Risk Factors[1]

ELDERLY PATIENTS

Elderly people (60 years and above) with suppressed Immunity, or conditions like Diabetes, Heart Disease, Kidney Disease, or damaged Lungs due to Smoking/COPD are at the risk of Pneumococcal Infection.

COPD PATIENTS

Respiratory conditions like COPD (Chronic Obstructive Pulmonary Disease), Asthma and Smokers: The risk of contracting Pneumococcal Pneumonia is 7-8 times higher for COPD, and 6 times higher for asthma. Patients of COPD have 8 times higher risk of contracting and getting hospitalized due to Pneumococcal Pneumonia and up to 5 times higher risk of Invasive Pneumococcal Disease (IPD).

DIABETICS

Comorbid conditions like Diabetes, or Heart Disease: Patients with Diabetes are at 3 times higher risk of contracting Pneumonia as well as hospitalization due to pneumonia. Diabetes is not only associated with a higher risk of Pneumococcal Pneumonia but reported to have 3.5 times increased risk of Invasive Pneumococcal Disease (IPD).

CKD PATIENTS

Compromised Kidney or Liver function: Patients with Chronic Kidney Disease (CKD) have double the risk of Pneumonia and hospitalization, with the risk increasing many times for those on dialysis.

IMMUNO-COMPROMISED INDIVIDUALS

Decreased immunity like with HIV, organ transplants, cochlear implants, cancers, hemoglobin abnormalities, nephrotic syndrome, spleen removal, etc., or prolonged exposure to antibiotics, corticosteroids, or other immune-suppressive drugs and anticancer chemotherapy/radiotherapy.

1: https://www.cdc.gov/pneumococcal/global.html

Types of Pneumococcal Vaccines

PCV

Current **Pneumococcal Conjugate Vaccine (PCV)** in India is of 2 types: 10 Valent & 13 Valent

PPSV

Pneumococcal Polysaccharide Vaccine (PPSV) Contains 23 serotypes of Pneumococcus (PPSV-23)

Benefits Of Pneumococcal Vaccination[1,2]

Reduces the overall risk of getting Community Acquired Pneumonia (CAP).

Reduces the risk of severe Pneumonia and hospitalization.

Significantly reduces the risk of Invasive Pneumococcal Disease (IPD) that includes meningitis and sepsis.

Helps lower the overall risk of spread of Pneumonia in the community and its resulting healthcare burden.

Helps better management of coexisting medical conditions and improves overall outcomes in patients with Diabetes, Chronic Kidney Disease, COPD, and Heart Disease.

Lowers the risk of secondary bacterial Pneumonia causing high morbidity and mortality in pandemics like COVID.

Significantly protects those with lowered immunity.

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4928524/, 2. https://www.sciencedirect.com/science/article/pii/S0264410X20312627

Talk to your **Doctor Today** for Broader **Pneumococcal Protection**

NAPI Nation Against Pneumococcal Infections

An awareness initiative by VAXiMUNE

GCCPL

VAXiMUNE Building Healthier Generations

A Unit Of G.C. Chemie Pharmie Ltd

Adults Need Pneumococcal Vaccination Too

What is Pneumonia?[1]

Pneumonia is actually a broad term that means inflammation of the lung, however, in usual medical terms and common language, it implies inflammation of the air sacs (alveoli) of the lungs due to infection (bacterial, viral or fungal).

In Pneumonia, the infection and inflammation can cause the air sacs of the lung to swell up and get filled with fluid or pus. This can decrease the effective gaseous exchange of oxygen and carbon dioxide.

SYMPTOMS AND SIGNS

- Fever sometimes with chills
- Fatigue and weakness
- Muscle aches and headaches
- Cough
- Chest pain
- Shortness of breath
- Rapid shallow breathing
- Increased heart rate
- Nausea, vomiting, inability to feed, and diarrhea
- Irritability and restlessness, or sometimes lethargy
- Bluish discoloration of the skin, lips/tongue
- Disorientation and confusion

COMPLICATIONS OF PNEUMONIA

- Lung Abscess - Collection or Pockets of Pus
- Bronchial (airway) obstruction
- Lung collapse
- Respiratory Failure
- Pericarditis
- Invasive Pneumoccocal Disease (IPD) - Meningitis and Sepsis

1. Adapted from Beers MH et al eds, The Merck Maual of Diagnosis and Therapy, 18th edition Chapter 52 Pneumonia: CDC. Epidemiology & Prevention of Vaccine-Preventable Diseases, The Pink Book, 9th Edition https://www.cdc.gov/pneumococcal/about/symptoms-complications.html

Types Of Pneumonia

Pneumonia can be classified as:

Community Acquired Pneumonia (CAP)

Hospital Acquired Pneumonia (HAP) or Ventilator Associated Pneumonia (VAP)

Majority of Pneumonia especially CAP is caused by bacteria or viruses, while very rarely fungi and parasites can also be the cause.

Among bacteria, Streptococcus Pneumoniae **(Pneumococcus)** is the most common bacteria.

Streptococcus Pneumoniae (Pneumococcus) can cause Pneumonia, nasopharyngitis, otitis, and sinusitis. It spreads by contact with saliva/mucus through close contact or coughing and sneezing. Serious infection by Pneumococcus is called **Invasive Pneumococcal Disease (IPD)** which includes Meningitis and Sepsis (blood infection), that can cause complications in the brain and multiple organs, and also death. IPD can occur as a complication of Pneumonia.

Disease Burden[1-3]

Global Pneumonia burden

is around 400-450 million per year

(children: 150-160 million)

Adult Pneumococcal Disease in India is

31.3%, 22.7%, and 13.9% among adults aged ≥60 years, 44–60 years, and 18–44 years respectively

CAP (Community Acquired Pneumonia) global incidence:

1.5 to 14 per 1000 persons

Hospitalizations in CAP increase with age by 20-30% and may reach 67–75% in people ≥ 65 years

1. Ruuskanen O, Lahti E, Jennings LC, Murdoch DR. Viral pneumonia. Lancet. 2011 Apr 9:377(9773):1264-75. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7138033/ 2. Eshwara VK, Mukhopadhyay C, Rello J. Community-acquired bacterial pneumonia in adults: An update. Indian J Med Res. 2020 Apr:151(4):287-302. ttps://www.ncbi.nlm.nih.gov/pmc/articles/PMC7371062/ 3. Torner N et al; Project PI12/02079 Working Group. Factors associated with 30-day mortality in elderly inpatients with community acquired pneumonia during 2 influenza seasons. Hum Vaccin Immunother. 2017 Feb:13(2):450-455. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5328220/#cit0010