Overview of respiratory pathogens prevalent in PNG

Ferguson, 2018

Organism	Infectious agents	Prevention	Treatment
Viruses	Respiratory viruses (e.g. Influenza A & B, Parainfluenza 1,2,3, Metapneumovirus, adenovirus, rhinovirus, RSV)	No vaccines available except for influenza (give to pregnant women and healthcare staff in PNG). Avoid of wood fire smoke. Fully breast feed new babies. Avoid feeding babies early solid food	Diagnosis: clinical; PCR assays, point of care tests – influenza mainly – not always reliable Minor coughs and colds- symptomatic management; **give no antibiotics.** Viruses are the most common causes of bronchiolitis, croup, acute asthma exacerbations, sinusitis, pharyngitis, otitis media, acute COPD, acute bronchitis and bronchiectasis exacerbations Pneumonia (fever, rapid breathing, cough in child)- can be due to viral or bacterial infection- must treat with antibiotics usually.
Bacteria	*Streptococcus pneumoniae* Other less important pneumonia pathogens- *Haemophilus influenza,* *Moraxella catarrhalis* *Mycoplasma* others	As for respiratory viruses but multivalent conjugate pneumococcal vaccines (current one 13 serotypes) available for children that will also reduce adult disease.	*Strep. pneumoniae* is the most important cause of acute community pneumonia across the world. Haemophilus and Chlamydia (below) are also very important. Penicillin/amoxicillin remains the mainstay of treatment. Early antibiotics are required to cure otherwise high mortality. HIV patients much more prone to bacterial pneumonia including TB.
	Whooping cough (*Bordetella pertussis*)	Infant and maternal pertussis vaccination	Pertussis causes life-threatening pneumonia in infants. Treated with erythromycin or azithromycin orally.
	Chlamydia trachomatis	STD control Abstract of the paper is below	High rates of *Chlamydia trachomatis* infections in young Papua New Guinean infants.
	Mycobacterium tuberculosis	BCG vaccination Segregation of infectious TB patients.	TB is now a more common cause in parts of PNG than pneumococcus. Multi-drug treatment. DOTS. Drug resistance. HIV testing and treatment.
Fungi	*Cryptococcus neoformans*	HIV prevention *per se* Primary prophylaxis with oral fluconazole in HIV positive patients	Meningitis, sometimes pneumonia- prolonged anti-fungal treatment
	Pneumocystis jirovecii	Primary and secondary prophylaxis with trimethoprim+sulphamethoxazole HIV prevention *per se* Non-HIV patients- outbreaks associated with cross transmission in renal transplant clinics	Opportunistic infection of lung in HIV patients with CD4 count < 200 and sometimes in premature or severely malnourished children. Treated with trimethoprim+sulphamethoxazole.
Helminths	*Stongyloides* species	Nil Prophylaxis for immune-compromised	Cause of gastroenteritis , sometimes severe. Severe opportunistic infection of lung can occur with immune compromise.