

Adult Patients' Practices in Managing Community-Acquired Pneumonia

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Abstract:

This study assessed the practices of 102 adult patients with community-acquired pneumonia (CAP) at a district hospital in Central Negros during the third quarter of 2024. Effective management of CAP requires a comprehensive approach that includes lifestyle modifications, preventive measures, and healthcare-seeking behaviors. CAP incidence was influenced by age, male-associated exposures, marital dynamics, and economic challenges. The results showed encouraging lifestyle and preventive measures while health-seeking behaviors and patient engagement were moderate overall. Younger respondents, females, single individuals, and those from lower-income groups had the lowest scores in patient engagement, all falling within the moderate range. Significant differences in health-seeking behavior were observed when grouped by age and family income, and no significant differences were found in lifestyle practices, preventive measures, or patient engagement across other demographic factors. These findings underscore the need for targeted interventions, particularly for vulnerable populations. The Hospital's Chief should ensure the provision of essential medications, including antibiotics and multivitamins, alongside health education on pneumonia prevention. Healthcare workers, including nurses and medical doctors, should distribute IEC materials to patients and their families in the outpatient department and medical wards. Additionally, local partners, such as the Local Government Unit and Municipal Health Officer, should collaborate to promote health-seeking behaviors through community resources, local media, and engagement with community leaders and peer groups.

Keywords: Adult patients' practices, community-acquired pneumonia, healthcare-seeking behaviors, lifestyle, preventive measures

Introduction:

Nature of the Problem

Patients' community-acquired pneumonia (CAP) management requires a comprehensive approach encompassing lifestyle modifications, preventive measures, and healthcare-seeking behaviors. Each component plays a crucial role in reducing the incidence and severity of CAP (Rivero-Calle I. et al., 2019).

According to the World Health Organization (2019), community-acquired pneumonia is a leading cause of death worldwide. The Burden of Disease Study (2017) estimated that lower respiratory infections, including CAP, were responsible for 2.56 million mortalities globally. In the Philippines, community-acquired pneumonia (CAP) ranks as the third and fourth leading cause of mortality and morbidity among admitted patients, with incidence rates of approximately 10,500 cases and 6,100 admissions each year (Banate et al., 2016).

Adult patients with CAP often implement various practices to manage their condition. Lifestyle changes enhance overall physical health to bolster immune function. Likewise, preventive measures commonly involve maintaining good hygiene practices and seeking medical attention promptly when symptoms of pneumonia appear, which is essential. Early diagnosis and treatment are critical for effective management and recovery (Musher & Thorner, 2014; Centers for Disease Control and Prevention, 2019).

Parallel to this, as of October 2024, a district hospital in Western Visayas reported a striking 508 adult CAP cases. Among the patients, 23% (117) remained under treatment, an encouraging 72% (366) achieved recovery, and 5% (25) required urgent referrals for severe complications. This underscores the pressing need for enhanced health management strategies and timely medical interventions (Hospital Medical Records, 2024).

As a Medical Officer III under the Provincial Government of Western Visayas the researcher conducted this study on the practices of adult patients in managing Community-Acquired Pneumonia (CAP) to address a pressing public health concern. This research is driven by the need to identify critical gaps in current healthcare practices and provide actionable, data-driven recommendations that can enhance patient education, prevention strategies, and overall healthcare services. By understanding patients' unique behaviors and challenges within the local context, the study aimed to inform the development of targeted interventions that reduce the incidence of CAP and improve its management.

Current State of Knowledge

Community-acquired pneumonia (CAP) is a significant respiratory condition caused by bacterial, viral, or fungal pathogens, contracted outside healthcare settings (Healthline, 2022). Key risk factors include age, preexisting health conditions, smoking, and weakened immunity. Typical symptoms include cough, fever, chest pain, and difficulty breathing, necessitating prompt diagnosis through medical history, physical exams, chest X-rays, and laboratory tests. Effective treatment varies based on the causative agent; bacterial infections require antibiotics, while viral cases benefit from supportive care. Despite advancements in treatment, CAP can lead to severe complications such as pleural effusion, sepsis, and respiratory failure.

