Assessment of Current Status of Pneumoniain Chittagong, Bangladesh.

Abstract

Pneumonia is a form of acute respiratory tract infection (ARTI) that affects the lungs.The populations most at risk for pneumonia are children under five years, people aged 65 or over, and people with pre-existing health problems. Pneumonia affects approximately 450 million people globally resulting in about 4 million deaths per year.Pneumonia has many possible causes, but the most common are bacteria and viruses. While data collection on hypertension in resource poor environments has been improving through the use of standardized surveys, little is known about the how well treatments are being applied. Knowledge of gaps in diagnosis, Treatment pattern, proper vaccination and practicing good health is necessary if appropriate illness management are to developed. Using a community based sample has been taken from Chittagong Medical College Hospital, Chittagong and from the Chittagong port city, Studied through some questions ask to the suspicious patients and patients guardian. Randomized sampling methods were used to identify of different ages from different wards and areas of CMCH and Chittagong port city. Using World Health Organizations guidelines, data were collected on Subject's demographics, medical history, blood pressure and health behaviours. The Study was conducted on 500 pneumonia patients at the Chittagong Medical College Hospital and Chittagong port city between 23 October 2021 to 8 December 2021, total 7 weeks. This Survey was done by a structured questionnaire written in Bangla and English. This questionnaire was used to collect the data from the patients. Questions were asked to the patients and also patients guardians and finally answers of the patients were inserted into the Data Collection.

Introduction

Pneumonia is a form of acute respiratory tract infection (ARTI) that affects the lungs. When an individual has pneumonia, the alveoli in the lungs are filled with pus and fluid, which makes breathing painful and limits oxygen intake. Pneumonia has many possible causes, but the most common are bacteria and viruses (1). The most common pathogens are *Streptococcus pneumoniae*, *Haemophilusinfluenzae* type b (Hib), and respiratory syncytial virus (RSV). *S. pneumoniae* is the most common cause of bacterial pneumonia in children under five years in the developing world. The second most common cause of bacterial pneumonia in children is Hib, followed by RSV the most common cause of viral pneumonia in children under two years (2). The populations most at risk for pneumonia are children under five years, people aged 65 or over, and people with pre-existing health problems. Pneumonia affects approximately 450 million people globally resulting in about 4 million deaths per year (3).According to UNICEF/WHO Pneumonia is caused by bacteria, viruses or fungi, and leaves children fighting for breath as their lungs fill with pus and fluid. It is the biggest single killer of children, claiming the lives of 800,000 children last year, or 1 child every 39 seconds.Forecasts show 6.3 million children under the age of five could die from pneumonia between 2020 and 2030, on current trends. It should also be noted that pneumonia is one of the leading causes of deaths for children under the age of 5. In Bangladesh, pneumonia took the lives of around 17,000 children

under the age of 5 in 2016. Two children die every hour in our country due to pneumonia (4). Newborn babies usually get more attention in the treatment procedure, but we must concentrate on other ages as well. Bangladesh ranked 14th in the list of total 15 countries who were listed for the high number of deaths due to pneumonia, followed by its South Asian neighbors India, ranked second with 127,000 and Pakistan, ranked third with 58,000 child deaths (5). The report further stated that pneumonia was the third major cause of child deaths in 2017 in Bangladesh. This infectious disease was responsible for the deaths of four children under five in 1,000 live births in 2018 (6).Bangladesh, pneumonia is responsible for around 28% of the deaths of children under five years of age. Around 50,000 children die of pneumonia every year. An estimated 80,000 children less than five years of age are admitted to hospital with virus-associated acute respiratory illness each year; the total number of infections is likely to be much higher (7). Pneumonia was the leading cause of death found in of all deaths of children aged 5 to fewer months. Children who died from pneumonia were predominantly infants, with those aged less than 6 months being particularly at a higher risk. Report are revealed that most of the death caused by knowledge gaps in healthcare utilization by guardians of ill children in a rural community of Bangladesh (8). Only a few children received treatment or children who died from pneumonia had a prolonged duration of illness before death (9). A trend of delayed care seeking (≥ 2 days) after the onset of disease was noted in children who died from pneumonia rather than other causes. A children who died from pneumonia sought treatment from multiple sources more often before death than children who died from other causes (10). Altogether findings suggest that children who died from pneumonia had a time window between onset of symptoms and death, in which appropriate treatment could have been delivered to reduce the risk of death. However, in most cases, appropriate action was not taken during this critical timing (11).

