Pattern of Nosocomial Pneumonia in Intensive Care Unit Patients

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Abstract:

   This descriptive type of cross sectional study was conducted to assess pattern of nosocomial pneumonia in intensive care unit patients in selected hospitals of Dhaka city with conveniently selected sample size of 115. A pretested semi structured self administered questionnaire was used to collect the data. Mean age of the respondents was 41.40+25.65 years. Most of the respondents (67%) were male. Majority of the respondents (56%) education level were primary. About 36% and 28% of the respondents were student and retired person. More than half of the respondents were from lower class in terms of income. More than half of the respondents suffered from streptococcus pneumonia. Left lung was affected among 53.9% respondents followed by right lung (46.1%). Right lower lobe was affected among 40.9% respondents. This study expected to disseminate the findings of to take necessary steps to minimize the pneumonia among the ICU patients. Streptococcus pneumonia was very common. Left lung was affected more than right lung. Right lower lobe was affected more.

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Key words: Nosocomial Pneumonia, Intensive Care Unit Patients

Introduction

Pneumonia is an acute respiratory illness associated with recently developed radiologic pulmonary shadowing which is either segmental or affecting more than one lobe.[1] Pneumonia is an infection of the lungs that is caused by bacteria, viruses, fungi, or parasites. At times a very serious condition, pneumonia can make a person very sick or even cause death. Although the disease can occur in young and healthy people, it is most dangerous for elderly patients, babies, and people with other diseases or impaired immune systems.[2] An Intensive Care Unit (ICU) is a special facility within a hospital that is dedicated to treating patients who are critically ill. The patients may be experiencing multiple organ failure, respiratory arrest, or other serious problems that require intensive monitoring. The staff are specially trained to administer critical care, and there are sometimes several staffers assigned to each patient to ensure that patients get the care they need.[3] Pneumonia can make a person very sick or even cause death. Pneumonia is the second most common nosocomial infection in intensive care units and its mortality rate is very high. The purpose of this study was to assess pattern of nosocomial pneumonia in intensive care unit patients.

Methodology

This descriptive type of cross-sectional study was conducted to assess pattern of nosocomial pneumonia in intensive care unit patients. The study population was consisted of male and female who admitted in ICU in National Institute of Diseases of the Chest and Hospital (NIDCH) and Metropolitan Medical Centre Limited both were situated at Mohakhali of Dhaka city. The study period was conducted for four months started from

September 2013 to December 2013. Due to shortage of budget and time limitation researcher took 115 samples. Convenient sampling technique is done in case of ICU admitted patients. Data were collected by face to face interview of service provider and from patient's record.

Table 1: Distribution of the respondents by age (n=115)

Age	Frequency	Percent
1-20	38	33.0
21-40	8	7.0
41-60	46	40.0
61-80	23	20.0
Mean $\pm$ SD	41.40±25.65	

Table 1 shows that 40%, 33%, 20% and 7% of the respondents belongs to age of 41-60, 1-20 ,   61-80 and 21-40 years respectively with mean age 41.40 $\pm$ 25.658 years.
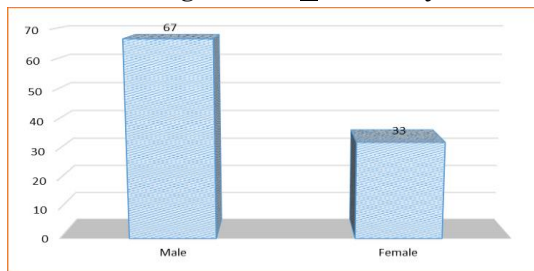

Figure 1: Distribution of the respondents by sex (n=115)

Figure no. 1 shows that 67% were male and rest of them were female.
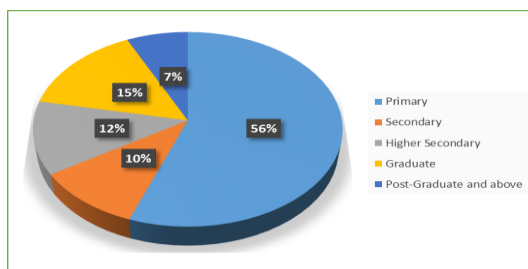

Figure 2: Distribution of the respondents by education (n=115)

Figure no. 2 reveals that majority of the respondents (56%)
education level were primary followed by 15% , 12%, 10% and
7% were secondary, higher secondary, graduate and post
graduate respectively.

