

A REVIEW ON ASSESSMENT OF QUALITY OF LIFE AND KNOWLEDGE ATTITUDE AND PRACTICE OF PATIENT BEFORE AND AFTER PATIENT EDUCATION IN HOSPITALISED PNEUMONIA PATIENTS

Sandra S. S.*¹, Dr. Nithin Manohar R.², Shinju Somaraj³, Alfiya Sudheer F.¹, Chandini Nair¹,
Reeba Roy¹, Dr. Prasobh G. R.⁴

¹Student, Second Year Doctor of Pharmacy Post Baccalaureate, Sree Krishna College of Pharmacy and Research Centre, Parassala, Thiruvananthapuram, Kerala, India.

²Professor & HOD, Department of Pharmacy Practice, Sree Krishna College of Pharmacy and Research Centre, Parassala, Thiruvananthapuram, Kerala, India.

³Lecturer, Department of Pharmacy Practice, Sree Krishna College of Pharmacy and Research Centre, Parassala, Thiruvananthapuram, Kerala, India.

⁴Principal, Sree Krishna College of Pharmacy and Research Centre, Parassala, Thiruvananthapuram, Kerala, India.

Article Received: 10 April 2026

Article Review: 1 May 2026

Article Accepted: 21 May 2026

*Corresponding Author: Sandra S. S.

Student, Second Year Doctor of Pharmacy Post Baccalaureate, Sree Krishna College of Pharmacy and Research Centre, Parassala, Thiruvananthapuram, Kerala, India.

DOI: <https://doi.org/10.5281/zenodo.20455725>

How to cite this Article: Sandra S. S., Dr. Nithin Manohar R., Shinju Somaraj, Alfiya Sudheer F., Chandini Nair, Reeba Roy, Dr. Prasobh G. R. (2026). A REVIEW ON ASSESSMENT OF QUALITY OF LIFE AND KNOWLEDGE ATTITUDE AND PRACTICE OF PATIENT BEFORE AND AFTER PATIENT EDUCATION IN HOSPITALISED PNEUMONIA PATIENTS. World Journal of Pharmacy and Medical Science, 2(6): 95-99.



Copyright © 2026 Sandra S. S. | World Journal of Pharmacy and Medical Science

This is an open-access article distributed under creative Commons Attribution-NonCommercial 4.0 International license (CC BY-NC 4.0)

ABSTRACT

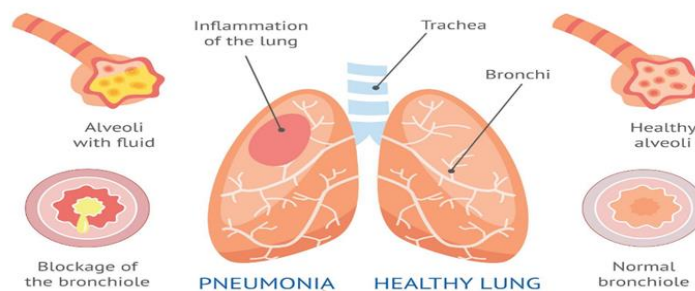
Pneumonia remains a major global health challenge, particularly in developing countries like India, where it contributes significantly to morbidity, mortality, and healthcare burden. Hospitalized pneumonia patients often experience compromised clinical outcomes due to factors such as advanced age, comorbidities, delayed treatment, and irrational antibiotic use. In addition to clinical severity, pneumonia has a profound impact on patient's quality of life (QoL), affecting physical, psychological, social, and environmental domains. The World Health Organization recommends the use of standardized tools such as WHOQOL-BREF for assessing QoL and Knowledge, Attitude, and Practice (KAP) questionnaires for evaluating patient awareness and behavior. Evidence suggests that inadequate patient knowledge regarding disease condition, medication adherence, and preventive strategies contributes to poor clinical outcomes and increased complications. Patient education, particularly pharmacist-led interventions, plays a crucial role in improving treatment adherence, promoting rational antibiotic use, and enhancing overall patient outcomes. Studies have demonstrated that structured educational interventions significantly improve both QoL and KAP scores in hospitalized pneumonia patients. However, integrated studies assessing both QoL and KAP using WHO-based tools before and after patient education remain limited in Indian settings. This review highlights the importance of patient education as an effective, low-cost intervention to improve clinical outcomes, QoL, and patient awareness in pneumonia management. It also emphasizes the need for comprehensive research integrating QoL and KAP assessment to optimize patient-centered care.

