ORIGINAL RESEARCH

Evaluation of cases of community acquired pneumonia

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ABSTRACT
Background: The term "community-acquired pneumonia" (CAP) refers to an acute lung infection that manifests outside of a hospital setting in a patient who has not recently undergone hospitalisation. The present study was conducted to assess cases of community acquired pneumonia. **Materials & Methods:** 60 patients of community acquired pneumonia (CAP) of both genders were selected. CURB-65 parameters such as mental status, respiratory rate, blood pressure and BUN was recorded. **Results:** Out of 60 patients, males were 35 and females were 25. Age >65 years was seen among 20 and <65 in 40, blood pressure >90/60mm Hg was seen in 10 and <90/60mm Hg in 50, respiratory rate <30breaths/minutes was seen in 10 and >30breaths/minutes in 50. BUN >7mmol/L was seen in 25 and <7mmol/L in 50 patients, mental status was altered in 18 and oriented in 42. The difference was significant (P< 0.05). Patients who were given crystalline penicillin, 82% survived and 12% died. Incrystalline penicillin+ chloramphenicol, 94% survived and 6% died. In Crystalline penicillin+ gentamicin, 8% survived and 92% died, in ceftriaxone, 65% survived and 35% died and in cotrimoxazole, 72% survived and 28% died.The difference was significant (P< 0.05). **Conclusion:** For older persons, CAP continues to be a major source of morbidity and mortality. An early intervention could avert disastrous consequences.
Key words: Community-acquired pneumonia, Sputum, fever

INTRODUCTION

The term "community-acquired pneumonia" (CAP) refers to an acute lung infection that manifests outside of a hospital setting in a patient who has not recently undergone hospitalisation.[1] According to reports in the medical literature, pneumonia is commonly described as a new (albeit it should be specified as "newly recognised") pulmonary infiltration on a chest X-ray or computerised tomography (CT) together with at least two of the following findings: Shortness of breath, sputum production, pleuritic chest discomfort, fever or hypothermia, oxygen desaturation, disorientation, leucocytosis, or leukopenia are all signs of an infection.[2]

CAP may manifest in older persons with less obvious symptoms. Streptococcus pneumoniae, Mycoplasma pneumoniae, Chlamydia pneumoniae, Haemophilus influenzae, and influenza viruses are the five most frequent causes of CAP. The most frequent cause worldwide is Streptococcus pneumoniae.The diagnosis of pneumonia is aided by a combination of the clinical history, physical examination, and/or laboratory investigations.[3] A chest X-ray (CXR), which can identify pneumonia from other respiratory tract illnesses, is thought to be the gold standard method for diagnosing pneumonia.Other diagnostic procedures such blood cultures, serology, computed tomography scans (CT scans), and laboratory tests like the white blood cell count (WBC), erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and procalcitonin have been reported with varying degrees of accuracy.[4,5]The present study was conducted to assess cases of community acquired pneumonia.

MATERIALS & METHODS

The present study comprised of 60 patients of community acquired pneumonia (CAP) of both genders. All patients gave their written consentto participate in the study.
Data such as name, age, gender etc. was recorded. CURB-65 parameters such as mental status, respiratory rate, blood pressure and BUN was recorded. Parameters such as duration of hospital stay, antibiotic use, status at discharge etc. was recorded. In management of cases, Ceftriaxone, Cotrimoxazole,

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Crystalline penicillin, gentamicin and chloramphenicol were used Results thus obtained were analysed statistically. P value < 0.05 was considered significant.

RESULTS
Table I Distribution of patients

Total- 60		
Gender	**Males**	**Females**
Number	35	25

Table I shows that out of 60 patients, males were 35 and females were 25.

Table II Measurement of CURB-65 parameters

Parameters	Variables	Number	P value
Age (years)	>65	20	0.02
	<65	40	
Respiratory rate (breaths/min)	<30	10	0.01
	>30	50	
Blood pressure (mm Hg)	>90/60	7	0.01
	<90/60	53	
BUN (mmol/L)	>7	25	0.92
	<7	35	
Mental status	Altered	18	0.05
	oriented	42	