Table 2: Distribution of the respondents by occupation (n=115)

Occupation	Frequency	Percent
Student	41	35.7
Service holder	13	11.3
Employer	4	3.5
Worker	25	21.7
Retired person	32	27.8
Total	115	100.0

Table no. 2 shows that 35.7% were student followed by 27.8%,
21.7%, 11.3%, 3.5% were retired person, worker, service holder
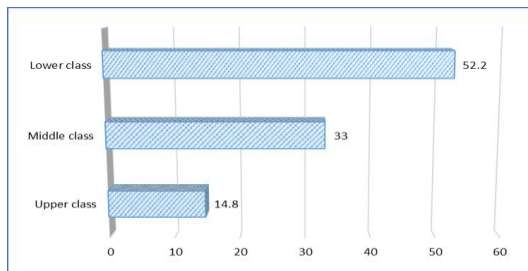and employer respectively.

**Figure 3: Distribution of the respondents by socio economic
condition (n=115)**

Figure no. 3 shows 52.2%, 33% and 14.8% was lower class,
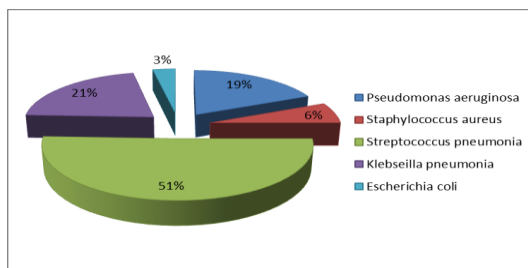middle class and upper class respectively.

**Figure 4: Distribution of the respondents by growth of common
organisms**

Figure no. 4 shows that distribution of streptococcus pneumonia, klebseilla pneumonia, pseudomonas aeruginosa, staphylococcus aureus and escherichia coli were 51%, 21%, 19%, 6% and 3% respectively.

Table 3: Distribution of the respondents by affected side (n=115)

Affected side	Frequency	Percent
Right Lung	53	46.1
Left Lung	62	53.9
Total	115	100.0

Table no. 3 reveals that left lung was affected among 53.9% respondents followed by right lung (46.1%).

Table 4: Distribution of the respondents by affected lobe (n=115)

Affected lobe	Frequency	Percent
Right upper	5	4.3
Right middle	1	0.9
Right lower	47	40.9
Left upper	4	3.5
Left middle	25	21.7
Lingular	33	28.7
Total	115	100.0

Table no. 4 shows that right lower, lingular, left middle, right upper, left upper and right middle lobe were affected among 40.9%, 28.7%, 21.7%, 4.3%, 3.5% and 0.9% respondents.

Discussion

This descriptive type of cross sectional study was conducted to assess pattern of nosocomial pneumonia in intensive care unit patients in selected hospitals of Dhaka city with a sample size of 115. A pretested semi structured self administered questionnaire was used to collect the data. All the data were entered and analyzed by using Statistical Package of Social Science (SPSS) 16.0 versions. It was found that 33%, 7%, 40% and 20% of the respondents belongs to age of 1-20 years, 21-40 years, 41-60 years and 61-80 years respectively with mean age

41.40$\pm$25.658 years. Most of the respondents were male and completed primary level education. These findings were similar to the finding of the study carried out by Nottingham City Hospital, UK at 2003.[4] About 36% and 28% of the respondents were student and retired person. More than half of the respondents were from lower class in terms of income. This findings were supported another study.[5] More than half of the respondents suffered from streptococcus pneumonia. Left lung was affected among 53.9% respondents followed by right lung (46.1%). Right lower lobe was affected among 40.9% respondents. These findings were similar to the finding of study carried out by University of Alexandria, Alexandria, Egypt.[6]

Conclusion

Streptococcus pneumonia was very common. Left lung was affected more than right lung. Right lower lobe was affected more.

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