Aims of The Study

The Aim of this research is:

- ➢ To find out the present scenario of pneumonia treatment in Chittagong port City Area, Bangladesh
- ➢ To analyze sign & symptoms, causes, effects of pneumonia.
- ➢ This Study aims to examine people's knowledge, ideas awareness regarding pneumonia diseases and also measures to be taken to prevent it.
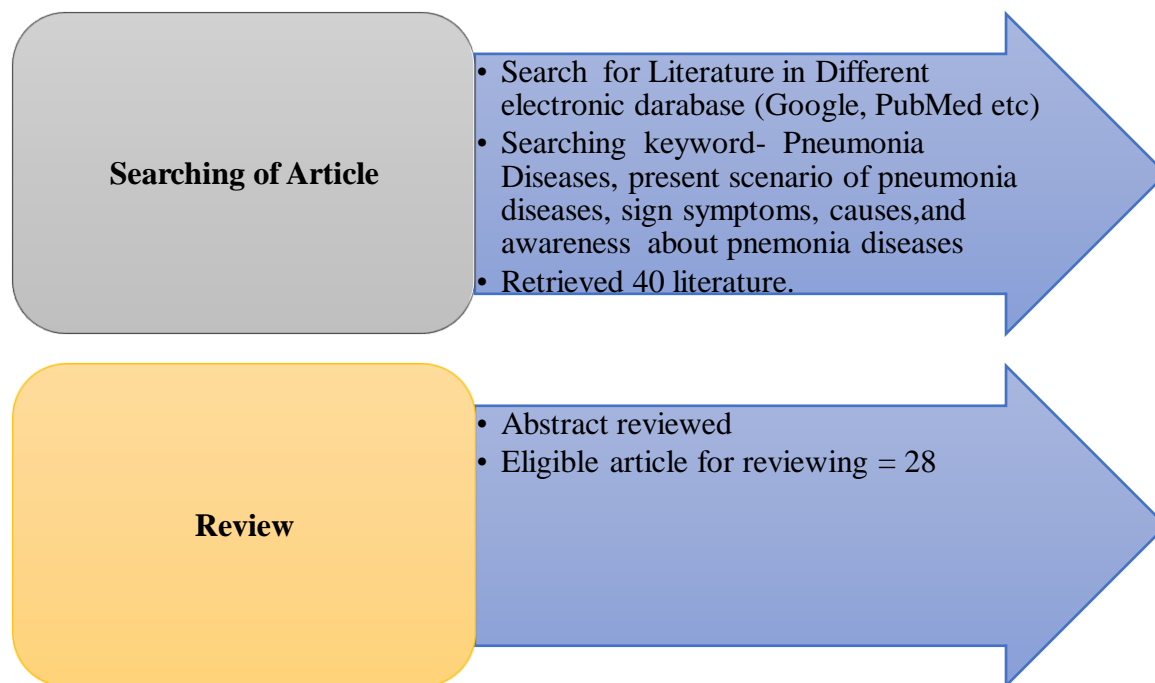
Materials And Methodology

Studied published papers on present scenario of pneumonia Diseases and the awareness of pneumonia diseases that are published at authorized Journals.

After that, This survey study were based on sample of 500 in patients Who were diagnosed with pneumonia diseases seeking care in Chittagong medical College Hospital, Bangladesh.

A Self reported Questionnaire written in bangla & english was employed to collect data during this survey. Circulate the questionnaire through the patient's guardians And Data analysis and preparation of Report according to the responses.

Searching of Article	• Search for Literature in Different electronic darabase (Google, PubMed etc) • Searching keyword- Pneumonia Diseases, present scenario of pneumonia diseases, sign symptoms, causes,and awareness about pnemonia diseases • Retrieved 40 literature.
Review	• Abstract reviewed • Eligible article for reviewing = 28

1. This was a Cross sectional, observational study carried out in the Chittagong Medical college and hospital, Bangladesh. After obtaining approval from the University authority, consulted and taken permission from the Managing director of Chittagong Medical College hospital, started to conducted this Survey Study. Quantitative and Qualitative information Get From pneumonia patients hospitalized in Chittagong medical college, Hospital.