Table II, graph I shows that age >65 years was seen among 20 and <65 in 40, blood pressure >90/60mm Hg was seen in 10 and <90/60mm Hg in 50, respiratory rate <30breaths/minutes was seen in 10 and >30breaths/minutes in 50. BUN >7mmol/Lwas seen in 25 and <7mmol/Lin50patients, mental status was altered in 18 and oriented in 42. The difference was significant (P< 0.05).
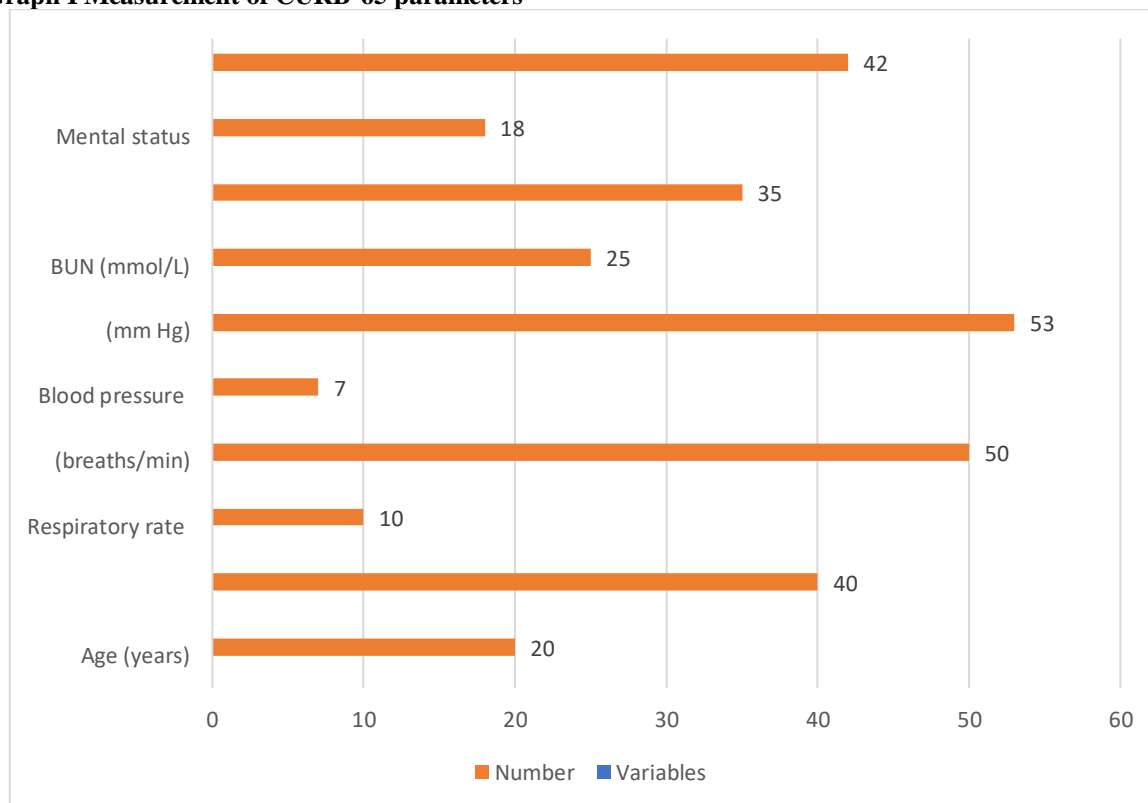
Graph I Measurement of CURB-65 parameters

Table III Administered antibiotic versus mortality among CAP patients

Antibiotics	Survived	Died	P value
Crystalline penicillin	82%	18%	0.02
Crystalline penicillin+ chloramphenicol	94%	6%	0.01

Crystalline penicillin+ gentamicin	8%	92%	0.01
Ceftriaxone	65%	35%	0.05
Cotrimoxazole	72%	28%	0.03

Table III, graph II shows that patients who were given crystalline penicillin, 82% survived and 12% died. Incrystalline penicillin+ chloramphenicol, 94% survived and 6% died. In Crystalline penicillin+ gentamicin, 8% survived and 92% died, in ceftriaxone, 65% survived and 35% died and in cotrimoxazole, 72% survived and 28% died.The difference was significant (P< 0.05).