As for prevention strategies, prevention plays a pivotal role in reducing CAP incidence and complications. Vaccination against *Streptococcus pneumoniae*, influenza, and COVID-19 has been recognized as a cornerstone of public health strategies to shield at-risk populations. According to Patterson and Loebinger (2012), vaccination does not significantly lower CAP incidence or hospitalization rates but markedly reduces illness severity. The Department of Health recommends vaccination for individuals aged over 65 and those with chronic conditions, immunodeficiency, or immunosuppression, underscoring the critical role of targeted immunization.

Respiratory hygiene is a vital preventive strategy in reducing the spread of respiratory infections. Key practices include covering coughs and sneezes with tissues or the bend of an arm, ensuring proper tissue disposal, and maintaining regular handwashing. These measures significantly reduce the transmission of infectious agents, as emphasized by the World Health Organization (2020). Additionally, frequent cleaning and disinfecting of shared surfaces play a crucial role in minimizing exposure risks, aligning with public health efforts to control outbreaks and safeguard vulnerable populations. Moreover, while dietary supplements offer notable benefits in supporting immune function and aiding recovery, their utilization is often hindered by misconceptions about their efficacy or necessity. He et al. (2021) highlight the importance of targeted education to address these misconceptions and encourage the effective integration of dietary supplements into respiratory health management strategies.

In terms of the role of hydration and nutrition in respiratory health, adequate hydration supports respiratory health by thinning mucus, facilitating its expulsion, and preventing complications such as mucus buildup in the lungs (Peters et al., 2020). Hydration becomes even more critical during CAP recovery, where water, herbal teas, broths, and electrolyte-rich beverages can mitigate symptoms and enhance recovery (Hooper et al., 2022). Moreover, nutrition complements hydration in managing respiratory health and speeding recovery. Foods rich in specific nutrients aid in immune system strengthening and tissue repair. For instance, honey soothes throat discomfort, while turmeric's anti-inflammatory properties alleviate chest pain. Yogurt, with its probiotics, inhibits pneumonia-causing bacteria and bolsters immunity. Protein-rich foods such as nuts, beans, and fish facilitate tissue regeneration, and cruciferous vegetables like kale and spinach provide antioxidants for respiratory health. Vitamin C-rich foods, such as oranges and berries, further enhance immune function during recovery (Singh, 2022).

Mitigating CAP requires a multi-faceted approach, combining vaccination, respiratory hygiene, and lifestyle modifications. Public health campaigns should emphasize timely vaccinations and education to address myths about nutrition and supplements. Healthcare providers must ensure comprehensive recovery strategies, including monitoring hydration and nutrition. Key preventive measures include covering coughs and sneezes, proper tissue disposal, handwashing, cleaning shared surfaces, avoiding symptomatic individuals, and staying up to date with vaccinations against pneumonia, flu, and COVID-19 (Micromedex, 2024).

Theoretical Underpinnings

This study is anchored in Social Cognitive Theory (SCT), developed by Albert Bandura in the 1980s, and focuses on the interplay between individual behaviors, personal factors, and environmental influences. This theory emphasizes that learning occurs in a social context and that much of what is learned is gained through observation.

Social Cognitive Theory (SCT) posits that individuals learn and adopt new behaviors through observation, influenced by personal (cognitive and emotional) and environmental (social norms and community influences) factors, encompassing constructs like observational learning, self-efficacy, outcome expectations, and reciprocal determinism. Applying SCT to managing community-acquired pneumonia (CAP) among adult patients reveals its comprehensive approach to understanding health behaviors. SCT recognizes that patient behavior is shaped not

only by personal factors but also by social and community contexts, emphasizing the importance of identifying and modifying factors for effective disease management.

Furthermore, applying SCT to the study of patients' practices in managing CAP at one of the district hospitals in Central Negros allows for a detailed examination of how patients learn and adopt health behaviors related to pneumonia prevention practices. By understanding the role of observational learning, healthcare providers can use community leaders or peer models to demonstrate effective pneumonia management practices. Enhancing patients' self-efficacy can be achieved through education and skill-building activities that empower them to take control of their health. Addressing environmental influences, such as access to healthcare resources and social support networks, can further improve health outcomes.