2. This Survey indicates the present Patients Health conditions, complications, possible sign, symptoms, causes, risk factors, and also which Drug are administered for pneumonia patients, how long to recover the patients from this diseases.

3. This survey was also done by bodily going to places and asking questions to the patient guardians. Medical prescriptions, medications chart, and hospital records were also accessed and matched with patient data obtained through the interview.

4. The Survey was conducted from 23 October 2021 to 8 December2021 total 7 weeks. Safety measures were taken During this survey and the result were prepared according to the responses.

Result & Discussions

Pneumonia is the Single largest infectious causes of death in Children Worldwide. Preventing Pneumonia in Children is an essential component of a strategy to reduce Child Mortality. This Survey based on current scenario of Pneumonia Diseases by evaluating the awareness of the Sign, Symptoms, causes, Preventions of Pneumonia. Here the Assessment has been done on the 500 responses that has been Submitted by the Patients and Patients Guardians. The Result in Demographic table and charts are shown and discussed here below:
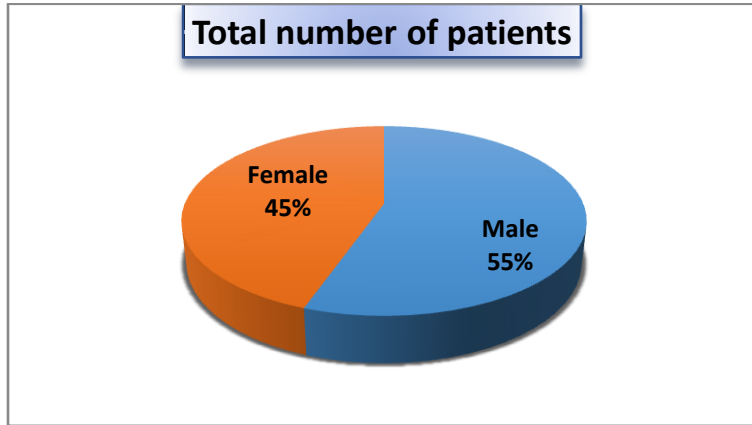
Gender-

Total number of patients

Figure 5.1 – Gender of theParticipants

Total number of patients	500
Male	277
Female	223

Discussions: The figure shows that out of 500 Study participants, 277 (55%) were male and 223 (45%) were Female.

