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The Effectiveness of Service-Seeking Behaviors on Accelerating Recovery and Reducing Side Effects of Pneumonia

Karen Taheri¹, Masoud Taheri²

¹Student of the first year of Sampad Tizhoshan Allameh Tabatabayi High School (gifted school) in Tabriz, Iran

²BioMedical engineering expert of Amirkabir University and DBA doctorate from oxford cert, Tabriz, Iran

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Abstract

Pneumonia is a lung disease. Acute and chronic pneumonia can cause discomfort to the patient. Due to the importance of caring for patients during the treatment process, this research aims to investigate the component of service-seeking behavior on accelerating the improvement of pneumonia treatment. This research is considered descriptive analytical and uses metacomposite technique. The findings show that, 83.3 percent of the studied samples were covered by one type of insurance and 69 people (16.7 percent) of them had no insurance. The average visit to the doctor among the statistical population in women was 96.0 times (standard deviation 1.29), while the average visit to the doctor in men was 49.0 times (with a standard deviation 0.93). This difference was statistically significant. Appropriate care-seeking behavior was 15.7% in women and 21% in men. In general, the appropriate care-seeking behavior was 19.1 % in people covered by insurance and 14.5% in non-insured people. According to the results obtained from this study, the inappropriate behavior of patients, including neglecting the problem (their infection to pneumonia) on the one hand, and the desire to refer to specialists and subspecialists on the other hand, have decreased the efficiency and effectiveness of medical services. Also, some factors like; emotional and psychological support of the family to the patients, adherence to the diet prescribed by the doctor, medication treatment, possible quarantine if needed, regular schedule of visiting the doctor and checking the clinical status are specified as effective points in the service-seeking behavior towards the patients through the review of the previous researches.

Keywords: Service-Seeking Behaviors, Acceleration of Treatment Improvement, Pneumonia Disease, Patient's Clinical Condition.

Introduction

Pneumonia is a lung infection that can range from mild to severe and occurs when the infection causes the air sacs in the lungs (alveoli) to fill with fluid or pus, which can make it difficult for the patient to breathe enough oxygen to reach the bloodstream. . Anyone can get this lung infection, but children under 2 and adults over 65 are at higher risk because their immune systems may not be strong enough to fight it off. You may develop pneumonia in one or both lungs. Sometimes it is possible that people have this disorder but are unaware of it. The causes of this disease are usually bacteria, viruses and fungi [1]. If the pneumonia is caused by bacteria or virus, it can be transmitted to another person. Pneumonia is a general term for a variety of diseases that cause inflammation of the lungs. Pneumonia is frequently caused by a bacterial infection (bacterial pneumonia) or a viral infection (viral pneumonia). Common symptoms of pneumonia include fever, shortness of breath, and a wet cough that produces thick white, yellow, green, or brown sputum. Pneumonia is a common disease that can occur at any time of the year. This disease can be seen in almost any population, but it is more common in smokers and people with infections and chronic diseases such as acute bronchitis, asthma, congestive heart failure or lung cancer [2].

Until 1936, pneumonia was the number one cause of death in the United States, and after that the disease became under control due to the use of antibiotics. In 2000, pneumonia along with influenza has been recognized as the seventh cause of death. Pneumonia can affect your lungs in two ways. Lobar pneumonia (piece) that involves a lobe or a large piece of the lungs, and the other is bronchial pneumonia that involves the entire lung in small but diffuse areas. On the other hand, this disease requires a lot of sensitive care and treatment; therefore, those who suffer from it expect family members and treatment staff to provide a series of services during the recovery period to make them able to overcome this disease. Therefore, the current research will put this important issue in the context of criticism [3].

Conceptology

Pneumonia is an infection that inflames the air sacs of one or both lungs. Various organisms including bacteria, viruses and fungi can cause pneumonia. Pneumonia can range from mild to life-threatening. In fact, pneumonia causes symptoms such as cough, fever, chills and breathing problems. Pneumonia is the swelling (inflammation) of tissue in one or both lungs. It is usually caused by a bacterial infection [4].

Service Seeking Behaviors

In detail, service-seeking behaviors refer to a set of approaches and operations that aim to improve customers or patients' experience and satisfaction. These behaviors are invaluable in any area of service delivery, from healthcare to customer service in various industries, and their continuous improvement can significantly improve the customer s or patients' sense of satisfaction. These behaviors include:

1. Effective interaction: Effective interaction means communicating with customers or patients in such a way that a deeper and better understanding of their needs and expectations is attained. This includes active listening, asking questions to obtain accurate information, and communicating to provide appropriate responses to needs.