KEYWORDS: Pneumonia, Quality of Life, Knowledge Attitude Practice (KAP).

INTRODUCTION TO PNEUMONIA AND ITS CLINICAL SIGNIFICANCE

Pneumonia is an acute infection of the lung parenchyma and remains a major global health problem. It is one of the leading causes of hospitalization, morbidity, and mortality worldwide, particularly in developing countries

like India. Pneumonia is broadly classified into community-acquired pneumonia (CAP), hospital-acquired pneumonia (HAP), and ventilator-associated pneumonia (VAP), depending on the setting of acquisition.



In India, pneumonia continues to impose a substantial healthcare burden due to increasing prevalence of comorbid conditions such as diabetes mellitus, chronic obstructive pulmonary disease (COPD), and

cardiovascular diseases. Studies have shown that elderly patients and immunocompromised individuals are at higher risk of severe disease and poor outcomes.^[1]

PNEUMONIA: AFFECTED AND NORMAL LUNGS



COMPARISON OF CHEST X-RAY OF HEALTHY LUNG AND PNEUMONIA AFFECTED LUNG

EPIDEMIOLOGY AND BURDEN OF PNEUMONIA IN INDIA

Pneumonia contributes significantly to hospital admissions in India, especially in tertiary care settings.

The incidence is higher among older adults, and mortality rates range from 5-15% in hospitalized CAP patients and up to 25-50% in ICU settings.

The economic burden is also substantial, with increased costs due to prolonged hospital stay, antibiotic use, and complications. Recent studies indicate that inappropriate management and delayed treatment contribute to increased morbidity and mortality.^[2]

RISK FACTORS ASSOCIATED WITH HOSPITALIZED PNEUMONIA PATIENTS

Several studies have identified risk factors that influence the severity and outcome of pneumonia, including:

- Advanced age (>65 years)
- Comorbid conditions (diabetes, COPD, hypertension)
- Smoking and alcohol consumption
- Immunosuppression
- Recent hospitalization

These factors not only increase susceptibility but also affect treatment outcomes and quality of life.

IMPACT OF PNEUMONIA ON QUALITY OF LIFE (QOL)

Pneumonia significantly impairs patient's physical, psychological, and social well-being. Symptoms such as breathlessness, fatigue, chest pain, and reduced functional capacity negatively affect daily activities and overall quality of life.

The World Health Organization developed the WHOQOL instruments to assess quality of life across multiple domains. The WHOQOL-BREF, a shorter version, is widely used in clinical studies due to its reliability and validity.

Studies have demonstrated that pneumonia patients experience reduced QoL scores during hospitalization, particularly in physical and psychological domains.^[3]

Furthermore, poor QoL at admission has been associated with increased risk of adverse clinical outcomes, including prolonged recovery and rehospitalization.^[4]

WHOQOL-BREF AS A STANDARD TOOL FOR QOL ASSESSMENT

The WHOQOL-BREF evaluates four domains:

- Physical health
- Psychological health
- Social relationships
- Environmental factors

It has been validated across different populations, including Indian patients. Its use in respiratory diseases has shown that QoL improves significantly following treatment and supportive care.

Research studies have reported that WHOQOL-BREF is sensitive to clinical changes and can effectively measure the impact of interventions such as patient education and counselling.^[5]



MULTIDIMENSIONAL DOMAINS OF QUALITY OF LIFE (QoL)

KNOWLEDGE, ATTITUDE, AND PRACTICE (KAP) IN PNEUMONIA

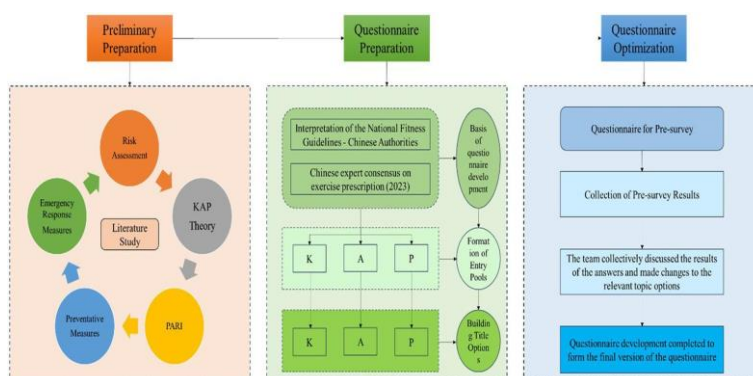
The KAP model is widely used to assess patient awareness, beliefs, and behaviors related to disease management. The World Health Organization recommends KAP surveys as an essential tool for evaluating public health interventions.

