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# CLINICAL PROFILE AND OUTCOME AMONG ADULT COVID-19 PATIENTS ADMITTED IN SELECTED LEVEL 1 HOSPITAL IN QUIRINO PROVINCE: A RETROSPECTIVE STUDY

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## ABSTRACT

*The COVID-19 pandemic has posed unprecedented challenges to healthcare systems worldwide, necessitating a thorough understanding of its impact on patient demographics, clinical presentations, and outcomes. Thus, this study was conducted to investigate the demographic and clinical profiles, as well as outcomes, of COVID-19 patients admitted to Quirino Province Medical Hospital from 2021 to 2022. The patient population exhibited a diverse age distribution, with a concentration in the 58-67 age group, indicating potential higher risks for severe illness among older adults. Respiratory issues were predominant. Also, there were patients experiencing moderate disease severity and facing severe disease. Despite most patients having no comorbidities, cardiovascular conditions led among those with comorbidities, emphasizing the need for cardiac health monitoring. As to clinical outcomes large number of patients were discharged alive, Significant differences in clinical status and outcomes were observed when grouped by age, sex, civil status, and occupation. Age and civil status demonstrated notable associations with disease severity, while sex and occupation had less influence. These findings underscore the importance of tailored healthcare strategies, proactive planning, and early detection to effectively manage COVID-19 patients and promote health equity. Further research is essential to adapt and improve healthcare approaches in this dynamic landscape.*

**KEYWORDS:** *Clinical Profile, Clinical Outcome, Comorbidity, COVID-19, Severity*

## INTRODUCTION

The COVID-19 pandemic has emerged as a global health crisis, profoundly impacting individuals and reshaping the healthcare landscape. On March 11, 2020, the World Health Organization (WHO) officially recognized COVID-19 as a global pandemic, marking a pivotal moment in the fight against the novel coronavirus (National Center for Biotechnology Information, n.d.). Since then, extensive research has been undertaken to unravel the complex nature of the disease, focusing on a broad spectrum of factors that influence patient outcomes. Studies have delved into the laboratory findings, clinical presentations, demographic details, and epidemiological patterns associated with COVID-19 (Muralidar *et al.*, 2020). Researchers have explored various dimensions of the disease, including the range of symptoms from mild to severe, the impact of comorbid conditions, and the differences in disease progression across different age groups and populations. This comprehensive analysis is crucial for developing targeted treatment strategies and public health interventions. Understanding these factors helps in assessing the overall impact of the pandemic on different segments of the population and informs efforts to mitigate the effects of future outbreaks.

A significant study analyzed adult COVID-19 patients admitted to Level 1 hospitals during the initial and subsequent waves of the pandemic in India. This research, which involved 1744 patients in the first wave and 1596 in the second, examined a range of variables including demographics, epidemiology, clinical features, and laboratory results. The study found notable differences between the two waves, such as a higher proportion of female patients in the first wave. The fatality rate during the second wave was reported at 22% (Chhabra *et al.*, 2022). Further research by Palomo *et al.* (2022) explored the clinical characteristics of patients seeking emergency care throughout the pandemic. This study highlighted shifts in patient demographics and clinical presentations before and after the pandemic's; onset, noting changes in the types of diagnoses and mental health issues observed during lockdown periods.

In the United States, a study focused on young adults aged 18 to 34 revealed significant adverse outcomes among this group. The study found that 21% required intensive care, 10% needed mechanical ventilation, and 2.7% succumbed to the disease. The presence of comorbidities such as morbid obesity, hypertension, and diabetes was linked to worse outcomes (Cunningham *et al.*, 2021). Another study conducted in northern India assessed the clinical features and outcomes of 114 COVID-19 patients between April and May 2020. It noted that severe illness was particularly prevalent among individuals aged 60 and above, as well as those with diabetes and hypertension. Comorbidities such

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as diabetes and chronic kidney disease were strongly associated with mortality (Soni *et al.,* 2021). This study provides an observational description of the clinical characteristics and outcomes of adult COVID-19 patients admitted to specified level 1 hospitals in the Philippines, specifically Manila Doctors Hospital (MDH), between March and June 2020. The article provides information on the clinical characteristics, laboratory findings, imaging outcomes, available treatment choices, potential consequences, and results of individuals diagnosed with COVID-19 at MDH. The study had 124 predominantly male participants with a median age of 47. Fever and cough were the predominant symptoms observed upon initial presentation (Punzalan *et al.*, 2021).