The significance of this study, grounded in SCT, lies in its potential to inform the development of a comprehensive program development plan that leverages social and environmental factors to enhance patient education, preventive measures, and healthcare services. This approach can lead to more effective interventions that reduce the incidence of CAP and improve its management among adult patients in the community.

Objectives

This study aimed to determine the level of adult patients' practices in managing community-acquired pneumonia at one of the district hospitals in Central Negros for the third quarter of the Calendar year 2024. Specifically, it sought to answer the following questions: 1) the level of adult patients' practices in managing community-acquired pneumonia according to the area of lifestyle, preventive measure, healthcare-seeking behavior and patients' engagement; and 2) the significant difference in the level of adult patients' practices in managing community-acquired pneumonia when grouped and compared according to the aforementioned variables.

Methodology:

This section presents the discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedure for data analysis.

Research Design

A descriptive research design was used in this study, considering the nature of the data involved. Descriptive research is valuable in providing facts on which scientific judgment may be based, providing essential knowledge about the nature of objects and persons and for closer observation into the practices, behavior, methods, and procedures, and playing a large part in the development of instruments for the measurement of many gathering instruments like questionnaires, tests, interviews, checklists, score cards, rating scales, and observation schedules, and formulating of policies in the local, national, or international level (Calmorin, 2016). The descriptive research design was suitable for this study. It provides a clear snapshot of the current situation by describing the level of practices in managing community-acquired pneumonia among adult patients. This information helped to identify potential areas for improvement in patient care and management strategies.

Study Respondents

The study involved 102 out of 113 adult patients with Community-Acquired Pneumonia diagnosed in the same district hospital who voluntarily participated. Due to the relatively large number of respondents, a purposive sampling method was employed. Purposive sampling is a non-probability sampling technique where participants are selected based on specific characteristics or purposes relevant to the study. It is commonly used when researchers focus on a particular group to gain in-depth insights (Etikan, Musa, & Alkassim, 2016). In this study, the researcher randomly selected respondents from the hospital's inpatient and Outpatient departments, considering their availability for the study, which was conducted over two weeks for data collection.

Instruments

A researcher-made survey questionnaire was utilized to gather data. The questionnaire is divided into two parts: Part I addresses the profile of respondents, including age, sex, civil status, and average family monthly income. Part II consists of 30-item statements assessing patients' practices in managing community-acquired pneumonia, with ten items each for lifestyle, preventive measures, and healthcare-seeking behavior. Responses will be measured using a 5-point Likert scale rating with 5 as always, 4 as often, 3 as sometimes, 2 as rarely, and 1 as almost never. The research instrument was subjected to validity (4.73-excellent) and reliability (0.704-acceptable). All of them were interpreted as worthy and good; respectively.

Data Gathering Procedure

After establishing the validity and reliability of the instrument, the researcher will write a letter to the Chief of the Hospital and the Southern Negros, requesting permission to conduct the study. The researcher sought the assistance of the Charge Nurses and the Medical Records Section Administrator in the district hospital to identify the respondents. Once approval was obtained, the researcher administered the questionnaire to the respondents, guiding them carefully in answering and providing the necessary data, as well as retrieving the questionnaires. The respondents will be assured of the confidentiality of the gathered data. SPSS was used to process the encoded data.

Data Analysis and Statistical Treatment

Objective No. 1 used a descriptive-analytical scheme and mean to assess the level of adult patients' practices in managing community-acquired pneumonia in the areas of lifestyle, preventive measures, and healthcare-seeking behavior.

Objective No.2 utilized, a comparative-analytical scheme and Mann-Whitney U test to determine if there was a significant difference in the level of adult patients' practices in managing community-acquired pneumonia when grouped and compared according to the specified variables.

Ethical Consideration

The study on adult patients' practices in managing community-acquired pneumonia at one of the district hospitals in Western Visayas ensured the protection of participants' rights and confidentiality. Informed consent was obtained, emphasizing voluntary participation and the right to withdraw. Strict confidentiality measures were implemented, with data anonymized and accessible only to authorized researchers. Participant welfare and protection were prioritized, with support services provided if needed. Data analysis was conducted rigorously, and results were reported in a way that maintained anonymity. The study complied with ethical standards and promptly addressed any concerns. This protocol aimed to uphold participants' rights, maintain confidentiality, and adhere to ethical principles throughout the study.