In pneumonia, KAP plays a crucial role in:

- Early recognition of symptoms

- Timely healthcare-seeking behavior
- Medication adherence
- Prevention practices

Studies conducted in India have reported inadequate knowledge among patients regarding pneumonia causes, antibiotic use, and preventive measures.⁶ Poor awareness often leads to delayed diagnosis, irrational drug use, and increased complications.



KAP BASED QUESTIONNAIRE DEVELOPMENT PROCESS IMPORTANCE OF PATIENT EDUCATION IN HOSPITALIZED PATIENTS

Patient education is a critical component of healthcare delivery, especially in hospitalized patients. It involves providing information about disease condition, medication use, lifestyle modifications, and preventive strategies.

Evidence suggests that structured education programs significantly improve:

- Patient knowledge
- Treatment adherence
- Clinical outcomes
- Satisfaction with care

Pharmacist-led counselling interventions have been shown to improve rational drug use and reduce inappropriate antibiotic prescribing.

ROLE OF PHARMACIST IN PATIENT EDUCATION AND CLINICAL OUTCOMES

Clinical pharmacists play a vital role in patient education and antimicrobial stewardship. Their interventions include:

- Medication counselling
- Monitoring drug therapy
- Promoting rational antibiotic use
- Encouraging adherence

Studies have demonstrated that pharmacist-led interventions improve clinical outcomes and reduce hospital stay without compromising treatment efficacy.

IMPACT OF PATIENT EDUCATION ON QOL

Several studies have shown that patient education leads to significant improvements in quality of life. Educational interventions help patients understand their condition, reduce anxiety, and improve coping mechanisms.

Pre-post interventional studies using WHOQOL-BREF have demonstrated statistically significant improvements

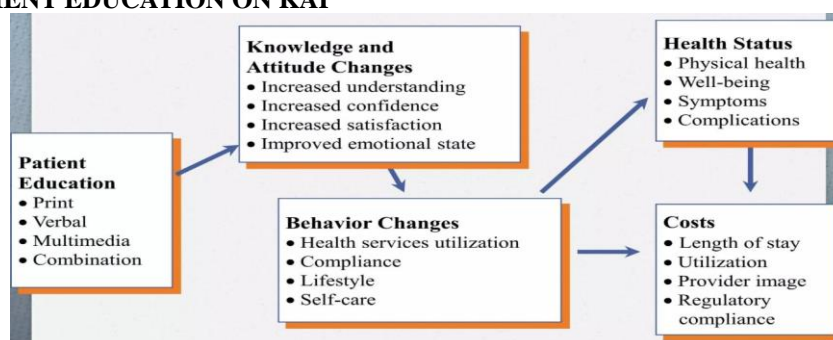
in physical and psychological domains following patient education.^[7]

Patient education has been shown to significantly improve KAP scores. Studies indicate that after structured counselling:

- Knowledge regarding disease and treatment increases
- Attitude towards medication adherence improves
- Practice of preventive measures becomes more consistent

These improvements contribute to better clinical outcomes and reduced complications.^[8]

IMPACT OF PATIENT EDUCATION ON KAP



FRAMEWORK OF PATIENT EDUCATION OUTCOMES AND BEHAVIORAL CHANGE

WHO GUIDELINES AND EVIDENCE SUPPORTING PATIENT EDUCATION

The World Health Organization emphasizes the importance of patient education in improving health outcomes and reducing disease burden. WHO recommends:

- Use of WHOQOL tools for QoL assessment
- Use of KAP surveys for behavioral evaluation
- Implementation of patient education programs