Economic Condition-

Economic Conditions	500
Rich	40
Poor	300
Middle class	160

Economic Condition

Rich 8%
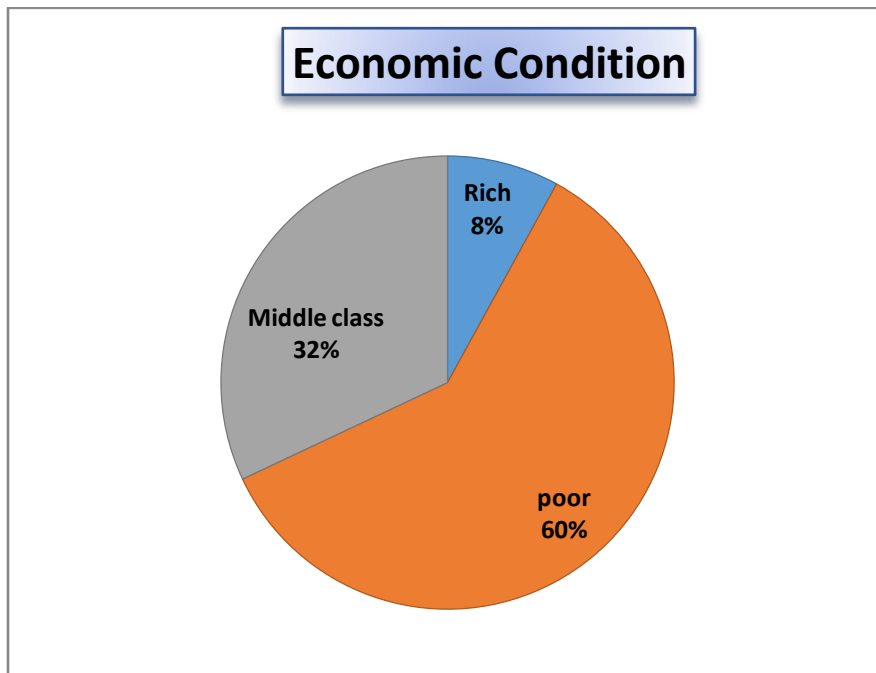
Middle class 32%

poor 60%

Figure 5.2 – Economic Condition Of the Participants

Discussion : This figure shows that out of the 500 participants the economic condition of the Rich- 40(8%), Middle class- 160 (32%), and Poor -300 (60%).

Age Distribution:

Age range	Number of patients
0 to 1years	385
2 to 3 years	38
3 to 4 years	25
4 to more	52

Age Of Patients

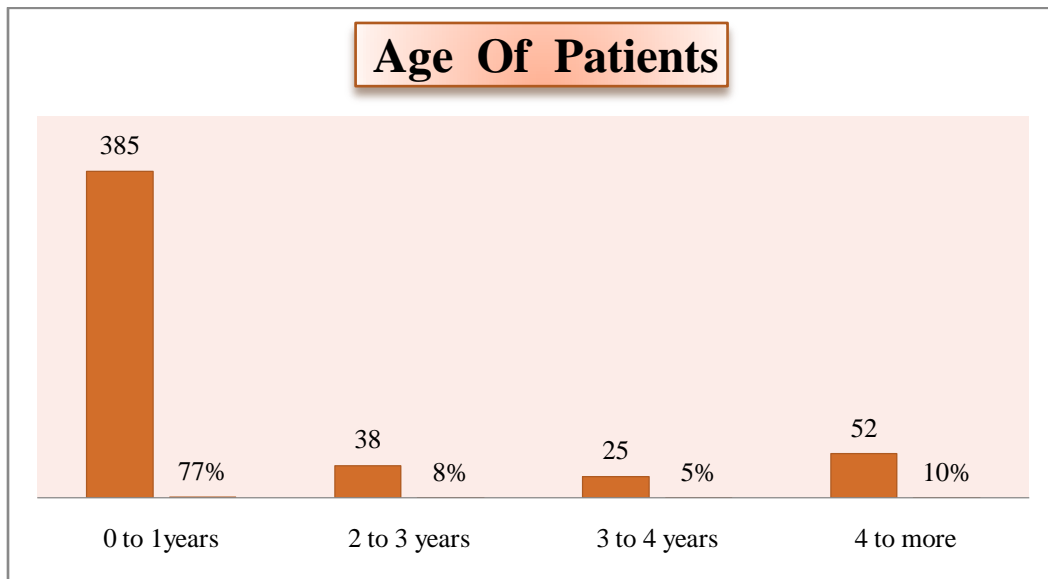|			
385			
	38	25	52
77%	8%	5%	10%
0 to 1years	2 to 3 years	3 to 4 years	4 to more

Figure 5.3 - Age of the Participants

Discussion: This Figure shows that the participants were divided into catagories based on their age differences. Most of the participants (n=385, 77%) were aged 0-1 years, (n=38, 8%)Were aged 2-3 years, (n=25, 5%) Were Aged 3-4 years and the other participants were (n=52, 10%) were aged at 4- more years.