Graph II
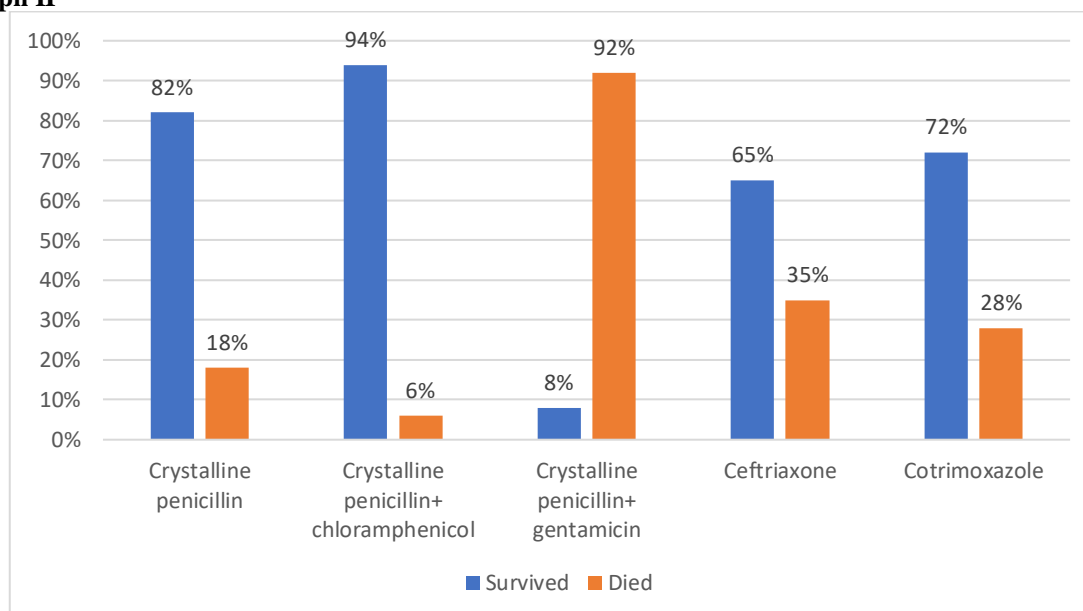
DISCUSSION

In industrialised nations, community-acquired pneumonia (CAP) continues to be a major source of morbidity and mortality.[6] The annual incidence of CAP in the general adult population ranges from 1.6 to 13.4 cases per 1,000 people, with a mortality of 3-24% and a need for inpatient care of 22–51%. Each year, the death rate fluctuates between 0.1 and 0.7 per 1,000 people.[7,8] The mortality rate from CAP has not decreased over the past few decades, despite extensive study, significant advancements in medical care, and developments in antimicrobial therapy with the availability of active medicines against the identified causal microorganisms.[9] The main component in lowering CAP-related death rates is targeted risk reduction actions based on knowing and recognising CAP risk factors.[10]The present study was conducted to assess cases of community acquired pneumonia.

We found that out of 60 patients, males were 35 and females were 25.Bochud et al[11] in their study evaluate the causes, symptoms, and prognosis of community-acquired pneumonia. No etiologic agent could be identified in 78 (46%). 107 etiologic agents were found to be responsible for the remaining 92 patients: 39 "pyogenic" bacteria (Streptococcus pneumoniae, 3 Haemophilus species, and 1 Streptococcus species), 39 "atypical" bacteria (24 Mycoplasma pneumoniae, 9 Chlamydia pneumoniae, 4 Coxiella burnetii, 2 Legionella species), and 25 viruses (20 influenza viruses and 5 other respiratory viruses).Among the various etiologic categories, there were only a few statistically significant clinical differences (higher age and comorbidities in viral or episodes of unknown aetiology, higher neutrophil counts in "pyogenic" episodes, more frequent bilateral and interstitial infiltrates in viral episodes). Two deaths occurred, both in individuals who were 83 and 86 years old and had a number of comorbidities. Just 14 patients (8.2%) needed to be hospitalised. The pneumonia episode revealed a local neoplasia in 6 patients (3.4%). The results of this study demonstrated that the majority of patients with community-acquired pneumonia recover well and can be properly treated in an outpatient environment.

We found that age >65 years was seen among 20 and <65 in 40, blood pressure >90/60mm Hg was seen in 10 and <90/60mm Hg in 50, respiratory rate <30breaths/minutes was seen in 10 and >30breaths/minutes in 50. BUN >7mmol/L was seen in 25 and <7mmol/L in 50 patients, mental status was altered in 18 and oriented in 42. Viegi G et al[12] in their study six hundred and ninety-nine case forms— 53.1% female, 59.6+/-19.5 years old on average, 20.6% a smoker—were gathered. Men had a higher CAP incidence rate per 1000 people than women did, 2.33 in Italy's north compared to 1.29 in the center-south, and 0.73 to 3.34 among respondents aged 14 to 64 or older. Cough (73.3%), crackles (72.8%), dullness (57.3%), and asthenia (53.4%) were the main symptoms and signs. 59.5% of the participants had

other conditions, predominantly respiratory and cardiac. Chest X-rays were performed in 77.2% of cases (90.6% had parenchymal density). In 12.8% of instances, a phlegm microbiological analysis was done. Cephalosporins (45.8%), macrolides (20.2%), other beta-lactams (18.6%), and fluoroquinolones (12.2%) were the antibiotics of choice. Hospitalisation rates were 31.8% and death rates were 6.0%, respectively.

We found that patients who were given crystalline penicillin, 82% survived and 12% died. Incrystalline penicillin+ chloramphenicol, 94% survived and 6% died. In Crystalline penicillin+ gentamicin, 8% survived and 92% died, in ceftriaxone, 65% survived and 35% died and in cotrimoxazole, 72% survived and 28% died.Almiral et al[13]twenty-nine studies were selected, with 44.8% of them focused on elderly subjects $\geq$ 65 years of age and 34.5% on mixed populations. The median quality score was 7.44. Age, smoking, environmental exposures, malnutrition, previous CAP, chronic bronchitis/chronic obstructive pulmonary disease, asthma, functional impairment, poor dental health, immunosuppressive therapy, oral steroids, and treatment with gastric acid-suppressive drugs were definitive risk factors for CAP. Some of these factors are modifiable. No conclusive conclusion could be drawn about other factors (such as gender, obesity, alcohol consumption, recent respiratory tract infections, pneumococcal and influenza vaccination, inhalation therapy, swallowing problems, renal and hepatic dysfunction, diabetes, and cancer). Early identification and reversal of modifiable risk factors may lower morbidity and death in adult CAP patients, especially in the elderly.

The limitation the study is small sample size.

CONCLUSION

Authors found that for older persons, CAP continues to be a major source of morbidity and mortality. An early intervention could avert disastrous consequences.

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