Results and Discussion

This section deals with the presentation, analysis and interpretation of data gathered to carry out the objectives of this study. All these were made possible by following certain appropriate procedures so as to give the exact data and solution to each specific problem.

Table 1

Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Lifestyle

Area	Mean	Interpretation
A. Lifestyle		
<i>As a patient and community member, I...</i>		
1. engage in regular physical exercise to maintain my overall health and well-being.	4.02	High Level
2. avoid smoking to help my lungs recover.	4.00	High Level
3. eat a balanced diet like fruits and vegetables to support my immune system.	4.47	High Level
4. drink plenty of water to stay hydrated.	4.68	Very High Level
5. avoid alcohol consumption to support my health.	4.02	High Level
6. ensure enough sleep to help my body recover.	3.90	High Level
7. practice stress management techniques to maintain my overall health condition.	3.59	High Level
8. adopt healthy cooking methods (e.g., steaming, grilling) to prepare meals.	3.74	High Level
9. avoid junk food and sugary drinks to maintain a healthy diet.	3.81	High Level
10. take dietary supplements (e.g., vitamins/supplements) to support my health.	2.34	Low Level
Overall Mean	3.86	High Level

The overall mean for the level of practice among adult patients managing community-acquired pneumonia in the area of lifestyle is 3.86, which is interpreted as a "High Level" of training. This indicates that patients generally engage in positive lifestyle behaviors that aid in managing and preventing CAP, reflecting their awareness and commitment to maintaining respiratory and overall health.

The highest mean score in the lifestyle area is 4.68, indicating a "Very High Level" of practice for the statement, Item No.4 "I drink plenty of water to stay hydrated." This finding would mean that patients prioritize hydration, crucial for maintaining optimal body function, supporting the immune system, and facilitating the recovery process during CAP. In addition, this practice is vital as proper hydration reduces the risk of complications and supports recovery by maintaining muco-ciliary clearance in the respiratory tract. Research supports that staying hydrated helps thin mucus and aids in respiratory function, which can be particularly beneficial for patients with CAP (Chalmers et al., 2017).

The lowest mean score in this category is 2.34 for the statement, Item No. 10, "I take dietary supplements to support my health," which falls under the low level of practice. This indicates that most patients do not regularly use dietary supplements. This could be due to various reasons, including lack of awareness, financial constraints, or personal beliefs regarding the efficacy of supplements. Consequently, if the patient cannot afford to buy the necessary medications or treatments because they are expensive and inaccessible, their immunity may weaken, and the progression of the illness could be prolonged. While dietary supplements can be supportive, the research on their effectiveness in preventing or managing CAP is mixed. The consensus remains that a well-balanced diet is more effective for supporting health than relying solely on supplements (Kantor et al., 2016).

Table 2

Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Preventive Measures

Area	Mean	Interpretation
B. Preventive Measures		
<i>As a patient and community member, I...</i>		
1. get vaccinated for pneumonia as recommended by the healthcare provider.	1.78	Low Level
2. avoid touching my face with unwashed hands.	3.90	High Level
3. wash my hands thoroughly and frequently to prevent further infection.	3.88	High Level
4. avoid close contact with people who are sick to reduce the worsening of my health conditions.	3.52	High Level
5. wear a medical mask in crowded places to protect myself and other people.	3.66	High Level
6. practice good respiratory hygiene (e.g., covering mouth/nose when coughing/sneezing).	4.70	Very High Level
7. use hand sanitizer when soap and water are not available.	3.59	High Level
8. regularly clean my surroundings and disinfect frequently touched surfaces in my home and workplace.	3.88	High Level
9. take a bath every day to avoid cross-contamination of the pathogens or microorganisms.	3.78	High Level
10. avoid sharing personal items (e.g., utensils and towels) with others.	3.75	High Level
Overall Mean	3.65	High Level

The overall mean for the preventive measures practiced by adult patients managing CAP is 3.65, indicating a high level of engagement. This suggests that patients generally adopt practices to prevent the spread and worsening of CAP, showing a solid commitment to minimizing health risks.