Primary Causes of Pneumonia Diseases-

Total number of patients	Guardian Opinion (500)
Yes	335
No	165

Bacteria and viruses are primary cause of pneumonia
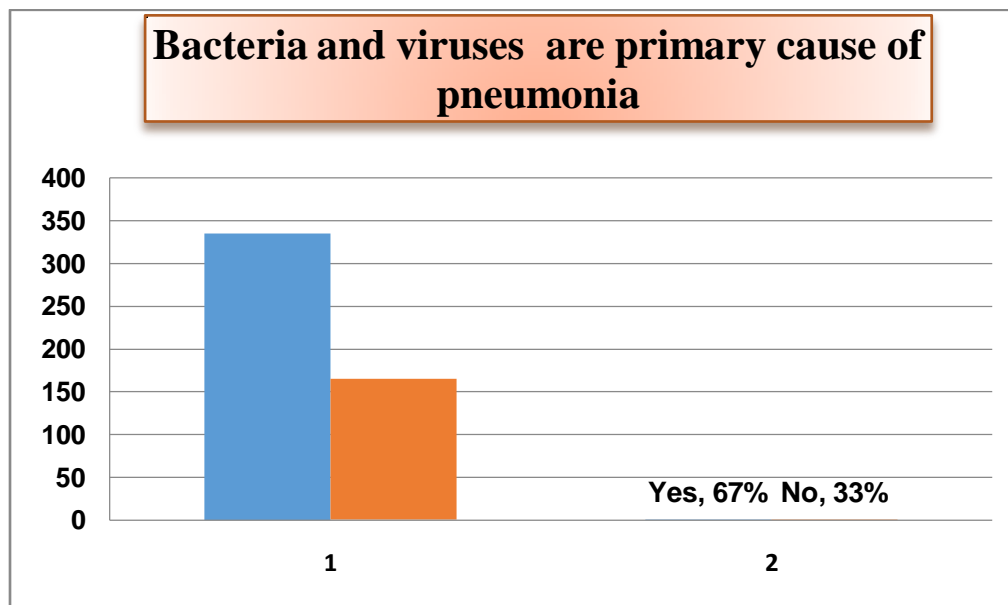
Yes, 67% No, 33%

Figure 5.4-Primary Causes of Pneumonia Diseases

Discussion: We know that Bacteria and viruses are the primary causes of pneumonia. This figure shows that out of 500 participants patient guardians (335, 67%) replied positively and they know about it and (165, 33%) replied that they did not about it.

Possible causes of pneumonia :

Possible causes of pneumonia	Total Patients (500)
Cigerates	65
Bacteria	292
Fungi	123
Liquor	90

The possible causes of pneumonia

■ Cigerates ■ Bacteria ■ Fungi ■ Liquor
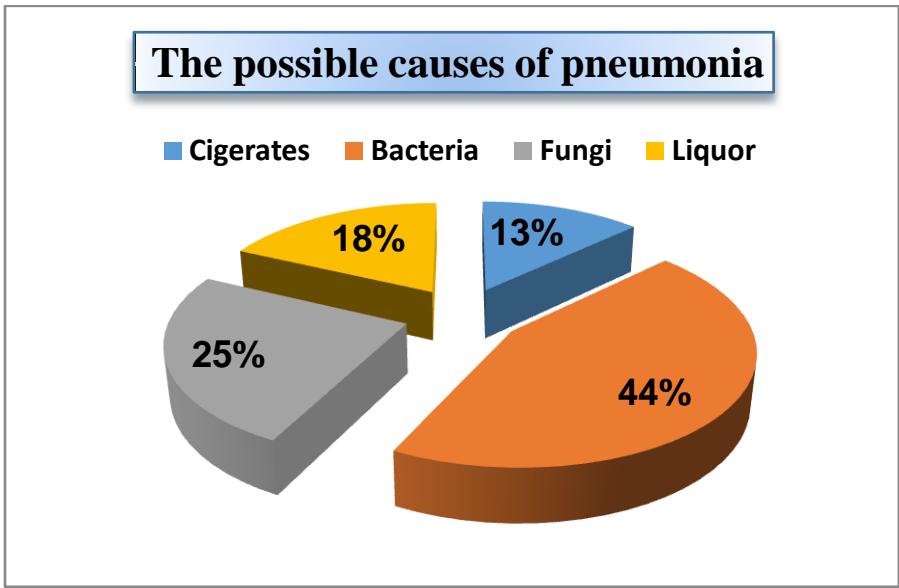
13%
18%
25%
44%

Figure 5.5- Possible Causes of pneumonia diseases

Discussion: This Figures shows that Out of 500 participants about (65, 13%) Patients suffer from pneumonia due to intake of cigerates, patients were (292, 44%) suffer from due to Bacteria infections, patients were (123, 25%) suffers from pneumonia due to Fungi infection, and patients were (90, 18%) suffer from this diseases due to infection of liquor.

Possibility of Higher risk of having pneumonia.

