

# A study of clinical profile and factors associated with community acquired pneumonia at tertiary health care center

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## Abstract

**Background:** Pneumonia is one most prevalent disease among the community with greater lost as man work days  
**Aims and Objectives:** study clinical profile and factors associated with Community acquired pneumonia at tertiary health care center. **Methodology:** This was a cross-sectional study carried out in the patients who were admitted to the department of General medicine with community acquired pneumonia (CAP) at tertiary health care centre during the one year period i.e. March 2017 to March 2018. In the one year there were 56 patients with CAP were admitted with written and explained consent. All details of the patients like, age, sex, common symptoms and signs and associated morbidities if any were noted. The data was entered to excel sheet and analyzed by excel software for windows 10. **Result:** The majority of the patients were in the age group of >60 were 30.36%; followed by 50-60 were 26.79%; 40-50 were 23.21%, 30-40 were 12.50%; 20-30 were 7.14%. The majority of the patients were Male i.e. 62.50% and female were 37.50%. The most common Symptoms were Chest pain with breathing were 87.50%; followed by Fatigue in 83.93%; Cough with expectoration were 80.36%; Confusion in 57.14%; Fever with chills in 44.64%; Shortness of breath in 33.93%. The most common Signs were Fever in 94.64%; followed by Crepitation in 87.50%; Pleuritic chest pain in 76.79%; Dyspnoea in 57.14%; Cyanosis in 23.21%; Haemoptysis in 12.50%. The most common co-morbidities conditions were Diabetes in 37.50%; followed by Alcohol abuse-35.71%; in H/o Smoking in 33.93%; Old age in 30.36%; K/c/o CVD in 23.21%; H/o CRF in 16.07%; H/o Immuno-compromised disease in 8.93%. **Conclusion:** It can be concluded from our study that the majority of the patients were in the age group of >60, majority of the patients were male i.e. 62.21% the most common Symptoms were Chest pain with breathing followed by Fatigue, Cough with expectoration, Confusion, Fever with chills. The most common Signs were Fever followed by Crepitation. The most common co-morbidities conditions were Diabetes followed by Alcohol abuse H/o Smoking; Old age K/c/o CVD; H/o CRF; H/o Immuno-compromised disease etc.

**Key Word:** Community acquired pneumonia (CAP); CO-morbidities of CAP, Risk factors of CAP

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## INTRODUCTION

Pneumonia is one most prevalent disease among the community with greater lost as man work days.<sup>1</sup>

Pneumonia is broadly defined as any infection of lung parenchyma. Pneumonia is clinically divided into community acquired pneumonia (CAP) and nosocomial pneumonia. Infectious diseases Society of America defines CAP as “an acute infection of the pulmonary parenchyma that is associated with at least some symptoms of acute infection, accompanied by the presence of an acute infiltrate on a chest radiogram or auscultatory findings consistent with pneumonia in a patient not hospitalized or residing in a long-term care facility for more than 14 days before onset of symptoms.<sup>1-4</sup> So, we have done study of clinical profile and factors associated with Community acquired pneumonia at tertiary health care center.

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## METHODOLOGY

This was a cross-sectional study carried out in the patients who were admitted to the department of General medicine with community acquired pneumonia (CAP) at tertiary health care centre during the one year period i.e. March 2017 to March 2018. In the one year there were 56 patients with CAP were admitted with written and explained consent. All details of the patients like, age, sex, common symptoms and signs and associated morbidities if any were noted. The data was entered to excel sheet and analyzed by excel software for windows 10.

## RESULT

**Table 1:** Distribution of the patients as per the age

Age	No.	Percentage (%)
20-30	4	7.14
30-40	7	12.50
40-50	13	23.21
50-60	15	26.79
>60	17	30.36
Total	56	100.00

The majority of the patients were in the age group of >60 were 30.36%; followed by 50-60 were 26.79%; 40-50 were 23.21%, 30-40 were 12.50%; 20-30 were 7.14%.

**Table 2:** Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Male	35	62.50
Female	21	37.50
Total	56	100.00

The majority of the patients were Male i.e. 62.50% and female were 37.50%.

**Table 3:** Distribution of the patients as per the clinical features

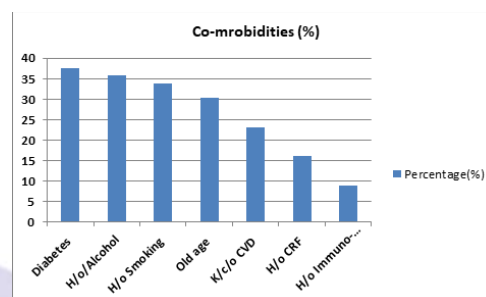
Clinical features	No.	Percentage (%)
<b>Symptoms</b>		
Chest pain with breathing	49	87.50
Fatigue	47	83.93
Cough with expectoration	45	80.36
Confusion	32	57.14
Fever with chills	25	44.64
Shortness of breath	19	33.93
<b>Signs</b>		
Fever	53	94.64
Crepitation	49	87.50
Pleuritic chest pain	43	76.79
Dyspnoea	32	57.14
Cyanosis	13	23.21
Haemoptysis	7	12.50

The most common Symptoms were Chest pain with breathing were 87.50%; followed by Fatigue in 83.93%; Cough with expectoration were 80.36%; Confusion in 57.14%; Fever with chills in 44.64%; Shortness of breath in 33.93%. The most common Signs were Fever in

94.64%; followed by Crepitation in 87.50%; Pleuritic chest pain in 76.79%; Dyspnoea in 57.14%; Cyanosis in 23.21%; Haemoptysis in 12.50%.