Octaviano *et al.* (2021) conducted a study at UP-PGH in the Philippines, where they evaluated the records of all COVID-19 patients admitted to the medical ICU from April 1 to May 31, 2020. This study elucidated the characteristics and outcomes of COVID-19 patients in an intensive care unit, specifically emphasizing patients admitted to the medical ICU. Furthermore, a cross-sectional study conducted in India investigated 727 individuals who tested positive for COVID-19 and had resided in a specific area for over a year. The study aimed to comprehend the clinical characteristics and outcomes of patients who tested positive for COVID-19. It specifically examined variables such as age, gender, presence of other medical conditions, symptoms, physical indicators, treatment received, and the resulting outcomes. Age, familial medical background, presence of other medical conditions, past medication usage, smoking behavior, alcohol intake, and symptoms were all linked to the results (Karthaka *et al.,* 2021). These studies contribute valuable information about COVID-19 patient profiles and outcomes in the Philippines. However, they also highlight existing research gaps. The lack of consensus on core outcome sets for prolonged COVID-19 may lead to missing crucial aspects relevant to patients and caregivers. There is a need for more precise definitions of protracted COVID-19 symptoms, along with further research into their causes, treatments, and prognoses. Comprehensive investigations are essential to fully understand the long-term effects of COVID-19 in adults.

In the Philippines, the COVID-19 pandemic has posed a considerable public health threat since the first case was detected on January 30, 2020. As of February 22, 2024, the Department of Health (DOH) reported a total of 4,140,383 confirmed COVID-19 cases and 66,864 deaths. The initial case involved a 38-year-old Chinese woman in Metro Manila. The pandemic response included community quarantine measures and the implementation of the Bayanihan to Heal as One Act. By February 2022, the country experienced a decline in cases and achieved "minimal-risk" status by May 2022. As of early June 2022, approximately 69.4 million Filipinos had completed their vaccination regimen, and 14.3 million had received booster doses. This indicates a significant impact of the vaccination campaign. Initially, the country struggled with inadequate testing capacity but eventually improved its testing infrastructure (Tee *et al.*, 2020).

The identified research gaps underscore the necessity for more studies on the enduring consequences of COVID-19 in adults. This research gaps will highlight the urgent need for further studies on the long-term effects of COVID-19 in adults. To gain a deeper understanding of persistent COVID-19 symptoms and outcomes across different age groups and environments, comprehensive longitudinal studies and well-designed case-control investigations are essential.

In the context of Quirino Province Medical Center (QPMC), it is clear that substantial improvements are necessary. As the primary hospital for the province and a designated COVID-19 treatment facility, QPMC plays a crucial role in managing patients with varying degrees of severity. Analyzing the characteristics of COVID-19 admissions at this hospital is vital, as these cases represent the initial encounters with the virus and provide critical clinical insights. The provincial government of Quirino, provincial and municipal health offices, hospital administrators, epidemiological surveillance unit, therapeutic committee, infection control and prevention committee, healthcare horkers and health adcovates can leverage these findings to better understand and address the challenges posed by COVID-19.

This study aims to provide a comprehensive analysis of COVID-19 patients admitted to Level 1 hospitals in Quirino Province. By detailing demographic, epidemiological, clinical, and laboratory characteristics, as well as treatment approaches, complications, and outcomes, the research will offer valuable insights for local health authorities and guide future public health strategies. By achieving these goals, the study will contribute to a deeper understanding of COVID-19's impact in Quirino Province and support the development of informed public health strategies. This comprehensive approach will not only aid in immediate COVID-19 management but also prepare the healthcare system for future challenges.

## RESEARCH METHODOLOGY

### Research Design

This study employed a retrospective quantitative approach, specifically utilizing a comparative design to explore significant differences in the clinical profiles and outcomes of COVID-19 patients when grouped according to selected demographic and clinical variables. The retrospective nature of the study involves analyzing existing patient records to gather relevant data, enabling the researcher to examine trends and patterns over a defined period.

The primary goal of the study was to provide a comprehensive analysis of the characteristics of COVID-19 patients, focusing on their demographics data, clinical profiles, and outcome of care. By utilizing a quantitative approach, the study aimed to collect and analyze numerical data systematically, allowing for objective and statistically valid conclusions. Investigating the factors influencing the severity and outcomes of COVID-19 cases in the chosen region could yield valuable novel insights. The study's objective was to investigate the attributes of individuals affected

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by COVID-19, such as their age, sex, gender, civil status, location, occupation, symptoms at admission, presence of other medical conditions, test outcomes, severity of sickness, and outcome of care.

**Research Method**

The study employed a purposive sampling design to analyze the clinical profiles and outcomes of COVID-19 patients at Quirino Province Medical Center over a two-year period, from January 1, 2021, to December 31, 2022. It included 1,124 participants, all aged 18 and older, who tested positive for COVID-19 via rapid antigen or RT-PCR tests. Data were collected from the hospital's information system and patient medical records, focusing on demographic variables (age, sex, civil status, religion, location, occupation) as well as clinical profiles (chief complaints, comorbidities, chest X-ray results) and outcomes (severity of disease, discharge status).The research process began with obtaining approval from the hospital's Chief and the ethics review committee, ensuring compliance with ethical standards and the Data Privacy Act. A structured template was used for data organization, which was later analyzed using Microsoft Excel and Jamovi 2.3. Statistical methods included frequency analysis, t-tests for comparing two groups, and ANOVA for assessing differences across multiple groups.The study's findings aim to highlight significant associations between demographic and clinical profiles and patient outcomes, contributing valuable insights into the management of COVID-19. Ethical considerations were prioritized throughout the research, ensuring participant confidentiality and adherence to data protection regulations.