2. Respect and transparency: service-seeking behaviors include respecting the rights and privacy of the customer or patient. This includes maintaining privacy, providing clear and accurate information about the services provided, and respecting their decisions and choices.

3. Flexibility and adaptability: It means to provide services to customers or patients according to their special conditions and needs. This includes the ability to adapt to changing needs and circumstances, and to provide solutions that are the most favorable for existing conditions.

4. Quick responsiveness: It means to provide timely and fast services to the needs and requests of customers or patients, in order to gain their satisfaction and trust.

5. Problem Solving: It is the ability to identify problems and provide appropriate and efficient solutions to solve them, and may include providing guidance, advice, or corrective actions.

6. Incessant Support: it means to provide constant support and care services to the clients or patients, and to closely follow their improvement and provide them with better results.

7. Evaluation and continuous improvement: it means evaluating the performance of the services and making the necessary improvements in the service processes, in order to improve the progress and quality of the services.

8. Participation and Collaboration: it means to encourage customers or patients to participate in the service delivery process, and to collaborate to enhance experience and improve outcomes.

These behaviors are important in all areas of service provision including; healthcare, customer service, education, etc., and they increase satisfaction and trust and also improve service quality [5].

Service-seeking behaviors in pneumonia include the following:

1. Early diagnosis and treatment: Seeking services include quick diagnosis of the disease and starting appropriate treatment as soon as possible. This includes a careful evaluation of symptoms, performing the necessary tests, and starting antibiotic and other treatments as needed.

2. Breathing support: For patients with respiratory problems in advanced stages of the disease, service-seeking behaviors include providing special care such as oxygen therapy and breathing maneuvers.

3. Critical care: In cases where the patient reaches a dangerous state of nutrition and hydration, service-seeking behaviors include providing fluids and proper nutrition.

4. Checking up and frequent care: Service-seeking behaviors include continuous checking up of the patient during treatment, including frequent tests and assessment of new symptoms to ensure that the patient's condition is improving.

5. Psychological and social support: service-seeking behaviors include supporting the patient and his family during treatment and providing necessary information and guidance [3].

Causes of Pneumonia

Many microbes can cause pneumonia. The most common ones are bacteria and viruses that exist in the air we breathe. Your body usually prevents these germs from entering your lungs. But sometimes these germs can overwhelm your immune system, even if you're generally in good health. Pneumonia is classified based on the types of microbes that cause it and the place of infection [5].

- **Community-acquired Pneumonia (CAP)**

Community acquired pneumonia is the most common type of pneumonia, that occurs outside of hospitals or other health care centers. It may be caused by:

Bacteria: The most common cause of bacterial pneumonia in the United States is *Streptococcus pneumoniae*. This type of pneumonia can occur by itself or after a cold or flu. It may affect one part (lobe) of the lung, a condition which is called lobar pneumonia. Organisms like *Mycoplasma pneumoniae* bacteria can also cause pneumonia. It usually causes milder symptoms than other types of pneumonia; it is usually not severe enough to require hospitalization.

Fungi: This type of pneumonia is more common in people with chronic health problems or a weakened immune system, and in people who have inhaled large doses of the organisms. The fungi that cause it can be found in soil or bird droppings and it varies depending on the geographical location.

Viruses: Some viruses that cause colds and flu can cause pneumonia. Viruses are the most common cause of pneumonia in children under 5 years of age. Viral pneumonia is usually mild. But in some cases it can become very serious [6].

- **Hospital-acquired pneumonia (HAP)**

In some cases pneumonia is developed during hospitalization due to another illness. Hospital-acquired pneumonia can be serious because the bacteria that cause it may be more resistant to antibiotics and people who get it are already sick. Patients, who were placed on ventilators which are often used in intensive care units, are at a higher risk of developing this type of pneumonia [7].

- **Healthcare-acquired pneumonia**

Healthcare-acquired pneumonia is a bacterial infection that occurs in people living in long-term care centers (such as nursing homes) or receiving care in outpatient clinics, including kidney dialysis centers. Like hospital-acquired pneumonia, healthcare-acquired pneumonia can also be caused by bacteria that are more resistant to antibiotics.

- **Aspiration pneumonia**

Aspiration pneumonia occurs when you get food, drink, vomit, or saliva into your lungs. Aspiration is more likely if something disrupts your normal gag reflex, such as a brain injury or difficulty in swallowing, or excessive alcohol or drug use.