**Table 4:** Distribution of the patients as per the co-morbidities

Co-morbidity	No.	Percentage (%)
Diabetes	21	37.50
Alcohol abuse	20	35.71
H/o Smoking	19	33.93
Old age	17	30.36
K/c/o CVD	13	23.21
H/o CRF	9	16.07
H/o Immuno-compromised disease	5	8.93



**Figure 1:** Distribution of the patients as per the co-morbidities

The most common co-morbidities conditions were Diabetes in 37.50%; followed by Alcohol abuse-35.71%; in H/o Smoking in 33.93%; Old age in 30.36%; K/c/o CVD in 23.21%; H/o CRF in 16.07%; H/o Immuno-compromised disease in 8.93%.

## DISCUSSION

Pneumonia is an infection of pulmonary parenchyma.<sup>5</sup> It is a major cause of morbidity and mortality with an incidence of 20-30% in the developing countries and 3-4% in developed countries.<sup>6</sup> Since pneumonia is not a reportable illness its incidence is based on crude estimates. It is estimated that India, Nepal, Bangladesh and Indonesia account for 40% of global acute respiratory infections.<sup>7</sup> pneumonia and enteric fever was found to be the main cause of fever.<sup>8</sup> Community acquired pneumonia (CAP) is the leading cause of death due to infectious diseases in the United states.<sup>9</sup> Mortality ranges from about 5-35% with a worse prognosis in older people, men, and people with chronic diseases.<sup>10</sup> Despite the advances in diagnostic techniques, in approximately 50% of the cases, etiology is not found.<sup>10</sup> The study carried out by Rehab H El-Sokkary included 270 adult patients diagnosed with CAP. Smokers represented (52.5%) of cases. Smoking is a reported risk factor for CAP. It increases the susceptibility to respiratory infection through disturbance of the host defense mechanisms. The association between smoking habits and CAP development was confirmed in previous studies.<sup>11</sup> Co-morbid conditions were present in 40% of

patients. Diabetes mellitus was the most common comorbidity followed by hypertension and ischemic heart diseases. Similar co-morbidities were previously reported.<sup>12</sup> This highlights chronic debilitating conditions, particularly diabetes, as risk factors in CAP. In our study we have found that The majority of the patients were in the age group of >60 were 30.36%; followed by 50-60 were 26.79%; 40-50 were 23.21%, 30-40 were 12.50%; 20-30 were 7.14%. The majority of the patients were Male i.e. 62.50% and female were 37.50%. The most common Symptoms were Chest pain with breathing were 87.50%; followed by Fatigue in 83.93%; Cough with expectoration were 80.36%; Confusion in 57.14%; Fever with chills in 44.64%; Shortness of breath in 33.93%. The most common Signs were Fever in 94.64%; followed by Creptitation in 87.50%; Pleuritic chest pain in 76.79%; Dyspnoea in 57.14%; Cyanosis in 23.21%; Haemoptysis in 12.50%. The most common comorbidities conditions were Diabetes in 37.50%; followed by Alcohol abuse-35.71%; in H/o Smoking in 33.93%; Old age in 30.36%; K/c/o CVD in 23.21%; H/o CRF in 16.07%; H/o Immuno-compromised disease in 8.93%. These findings are similar to<sup>13,14,15</sup> Risk of severe pneumonia, empyema, and septicemia is linked with comorbidities. For patients with CAP, diabetes mellitus is one of the most common underlying diseases that may be associated with other comorbidities and complications. Initially, diabetic morbidity was linked to altered immune responses, but now it is proposed to be due to worsening of preexisting cardiovascular and kidney diseases. Similarly, alcoholism may be linked to more severe pneumonia which is associated with septicemia and mortality.

## CONCLUSION

It can be concluded from our study that the majority of the patients were in the age group of >60, majority of the patients were male i.e. 62.21% the most common Symptoms were Chest pain with breathing followed by Fatigue, Cough with expectoration, Confusion, Fever with chills. The most common Signs were Fever followed by Creptitation. The most common co-morbidities conditions were Diabetes followed by Alcohol abuse H/o Smoking; Old age K/c/o CVD; H/o CRF; H/o Immuno-compromised disease etc.

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