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Unit: SIM. Pt. Initials: _____.

Date: 10/20/2021

Adult/Geriatric Critical Thinking Worksheet

1. Disease Process & Brief Pathophysiology-

There is an intricate balance between the organisms residing in the lower respiratory tract and the local and systemic defense mechanisms (both innate and acquired) which when disturbed gives rise to inflammation of the lung parenchyma, i.e., pneumonia. Common defense mechanisms that are compromised in the pathogenesis of pneumonia include Systemic defense mechanisms like humoral and complement-mediated immunity that is compromised in diseases like common variable immunodeficiency (CVID), X-linked agammaglobulinemia (inherited), and functional asplenia (acquired). Impaired cell-mediated immunity predisposes individuals to infection by intracellular organisms like viruses and organisms of low virulence like Pneumocystis pneumonia (PJP), fungal causes, among others. The mucociliary clearance that is often impaired in cigarette smokers, post-viral state, Kartagener syndrome, and other related conditions. Impaired cough reflex seen in comatose patients, certain substances of abuse. Accumulation of secretions as seen in cystic fibrosis or bronchial obstruction. The resident macrophages serve to protect the lung from foreign pathogens. Ironically, the inflammatory reaction triggered by these very macrophages is what is responsible for the histopathological and clinical findings seen in pneumonia. The macrophages engulf these pathogens and trigger signal molecules or cytokines like TNF- α , IL-8, and IL-1 that recruit inflammatory cells like neutrophils to the site of infection. They also serve to present these antigens to the T cells that trigger both cellular and humoral

2. Factors for the Development of the Disease/Acute Illness-

- Immunocompromised
- Malnourished (P)
- Elderly (P)
- Very young
- Smoker (P)
- Alcohol abuse
- Chronic condition (P)

3. Signs and Symptoms-

- Fatigue
- Chest pain when you breath or cough
- SOB (P)
- Confusion or changes in mental awareness (P) (In patient 65 and older.)
- Cough with production of phlegm (P)
- Fever (P)
- Sweating
- Shaking chills (P)
- N/V/D

<p>defense mechanisms, activate complement and form antibodies against these organisms. This, in turn, causes inflammation of the lung parenchyma and makes the lining capillaries "leaky," which leads to exudative congestion and underlines the pathogenesis of pneumonia.</p>		
<p>4. Diagnostic Tests pertinent or confirming of diagnosis-</p> <ul style="list-style-type: none"> -Pulmonary function test (P) - Sputum culture test (P) -X-ray (P) -Blood test (P) -CT scan -ABGs -Pleural fluid culture -Bronchoscopy 	<p>5. Lab Values that may be affected-</p> <ul style="list-style-type: none"> - WBC (P) - BMP - Blood gases - CMP (P) - Blood cultures - AFB - Gram stain (P) - CO2 (P) - BUN (P) 	<p>6. Current Treatment-</p> <ul style="list-style-type: none"> - Analgesics - Antiemetic - Therapy humidified O2 (P) - Increase calorie diet - Adequate fluid intake (P) - Bed rest (P) - Pneumonia/ flu vaccine

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<p>7. Focused Nursing Diagnosis:</p> <p>Impaired gas exchange</p>	<p>11. Nursing Interventions related to the Nursing Diagnosis in #7:</p> <p>1. Maintain bed rest by planning activity and rest periods to minimize energy use. Encourage the use of relaxation techniques and diversional activities.</p>	<p>12. Patient Teaching:</p> <p>1. Teach coughing helps clear your airways. Take a couple of deep breaths, 2 to 3 times every hour. Deep breaths help open up your lungs.</p>
<p>8. Related to (r/t):</p> <p>Collection of mucus in the airway/ fluid filled alveoli and altered delivery of oxygen.</p>	<p>Evidenced Based Practice: It prevents over exhaustion and reduces oxygen demand to facilitate the resolution of infection. Relaxation techniques help conserve energy that can be used for effective breathing and coughing efforts.</p>	<p>2. Teach the correct way to use supplemental oxygen. Teach to never change flow rate without a doctors order and to always have a back up supply of oxygen at home or with you when you go out.</p>

	<p>2. Elevate the head of the bed and encourage frequent position changes, deep breathing, and effective coughing.</p>	<p>3. Teach patient to wash hand often to avoid large crowds and to encourage the pneumonia vaccine.</p>
<p>9. As evidenced by (aeb):</p> <p>Patient states “ I am having a hard time breathing” patient also has a productive cough.</p>	<p>Evidenced Based Practice: These measures promote maximum chest expansion, mobilize secretions and improve ventilation.</p>	<p>13. Discharge Planning/Community Resources:</p> <p>1. Support groups</p>
<p>10. Desired patient outcome:</p> <p>Patient will demonstrate improved ventilation and oxygenation of tissues by ABGs within patients acceptable range. Patient will maintain an O2 sat of 90 or greater before discharge 10/20/2021 at 1500.</p>	<p>3. Administer supplemental oxygen, as prescribed. Discontinue if SpO2 level is above the target range, or as ordered by the physician</p> <p>Evidenced Based Practice: The purpose of oxygen therapy is to maintain PAO2 above 60 mmHg. Oxygen is administered by the method that provides appropriate delivery within the patients tolerance.</p>	<p>2. Antibiotic compliance/ follow up with HCP</p> <p>3. Case management- home oxygen</p>

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