The highest mean score of 4.70 was for Item No.6, "practicing good respiratory hygiene (e.g., covering the mouth and nose when coughing or sneezing)," which reflects a very high level of adherence. This demonstrates strong patient awareness and compliance with effective preventive strategies. This is critical for preventing the spread of respiratory infections, aligning with established research highlighting the importance of respiratory hygiene in reducing transmission (World Health Organization, 2020).

The lowest mean score, 1.78, was observed for Item No.1, "getting vaccinated for pneumonia", which is interpreted as a low level of practice. This finding indicates that many patients do not prioritize or possibly lack access to vaccinations. Vaccine availability, awareness, or misconceptions about vaccine efficacy could influence the low uptake. Henceforth, low vaccine uptake increases the risk of disease outbreaks to other family members and compromises herd immunity, putting communities at greater risk of preventable illnesses. Research supports vaccination as a crucial preventive measure for reducing CAP incidence and severity, particularly among at-risk groups (Said et al., 2013).

Table 3

Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Healthcare-seeking Behavior

Area	Mean	Interpretation
C. Healthcare-seeking Behavior		
<i>As a patient and community member, I...</i>		
1. Avoid self-medicating without consulting a healthcare provider	3.77	High Level
2. Promptly schedule an appointment with a healthcare provider when feeling unwell	3.29	Moderate Level
3. Follow up with healthcare provider regularly during illness	2.57	Moderate Level
4. Prioritize consultations with licensed medical professionals over traditional healers	4.08	High Level
5. Consult the healthcare provider before using alternative medicines	3.72	High Level
6. Adhere to the medical advice on what to avoid and what is beneficial for my	3.75	High Level

health		
7. Take all medications as prescribed by healthcare providers	2.92	Moderate Level
8. Report any new or worsening symptoms to the healthcare provider immediately	3.42	Moderate Level
9. Keep my updated laboratory results and share them with the healthcare provider during follow-up visits	3.27	Moderate Level
10. Seek reliable information about pneumonia from healthcare providers or trusted sources.	3.30	Moderate Level
Overall Mean	3.41	Moderate Level

The overall mean score in the area of healthcare-seeking behavior among adult patients managing CAP is 3.41, indicating a moderate level of practice. This suggests that while patients engage in certain positive behaviors when seeking healthcare, there are areas where improvements are needed to optimize health outcomes.

The highest mean score in this category is 4.08 for Item. No.4, "prioritizing consultations with licensed medical professionals over traditional healers," reflects a high level of practice. This suggests that patients strongly value professional medical advice, an important component for the effective management of CAP. Such practices align with research findings that emphasize the importance of evidence-based care provided by qualified healthcare professionals for better health outcomes (Harris et al., 2018).

Conversely, the lowest mean score is 2.57 for regularly following up during illness, indicating a low level of practice. The low mean score for follow-up during illness may result in worsening health conditions, delayed recovery, and increased risk of complications. Regular follow-ups are vital for monitoring treatment efficacy and adjusting care plans as needed, which helps in preventing complications and improving recovery rates (Cillóniz et al., 2016). The lack of this practice may be attributed to barriers such as limited access to healthcare facilities, financial issues, or a lack of awareness about the importance of ongoing care (Restrepo & Anzueto, 2015).

Table 4

Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Patients' Engagement

Area		
D. Patients' Engagement	Mean	Interpretation
<i>As a patient and community member, I...</i>		Very Low Level
1. Recognize the transmission risks at home and in the workplace to reduce the spread of the disease	3.28	Moderate Level
2. Stay informed about the causes and risk factors of pneumonia	3.18	Moderate Level
3. Educate family and coworkers about pneumonia prevention	3.53	High Level
4. Use and share educational resources or materials provided by healthcare institution	4.65	Very High Level
5. Participate in community health initiatives to combat pneumonia.	3.15	Moderate Level
6. Clarify health education given by the healthcare providers about the disease	3.39	Moderate Level
7. Seek information from healthcare providers about pneumonia management	3.73	High Level
8. Follow the educational recommendations provided by healthcare workers	3.49	High Level
9. Attend health education sessions offered by healthcare institution	2.19	Low Level
10. Stay informed about health advisories and guidelines in my community	2.84	Moderate Level
Overall Mean	3.34	Moderate Level

The overall mean score for patients' engagement in managing CAP is 3.34, reflecting a moderate level of practice. This indicates that while patients are somewhat involved in their health management, there is significant potential for enhancing their engagement to better control the CAP.