- **Mycoplasma pneumonia**

Due to relatively different symptoms and clinical findings and because the course of this disease is different from pneumococcal pneumonia, at first it seemed that this disease is caused by one or more unknown viruses and it was known as "primary atypical pneumonia". During World War II, the cause of this disease was known. Mycoplasmas are the smallest living organisms that can live alone, so that they cannot be classified in the category of

bacteria or viruses, but in some ways they are similar to both. This type of pneumonia has different degrees and can be mild or very severe. This factor affects all age groups, but affects the elderly, children and teenagers more. The death rate is very low even in untreated cases (8).

Types of pneumonia and its classification

Pneumonia can be classified based on where it is contracted or how it is contracted. Pneumonia is divided into two categories: community-acquired and hospital-acquired.

1. Community acquired pneumonia (CAP)

A person gets pneumonia in the community (not in a hospital). Bacteria and viruses that cause community-acquired pneumonia are different from those that cause hospital-acquired pneumonia [5].

2. Hospital acquired pneumonia (HAP)

Pneumonia that develops 48 hours after hospitalization is called hospital-acquired. Ventilator-associated pneumonia is a type of hospital-acquired pneumonia that occurs 48 to 72 hours after intubation. Ventilator-associated pneumonia accounts for almost 80% of hospital-acquired cases. Therefore, the most common form of infection is in the intensive care unit. The most common microorganisms known to cause VAP are *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Enterobacteriaceae*. Alternatively, *Candida* and *Enterococcus* species may also cause VAP.

3. Pneumonia caused by aspiration in the respiratory tract

The entry of anything other than air into the respiratory system is stopped by the cough reflex. If this natural reflex is disrupted or destroyed by sedatives and muscle relaxants, the respiratory tract remains defenseless. As a result, anything may enter the respiratory system and cause pneumonia [9].

Communicable types of pneumonia

Communicable types of communicable pneumonia are usually transmitted to another person through breathing and respiratory transmission routes and cause disease. The respiratory symptoms of this disease are coughing and sneezing, and it is transmitted from one person to another through airborne droplets.

1. Bacterial pneumonia

Bacterial pneumonia can be treated with antibiotics. Pneumonia is no longer contagious after the fever goes away or a day or two after antibiotics are started. Types of bacterial pneumonia that may be contagious include:

Streptococcal pneumonia (the most common cause of pneumonia)

Methicillin-resistant Staphylococcus aureus pneumonia (MRSA)

Chlamydial pneumonia

2. Viral pneumonia

Viral pneumonia can also be contagious. Influenza virus, respiratory syncytial virus (RSV), rhinoviruses (common cold) can also cause pneumonia. Viral pneumonia is contagious until you feel better and a few days after the fever ends [10].

Non-communicable types of pneumonia

You may get pneumonia that is not contagious. Pneumonia caused by chemicals or other toxins caused by non-infectious agents is not contagious.

1. Fungal pneumonia

Fungal pneumonia usually occurs in people with weakened immune systems or chronic diseases. Fungi that cause this type of pneumonia are commonly found in soil, including *Pneumocystis jirovsi*, *Cryptococcus* species, and *Histoplasmosis* species. In general, fungal pneumonia is not contagious. Because the cause of fungal pneumonia is the inhalation of environmental fungi and it does not spread from one person to another.

2. Pneumonia due to aspiration to the respiratory tract

Aspiration pneumonia is also not contagious because it is caused by food or liquid entering the lungs. This type of pneumonia may occur in people who have had a stroke or have other neurological diseases [11].

Pneumonia treatment

If a person gets pneumonia, the chances of recovery are affected by certain conditions. If the person is young, the disease is diagnosed quickly, the body's defense against the disease works well, and the infection has not yet spread, and the person does not have any other diseases, the chances of recovery are higher. In young and healthy people, early treatment with antibiotics can cure bacterial pneumonia, speed up the healing process of mycoplasma pneumonia, and can help in a percentage of cases of dictus pneumonia. There is no definitive cure for viral pneumonia, although antiviral drugs can be used in some cases. Many patients can also be treated at home. The drug that is chosen to treat pneumonia is based on the doctor's judgment and the organisms that caused the pneumonia. Also, after the patient's body temperature returns to normal, the drugs should continue according to the doctor's recommendations, because it is possible that pneumonia will recur. Sometimes it is possible that the recurrence is much more severe than the initial disease [12].