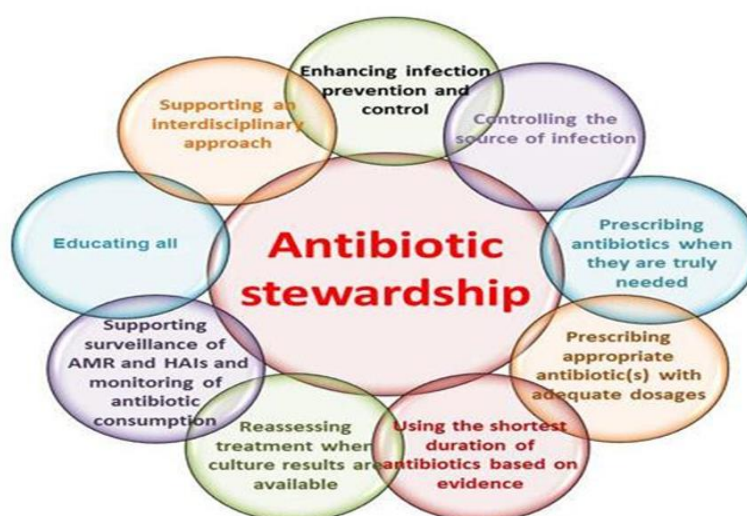
The WHO AWaRe classification also highlights rational antibiotic use and the importance of awareness in preventing antimicrobial resistance.

RATIONAL USE OF ANTIBIOTICS AND ITS RELATION TO PATIENT AWARENES

Irrational use of antibiotics is a major issue in pneumonia management, leading to antimicrobial resistance, adverse drug reactions, and increased healthcare costs.

Studies have shown that lack of patient knowledge contributes to misuse of antibiotics. Patient education plays a crucial role in promoting rational drug use and improving adherence to treatment guidelines.

Antimicrobial stewardship programs, including patient counselling, have been effective in optimizing antibiotic use and improving clinical outcomes.^[9]



MULTIDISCIPLINARY APPROACH TO ANTIBIOTIC STEWARDSHIP

RESEARCH GAP

Although numerous studies have evaluated pneumonia management, QoL, and KAP individually, there is limited research combining:

- Hospitalized pneumonia patients
- WHOQOL-based QoL assessment
- WHO-based KAP questionnaire
- Pre-post patient education intervention

This gap is particularly evident in Indian hospital settings, highlighting the need for integrated research in this area.

CONCLUSION

Pneumonia continues to impose a significant clinical and economic burden, especially in hospitalized patients with underlying comorbidities. Beyond its acute manifestations, the disease adversely affects patient's quality of life and overall well-being. The use of standardized assessment tools such as WHOQOL-BREF and KAP questionnaires provides a comprehensive understanding of both clinical and behavioral aspects of the disease.

Patient education has emerged as a critical intervention in improving disease outcomes. Evidence consistently shows that structured counselling particularly when delivered by clinical pharmacists enhances patient knowledge, promotes positive attitudes toward treatment, and encourages appropriate health practices. These improvements translate into better medication adherence, rational antibiotic use, reduced complications, and enhanced quality of life.

The World Health Organization strongly advocates patient-centered care approaches, including education and awareness programs, as essential components of healthcare delivery. Despite existing evidence, there remains a significant research gap in integrated studies assessing both QoL and KAP in hospitalized pneumonia patients using WHO-based tools.

Therefore, future research should focus on well-designed interventional studies that simultaneously evaluate clinical outcomes, QoL, and behavioral changes. Such approaches will contribute to more holistic patient care, improved healthcare delivery, and reduced disease burden.^[10]

REFERENCES

1. Metlay JP, Waterer GW, Long AC, Anzueto A, Casas J, Campbell RT, et al. Diagnosis and treatment of adults with community-acquired pneumonia. *Am J Respir Crit Care Med*, 2025; 211: 450-75.
2. Sharma SK, Mishra HK. Clinical profile and outcomes of hospitalized pneumonia patients in India. *J Clin Diagn Res*, 2022; 16: OC10- OC14.
3. Ranzani OT, et al. Health-related quality of life in pneumonia survivors. *Chest*, 2024; 165(3): 678-86.
4. Singh V, et al. Assessment of QoL using WHOQOL-BREF in respiratory diseases. *Indian J Public Health*, 2023; 67(2): 145-50.
5. Srivastava DK, et al. Knowledge, attitude and practices regarding pneumonia. *BMC Public Health*, 2018; 18: 1234.
6. Patel H, et al. Effect of educational intervention on quality of life. *Lung India*, 2022; 39(4): 321-26.
7. Verma R, et al. Impact of patient counselling on KAP. *Indian J Pharm Pract*, 2021; 14(2): 85-90.
8. World Health Organization. *The WHO AWaRe antibiotic book*. Geneva: WHO, 2024.
9. Pratiwi AD, et al. Impact of antimicrobial stewardship programs. *J Multidiscip Healthc*, 2026; 19: 102-15.
10. World Health Organization. *WHOQOL: Measuring Quality of Life*. Geneva: WHO, 2019.