The highest mean score is 4.65 for Item No.4, "utilizing and sharing educational resources provided by healthcare institutions," indicating a very high engagement level. This finding suggests that patients proactively seek out and disseminate valuable information regarding pneumonia, which is vital for effective disease management. Research affirmed the importance of education in fostering health literacy and empowering patients to take an active role in their healthcare (McCoy et al., 2016). Similarly, increased health literacy has been associated with better patient outcomes, as informed patients are more likely to adhere to treatment plans and preventive measures (Berkman et al., 2011).

In contrast, the lowest mean score is 2.19 for Item No.9, "attending health education sessions offered by healthcare institutions," indicating a low level of participation. This infers that low participation in health education sessions can result in limited knowledge, poor health practices, and increased risk of preventable diseases, which are essential for understanding CAP management and prevention. Potential reasons for low attendance could include lack of time, awareness, or accessibility of these sessions (Waller et al., 2017). The significance of

educational interventions in improving patient engagement and outcomes cannot be overstated, as they facilitate better understanding and management of health conditions (Naylor et al., 2016).

Table 5

Difference in the Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Lifestyle when grouped and compared according to the aforementioned variables

When grouped and compared according to the aforementioned variables							
Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	57	50.73	1238.500	0.764	0.05	Not Significant
	Older	45	52.48				
Sex	Male	62	49.10	1091.500	0.302		Not Significant
	Female	40	55.21				
Civil Status	Single	39	53.83	1137.500	0.525		Not Significant
	Married	63	50.06				
Average Family Monthly Income	Lower	69	49.59	1006.500	0.338		Not Significant
	Higher	33	55.50				

In this analysis, the p -values for each demographic variable, such as age, sex, civil status, and average family monthly income, are all above the significance level of 0.05, indicating no statistically significant differences in lifestyle practices among adult patients managing community-acquired pneumonia (CAP) across these groups. Based on these p -values, it fails to reject the null hypothesis for each variable. It accepts no significant difference in lifestyle practices when patients are grouped by age, sex, civil status, or income level.

With a p -value of 0.764 for age, it fails to reject the null hypothesis. Thus, lifestyle practices are similar between younger and older adults. This suggests that both age groups are likely exposed to similar healthcare information or education regarding CAP management. Age does not significantly influence lifestyle behaviors in CAP management (Anderson & Inglehart, 2015).

For sex, the p -value is 0.302, leading us to fail to reject the null hypothesis. The absence of significant differences between males and females in lifestyle practices implies that gender does not play a prominent role in CAP health behaviors. Likewise, a similar study suggested no significant difference in lifestyle practices between male and female patients, implying that both genders engage in similar health behaviors for CAP management (Green & Pope, 2020).

With a p -value of 0.525 for civil status, it fails to reject the null hypothesis again, indicating no significant difference in lifestyle practices between single and married individuals. This may indicate that civil status has limited influence on individuals' engagement with CAP-related health behaviors, as single and married individuals may equally prioritize their health regardless of their marital situation. Both groups likely recognize the importance of maintaining lifestyle practices for effective disease management due to similar exposure to public health guidance and personal motivations for wellness. A similar study mentioned that marital status does not substantially impact lifestyle practices related to CAP (Smith et al., 2017).

For the Average Family Monthly Income, the p -value is 0.338, leading us to fail to reject the null hypothesis. This suggests that lower- and higher-income groups may adopt similar health behaviors, possibly due to shared access to public health resources and information on CAP management. Regardless of income, both groups might prioritize health practices in managing CAP, supported by community healthcare programs or accessible educational materials that bridge income-related disparities. The result indicated in a previous study that there is no significant difference in lifestyle practices in income groups, suggesting that income does not determine adherence to CAP-related lifestyle practices (Berkman et al., 2011).

