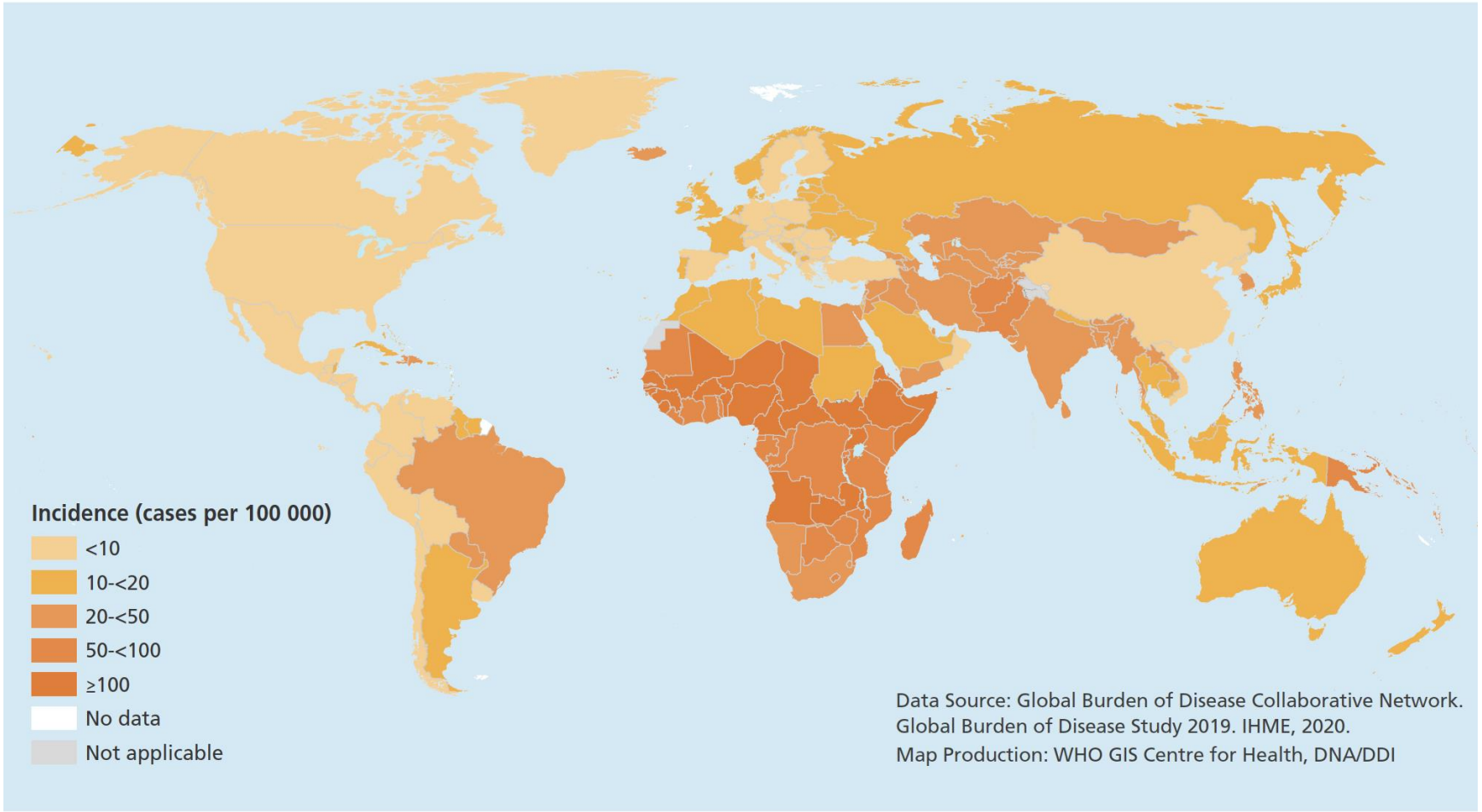
No conflict of Interest

Learning Objectives

- Emergency diagnosis and management.
- Pathophysiology
- Immediate care.
- Lumbar puncture
- Antibiotics
- Vaccination
- Outcome.

ig. 1. Incidence rates of all-cause meningitis per 100 000 population by country in 2017

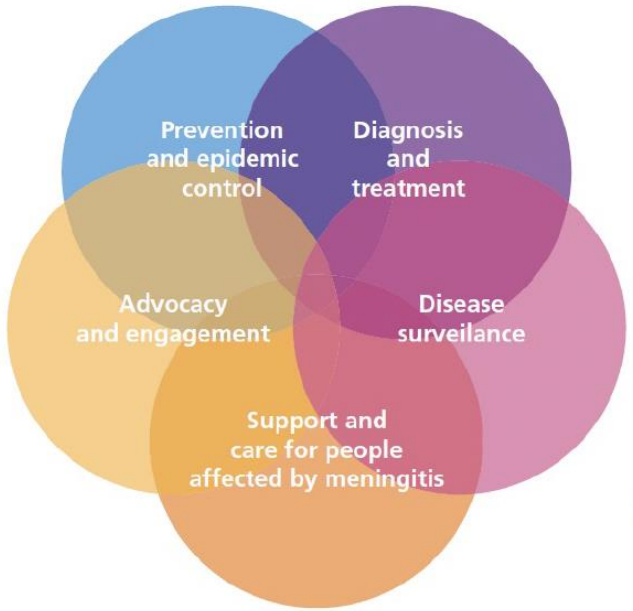


` Incidence is 1-2 per100,000 in the West up to 1,000 Sahel region of Africa

Vaccines have made a huge difference.

Visionary goals to be achieved by 2030

- Eliminate bacterial meningitis epidemics
- Reduce cases by 50% and deaths by 70% from vaccine-preventable bacterial meningitis
- Reduce disability and improve quality of life after meningitis due to any cause



5 interconnected pillars

- Prevention and Epidemic Control
- Diagnosis and Treatment
- Disease Surveillance
- Support and Care for people affected by meningitis
- Advocacy and Engagement

Courtesy of Nicoline Scheiss (WHO)

Recommendations: Treatment

In children and adults presenting with suspected acute meningitis:

Timing of antimicrobial treatment

- **Before Admission**: consider parenteral antibiotics if delay in transfer is likely
- **After admission**: administer intravenous antibiotics as early as possible.

Empiric antimicrobial treatment

- Administer IV ceftriaxone or cefotaxime as first-line empiric antibiotic treatment.
- Add ampicillin or amoxicillin if risk factors for *Listeria* infection
- Consider adding vancomycin if high prevalence of *Streptococcus pneumoniae* resistant to penicillin or cephalosporin
- Consider chloramphenicol plus benzylpenicillin, ampicillin or amoxicillin when ceftriaxone or cefotaxime are not available.

ABM Conclusions

- Bacterial meningitis affects from 0.9 per 100 000 individuals per years in high-income countries to 80 per 100 000 individuals per year in low-income countries, with mortality rate as high as 54% and neurological sequelae rate as high as 24% in low-income countries. First-line therapy is prompt empirical intravenous antibiotic therapy and adjunctive dexamethasone in adults.