In addition to antibiotic treatments, patients should also be given supportive treatments. Sometimes, oxygen must be given to the patient in order to increase blood oxygen, and at the same time, the person must have a proper diet. In some cases, the patient should be given medicines that improve the chest pain and calm the patient's severe cough. Young people who have good physical strength resume their normal life very soon and within a week after recovery from pneumonia. But in the case of middle-aged people, it may take weeks for a person to regain his usual and normal strength and feeling. People who have had mycoplasma pneumonia may feel weak and weak for a long time after recovery. In general, people should not be prevented from returning to work or doing their daily activities, but they should be warned that they may have problems while doing their work. Adequate rest is very important in order to recover the sufficient strength of the person and prevent the recurrence of the disease (13). This disease has the potential to be controlled and treated through two medicinal processes, which are:

Prescription medications

- Your doctor may prescribe medication to help treat pneumonia. What is prescribed depends on the specific cause of the pneumonia.

- Oral antibiotics can treat most cases of bacterial pneumonia. Always take the full course of your antibiotic, even if you feel better. Failure to do so can prevent the infection from clearing up and may make it harder to treat in the future.

- Antibiotic drugs do not affect viruses. In some cases, the doctor may prescribe an antiviral drug. However, most cases of viral pneumonia resolve spontaneously with home care.

- Antifungal drugs are used to treat fungal pneumonia. You may have to take this medication for a few weeks to clear up the infection (1).

Over-the-counter medications

- Your doctor may also prescribe over-the-counter medications to relieve pain and fever, if needed. They may include the following:

- Aspirin
- Ibuprofen (Advil, Motrin)
- Acetaminophen (Tylenol) (1)

Prevention of pneumonia

Since pneumonia is one of the side effects of influenza, therefore, prevention of influenza is a suitable prevention method to prevent pneumonia. Today, there are vaccines that can fight against pneumococci, which causes bacterial pneumonia [14]. A doctor can decide whether a patient or a family member needs a vaccine or not. Usually, this vaccine is prescribed only for people who have a high chance of contracting this disease [15]. It is worth mentioning that the highest risk of pneumococcal pneumonia is among people who: 1- have chronic diseases such as lung, heart, kidney disease, sickle cell anemia or diabetes. 2- They have recovered from a very severe illness. 3- They live in special care centers. 4- People who are 65 years old or older[14].

Finally, it should be said that since pneumonia is usually caused by common respiratory infections, the most important preventive tool is to take them seriously if the respiratory symptoms worsen or last for more than a few days. Having proper health habits, healthy food and personal hygiene, adequate rest and regular physical exercises can increase a person's resistance against most respiratory diseases. In addition, it helps them recover quickly after the onset of illness (16).

Materials and Methods

In this research, analytical-descriptive method with metacomposite approach is used. In this way, among the articles and research conducted in this field, 12 articles on help-seeking behaviors and 17 research works on pneumonia care have been selected among Iranian (domestic) scientific works and research. The result of the current research is derived from the results of previous articles and analyses.

It should be mentioned that metasynthesis or metasynthesis is a qualitative method based on a systematic review of library studies for a deep understanding of the studied phenomenon. The meta-composite method is considered a qualitative research method whose data collection tool is library studies and research background checks. The growth of information and the significant scientific increase on the one hand and the ease of access to them have made the research literature about various phenomena rich. On the other hand,

studying and summarizing all related articles requires a scientific and systematic method. Therefore, a systematic and scientific method for identifying, summarizing and inferring from the existing theoretical foundations has been expanded more and more. Meta-synthesis is a method that, with certain steps, combines the data of results from other studies to meet the researcher's goal and obtains new results.

The meta-combination method is included in the meta-study research category. Meta-study is one of the methods that is used to review, combine and analyze previous studies. Meta-study includes the set of meta-analysis, meta-composition, meta-method and meta-selection. Metasynthesis is a research that itself evaluates other researches. Therefore, it is referred to as the evaluation of evaluations.