Higher risk of having pneumonia	Total patients (500)
Alcohol abusers	50
Malnourished people	27
Smoker	162
None of the Above	261

Possibility of higher risk of pneumonia

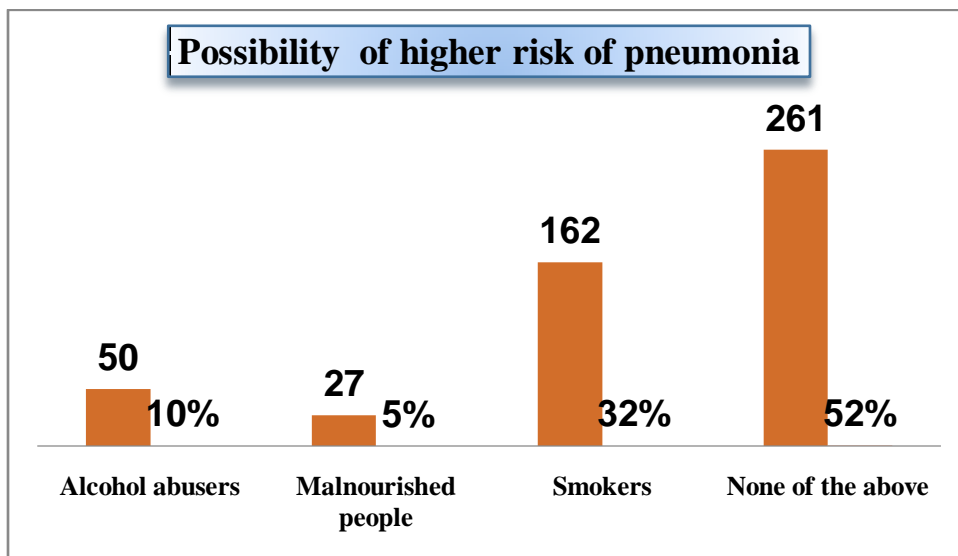|			
50	27	162	261
10%	5%	32%	52%
Alcohol abusers	Malnourished people	Smokers	None of the above

Figure5.6 - Possibility of having higher risk of pneumonia

Discussion: It's true that patients of all ages can get pneumonia . with that said, this figure shows that some were more at risk than others like Alcohol abuser were(50, 10%), Malnourished people were (27, 5%), Smokers were (162, 32 %), and none of the above this category were (262, 52%) out of 500 participants.

Effects of pneumonia into the Human body-

Effects of pneumonia into the Human Body	Number of patients (500)
Get Sick	32
Weaken Immune System	145
Causes death	50
All of the above	273

Pneumonia effects to the body

- Get sick
- Weaken immune system
- Causes death
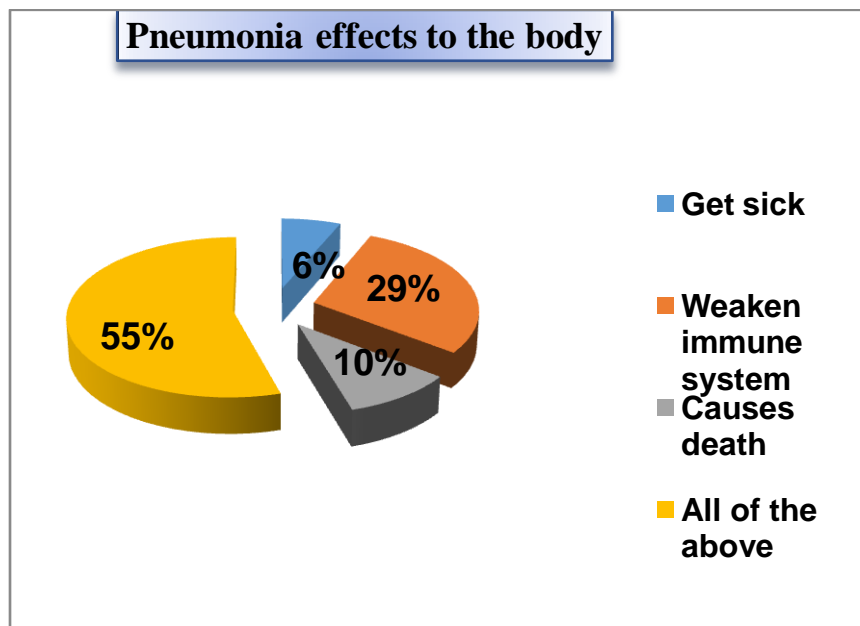- All of the above

6% 29% 10% 55%

Figure 5.7- Effects of pneumonia into the human body

Discussion: Having pneumonia is not a joke, Its makes more complications in our human body. This figure shows that Patients were get sick (6%), Patients with suffer weaken immune system (29%), and also causes death were (10%), and most of patients face all of the effects were (55%) due to pneumonia diseases Out of 500 participants.