Table 6

Difference in the Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Preventive Measures when grouped and compared according to the aforementioned variables

Measures which grouped and compared according to the aforementioned variables							
Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	57	52.27	1238.500	0.764	0.05	Not Significant
	Older	45	50.52				
Sex	Male	62	51.13	1217.000	0.873		Not Significant
	Female	40	52.08				

Civil Status	Single	39	51.14	1214.500	0.922	Not Significant
	Married	63	51.72			
Average Family Monthly Income	Lower	69	47.96	894.500	0.077	Not Significant
	Higher	33	58.89			

The analysis of preventive measures for CAP management shows no significant differences across age, sex, civil status, and average family monthly income groups, as all p -values exceed the 0.05 threshold.

The p -value of 0.764 indicates no significant difference in preventive measures between younger and older adults, suggesting that both age groups are similarly engaged in CAP prevention. This could be due to widespread health education emphasizing prevention strategies regardless of age. Preventive practices for CAP are similarly prioritized across age groups. Health interventions may have successfully minimized age-related disparities by making preventive information and resources more universally accessible (Brown & Collins, 2020).

With a p -value of 0.873, the results show no significant variation between male and female patients' engagement with CAP preventive measures. This suggests that both men and women are equally likely to engage in CAP prevention, possibly due to the unifying nature of healthcare guidelines that target all patients regardless of gender. Such findings highlight that gender-neutral health messaging could effectively promote universal adherence to preventive behaviors (Nguyen & Evans, 2019).

The p -value of 0.922 suggests that single and married individuals do not differ significantly in their preventive practices. This might imply that marital status does not strongly affect individuals' dedication to CAP prevention, as both groups likely recognize its importance for their health.

Although the p -value of 0.077 is close to significance, it remains above the 0.05 threshold, indicating no substantial difference in preventive practices between lower- and higher-income groups. This suggests that income might have a limited effect on preventive behaviors, possibly due to community resources that help equalize access to preventive healthcare across income levels. This may reflect the high level of awareness about disease prevention, which transcends household dynamics, as both groups appear similarly committed to self-care and community health practices. Civil status, therefore, may have minimal influence on preventive engagement if health messaging emphasizes individual responsibility (Garcia & Roberts, 2020).

Table 7

Difference in the Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Healthcare-seeking Behavior when grouped and compared according to the aforementioned variables

Variable	Category	N	Mean Rank	Mann Whitney U	p -value	Sig. level	Interpretation
Age	Younger	57	57.18	958.500	0.027	0.05	Significant
	Older	45	44.30				
Sex	Male	62	55.62	984.500	0.077	0.05	Not Significant
	Female	40	45.11				
Civil Status	Single	39	52.12	1204.500	0.867	0.05	Not Significant
	Married	63	51.12				
Average Family Monthly Income	Lower	69	55.84	839.000	0.030	0.05	Significant
	Higher	33	42.42				

Table 7 analyzes significant differences for each variable in healthcare-seeking behavior among adult patients managing community-acquired pneumonia (CAP).

The significant p -value of 0.027 suggests a notable difference in healthcare-seeking behavior between younger and older adults, with younger adults (mean rank = 57.18) more proactive in seeking healthcare for CAP. This could reflect younger adults' greater access to and comfort with healthcare resources, including digital health information and appointment scheduling systems. A previous study supports the finding that older adults may benefit from targeted initiatives to improve healthcare engagement, especially in contexts where digital literacy could be a barrier (McIntyre & Patel, 2020).

With a p -value of 0.077, the results show no significant difference in healthcare-seeking behavior between males and females. This similarity suggests that both genders demonstrate comparable tendencies in healthcare engagement for CAP, possibly due to general awareness of pneumonia risks and the importance of timely medical intervention (Taylor & Ahmed, 2019). This finding aligns with research indicating that for severe or potentially life-

threatening conditions like CAP, gender differences in healthcare utilization are often minimized (Lopez & Garcia, 2021).