Findings

Based on what was mentioned in the previous articles and researches, help-seeking behavior is one of the safest and fully functional channels in the process of treating pneumonia. It is worth mentioning that ignoring the problem as a non-optimal behavior and going to the doctor or the health center as an optimal behavior by the trained person, are experienced by the patients. Finally, the information collected from the samples was adjusted and subjected to statistical analysis. 83.3 percent of the studied samples were covered by one type of insurance and 69 people (16.7 percent) of them had no insurance. The average visit to the doctor among the statistical population in women was 96.0 times (standard deviation 1.29), while the average visit to the doctor in men was 49.0 times (with a standard deviation 0.93). This difference was statistically significant. Appropriate care-seeking behavior was 15.7% in women and 21% in men. In general, the appropriate care-seeking behavior was 19.1 % in people covered by insurance and 14.5% in non-insured people.

According to the results obtained from this study, the inappropriate behavior of patients, including neglecting the problem (their infection to pneumonia) on the one hand, and the desire to refer to specialists and subspecialists on the other hand, has led to a decrease in the efficiency and effectiveness of medical services.

Also, some factors like; emotional and psychological support of the family to the patients, adherence to the diet prescribed by the doctor, medication treatment, possible quarantine if needed, regular schedule of visiting the doctor and checking the clinical status are specified as effective points in the service-seeking behavior towards the patients through the review of the previous researches. Also, the use of complete medical and health care facilities to go through the recovery period is expected by the patients.

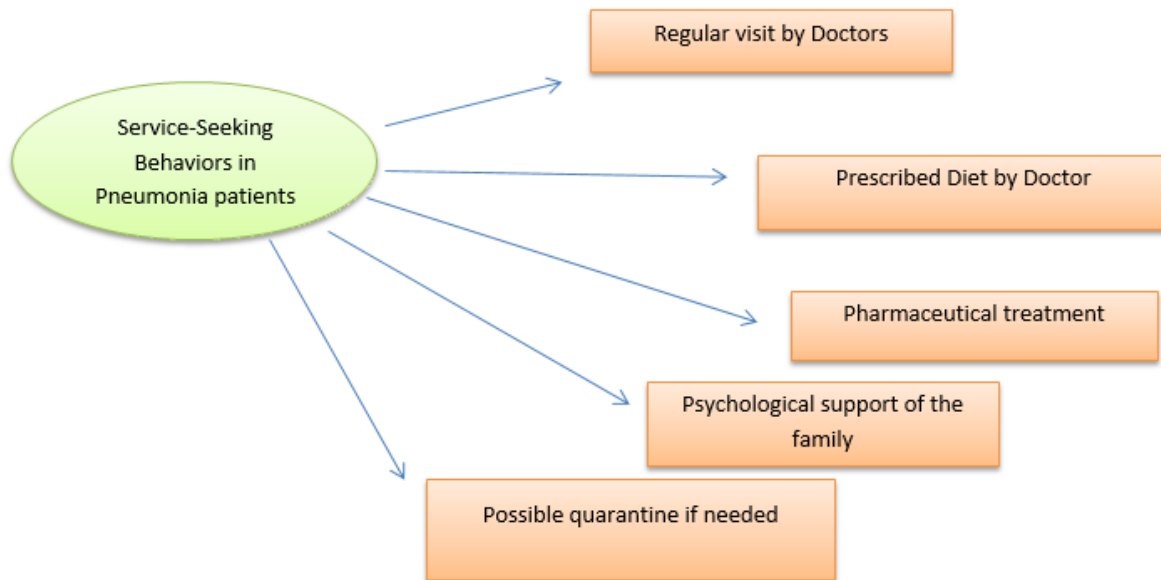


Figure 1- Rating chart of service-seeking factors

Conclusion

Pneumonia is an infection in one or both lungs caused by bacteria, viruses, or fungi. The infection leads to inflammation in the air sacs of the lungs, which are called alveoli. The alveoli fill with fluid or pus, making breathing difficult. Both viral and bacterial pneumonia are contagious. This means they can spread from person to person by inhaling airborne droplets from sneezing or coughing. The patient can also spread this type of pneumonia by contact with surfaces or objects that are infected with bacteria or viruses that cause pneumonia; the patient can get fungal pneumonia from the surrounding environment, which does not spread from person to person. On the other hand, the efficiency of service-seeking behavior for the patients is also attained with the aim of improving the best possible outcome for the patient and requires cooperation and coordination between the treatment team, the patient's family and the patient himself, in order to improve and accelerate the treatment.

Research limitations

Our access to more articles has been limited. Also, communicating with the patients themselves or their families has been limited, for this reason, we have not been able to use their opinions and answers in the form of a questionnaire or a semi-structured interview. Also, it was not possible for the research team to be present in hospitals and the infection department of hospitals due to the internal rules of the hospital.

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