Possible Symptoms of Pneumonia diseases.

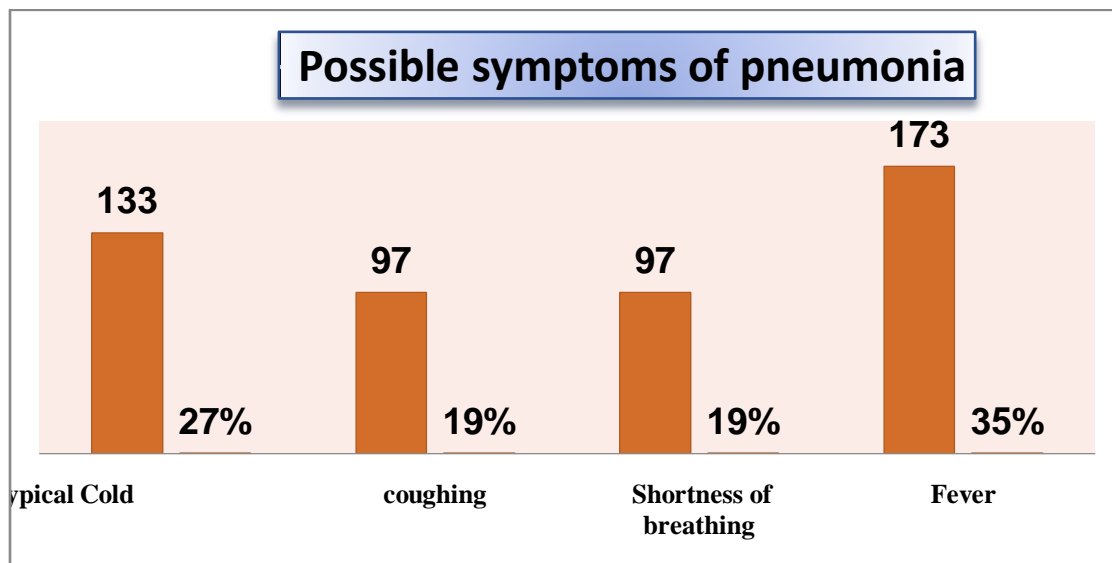| Possible Symptoms	Number of patients
Typical cold	133
Coughing	97
Shortness of breathing	97
Fever	173

Figure 5.8- Possible symptoms of pneumonia diseases

Discussion: This figure shows that the possible symptoms of pneumonia were typical cold which we found (27%), coughing which were (19%), Shortness of breathing were (19%), and the most common symptoms were fever which we found (35%), out of 500 participants.

Another Symptoms of pneumonia diseases.

Another Symptoms of Pneumonia	Number of patients (500)
Chest pain	112
Feeling tired	220
Shaking	73
Vomiting	95