The non-significant p -value of 0.867 suggests that civil status does not significantly influence healthcare-seeking behavior, with both single and married individuals showing similar engagement levels. This may indicate that personal health concerns for CAP override marital or household dynamics, leading to comparable health-seeking behaviors. The lack of significant differences also implies that individual motivation may play a more prominent role than social status in decisions to seek medical care (Chen & Wilson, 2022; Griffith & Tran, 2020).

In an average family's monthly income, a significant p -value of 0.030 indicates that income level influences healthcare-seeking behavior, with those in the lower-income group with a mean rank of 55.84 demonstrating higher engagement in seeking healthcare. This may reflect a tendency among lower-income individuals to pursue medical consultation for respiratory issues like CAP to prevent high-cost complications. Previous studies suggest that lower-income groups prioritize healthcare for acute conditions. In contrast, higher-income groups may rely more on preventive or alternative care due to greater resource access and flexibility (Marshall & Nguyen, 2021).

Table 8

Difference in the Level of Practices among Adult Patients Managing Community-acquired Pneumonia in Patients' Engagement when grouped and compared according to the aforementioned variables

Engagement when grouped and compared according to the aforementioned variables							
Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	57	47.57	1058.500	0.125	0.05	Not Significant
	Older	45	56.48				
Sex	Male	62	54.34	1064.000	0.220		Not Significant
	Female	40	47.10				
Civil Status	Single	39	49.87	1165.000	0.657		Not Significant
	Married	63	52.51				
Average Family Monthly Income	Lower	69	48.73	947.500	0.165		Not Significant
	Higher	33	57.29				

In Table 8, the level of practices among adult patients managing Community-acquired Pneumonia (CAP) in terms of patients' engagement was compared according to age, sex, civil status, and average family monthly income.

For age, the p -value of 0.125 indicates no significant difference in patient engagement between younger and older adults. This suggests that age does not significantly influence the level of engagement in managing CAP, implying that both younger and older adults are similarly engaged in their health management behaviors (Anderson & Inglehart, 2015).

Regarding sex, with a p -value of 0.220, the result suggests no significant difference between male and female patients' engagement in CAP management. This implies that gender does not play a significant role in how individuals engage with pneumonia-related health practices (Green & Pope, 2020).

Civil status also shows no significant difference, with a p -value of 0.657. This indicates that being single or married does not significantly affect the level of engagement in CAP management. Thus, marital status has minimal impact on health-related engagement behaviors in the context of pneumonia (Smith et al., 2017).

Lastly, the average family monthly income, the value of 0.165, shows no significant difference between lower and higher-income groups regarding engagement in managing CAP. This suggests that income does not significantly determine the extent of a patient's engagement in pneumonia-related health practices (Berkman et al., 2011).

Conclusions:

In conclusions, this study highlights the rising incidence of community-acquired pneumonia (CAP) in younger males and the need for targeted healthcare strategies, especially for low-income families facing significant care barriers. Promoting shared responsibility among married couples and fostering patient engagement are crucial to improving health outcomes. Tailored interventions should empower patients, particularly younger, female, and low-income individuals, to take active roles in managing their health, adhere to treatment plans, and seek timely care. Strengthening health-seeking behaviors and addressing barriers to engagement can enhance prevention and management efforts, ensuring equitable access to healthcare and reducing the risk of complications across all demographics.

Recommendations

Based on the study's findings, several recommendations were proposed to address the rising incidence of community-acquired pneumonia (CAP) in low-income communities. Public Health Nurses should promote prevention, early detection, and treatment adherence through local health centers and home visits. A "Libreng Gamot, Libreng Health Education" program should be implemented quarterly to provide free medications and health education, aiming for 95% attendance with a P100,000 budget per session. Healthcare workers should conduct monthly health education sessions, supported by IEC materials, with a P100,000 monthly budget targeting 99% distribution. Collaboration among local partners, including the LGU and Municipal Health Officer, should focus on promoting health-seeking behaviors using community resources and media while providing incentives for participation. These initiatives aim to ensure equitable access to preventive health practices and treatments, particularly for younger and underserved populations.

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