Another symptoms of pneumonia

Chest pain	Feeling tired	Shaking	Vomiting
112	220	73	95
22%	44%	15%	19%
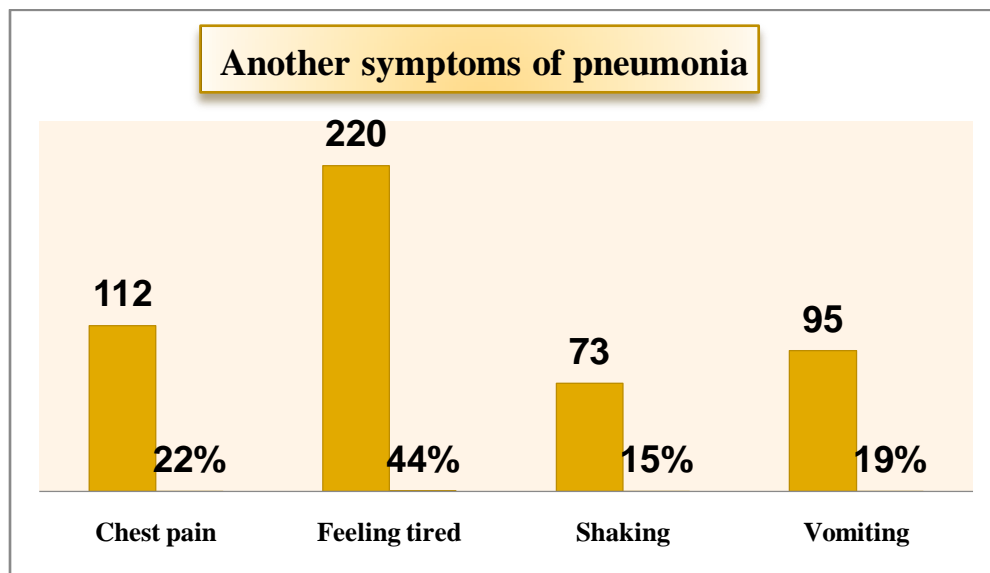
Discussions: This figure shows that another symptom we found in pneumonia patients that was Chest pain were (22%), Feel tired most common symptoms which were (44%), shaking symptoms of patients which were found (15%), and Vomiting which occurs (19%) Out of 500 participants.

Steps of preventions of pneumonia diseases

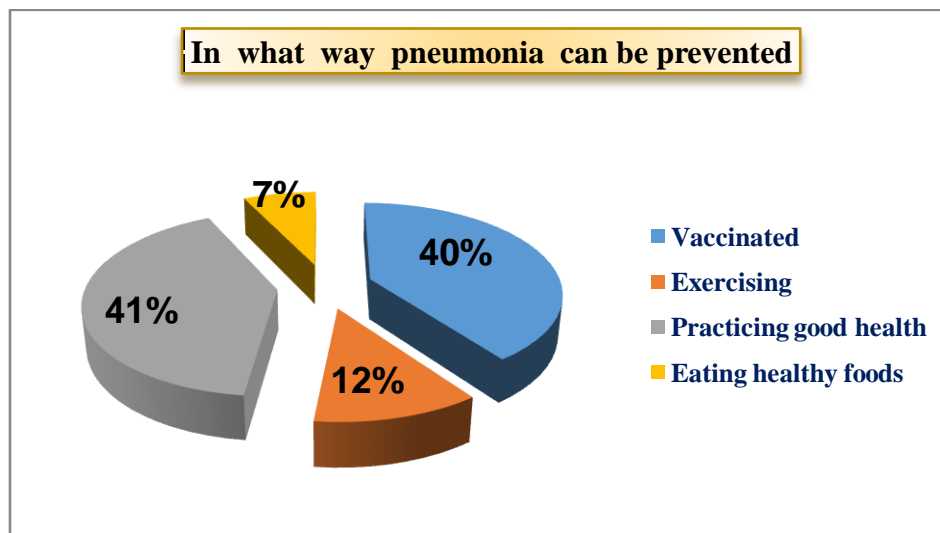| Steps of Prevention of pneumonia	Number of patients(500)
Vaccinated	200
Exercising	59
Practicing Good health	205
Eating healthy food	36

Figure 5.10 - Steps for prevention of pneumonia diseases

Discussion: By Getting Well and Prevention of pneumonia diseases doctor suggests patients some proper rules which we found in this figure, this steps were Vaccinated (40%), Exercising(12%), Practicing Good health (41%), and also Eating Healthy foods which were (7%) Out of 500 participants.

Conclusion

This is the brief Study Conducted in Chittagong Medical College Hospital that assessed Pneumonia patients to recovery complications. Most respondents did not know about the signs and symptoms of pneumonia. For the few who have heard about pneumonia, causes were largely attributed to coming into contact with cold temperature in various forms. Management practices mostly were self-treatment with home remedies and allopathic care. Adequate measures needs to be taken to create the awareness to improve care seeking behaviour. The lower awareness and inadequate recognition of pneumonia implies that affected Children may not receive prompt and appropriate treatment as their caregiver may misdiagnose the illness. Adequate measures needs to be taken to create the needed awareness to improve care seeking behavior. We assume that the outcomes of this study will work as a baseline for future studies in the same context

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