## RESULTS AND DISCUSSIONS

This section presents the study's key findings, analyzing them in relation to the research objectives and theoretical framework. It highlights the study's contributions, interprets the results within existing literature, and explores any unexpected findings or trends, offering broader insights into the research and its significance.

**Part I. Demographic Profile of the Respondents**

***Table 1. Profile of the Respondents***

| Profile | | Frequency | Percent |
|---|---|---|---|
| Age | 18 – 27 | 127 | 11.3 % |
| | 28 – 37 | 165 | 14.7 % |
| | 38 – 47 | 153 | 13.6 % |
| | 48 – 57 | 208 | 18.5 % |
| | 58 – 67 | 263 | 23.4 % |
| | 68 and above | 208 | 18.5 % |
| | ***Min. = 18; Max = 94; Mean = 51.4; SD = 17.6*** | | |
| Sex | Male | 480 | 42.7 % |
| | Female | 644 | 57.3 % |
| Civil Status | Single | 168 | 14.9 |
| | Married | 841 | 74.8 |
| | Widow/er | 115 | 10.2 |
| Location | Aglipay | 137 | 12.2 % |
| | Cabarroguis | 278 | 24.7 % |
| | Diffun | 351 | 31.2 % |
| | Maddela | 133 | 11.8 % |
| | Nagtipunan | 45 | 4.0 % |
| | Saguday | 94 | 8.4 % |
| | Outside Quirino | 86 | 7.7 % |
| Religion | Roman Catholic | 610 | 54.3 % |
| | Islam/Music | 2 | 0.2 % |
| | Iglesia Ni Cristo | 96 | 8.5 % |
| | Born again Christian | 125 | 11.1 % |
| | Jehovah's Witnesses | 22 | 2.0 % |
| | Others | 269 | 23.9 % |
| Occupation | Unemployed | 789 | 70.2 % |
| | Government Employee | 171 | 15.2 % |
| | Private Employee | 65 | 5.8 % |
| | Self-Employed | 99 | 8.8 % |
| **TOTAL** | | **1124** | **100%** |

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Table 1 details the demographic characteristics of patients admitted to Quirino Province Medical Center between January 1, 2021, and December 31, 2022. The age distribution suggests that the majority of patients (23.4% of total admissions) are between the ages of 58 and 67. This is followed by the age categories 48-57 and 68 and above, which account for 18.5% apiece. The patients' average age is 51.4 years, with a standard deviation of 17.6, demonstrating a wide age range among the hospitalized population. According to research, older age groups are more likely to experience severe COVID-19 outcomes, which is consistent with their larger representation in hospital admissions data (Onder, Rezza, & Brusaferro, 2020).

Gender distribution indicates a slight female majority, with women accounting for 57.3% of the patient population. This is consistent with research indicating that females may be somewhat more susceptible or more likely to seek healthcare during the pandemic. However, additional study indicates that males frequently have more severe effects when infected, making gender an important component in COVID-19 investigations (Peckham *et al.*, 2020).

In terms of civil status, the majority of patients are married, which comprises 74.8% of the total, followed by single persons (14.9%) and widowed individuals (10.2%). This demographic trend may reflect families' supporting role in healthcare access and results, as evidenced by research showing that married people frequently have better health outcomes due to greater support systems (Kiecolt-Glaser & Newton 2001).

Cabarroguis and Diffun had the highest representation geographically, implying higher transmission rates or better access to healthcare services in these localities. Urbanized and highly inhabited areas have greater COVID-19 transmission rates, which may explain the observed geographic dispersion (Wilder-Smith and Freedman, 2020).

Roman Catholicism is the predominant religion among the patients, reflecting the general religious landscape of the region. However, there is a diversity of other religious affiliations, which can influence health behaviors and healthcare access. Research indicates that religious beliefs can significantly impact health-seeking behavior and attitudes towards medical interventions (Koenig, 2020).

Employment status reveals that the majority of patients are unemployed, highlighting the economic challenges exacerbated by the pandemic. The relationship between unemployment and adverse health outcomes is well-documented, with unemployed individuals often experiencing increased stress, reduced access to healthcare, and lower overall socioeconomic status, all of which can negatively impact health (Janke *et al.*, 2020).

Overall, the demographic data from Quirino Province Medical Center provides valuable insights into the characteristics of COVID-19 patients during the study period. These findings are consistent with global trends, where age, gender, civil status, location, religion, and employment status have all been shown to influence the spread and impact of COVID-19. Integrating this data with current research can help tailor public health interventions more effectively to the specific needs of the population.

**Part II. Clinical Profile of the Patients**

***Table 2. Clinical Profile of the Patients in terms of Chief Complaint***

| Chief Complaint | Frequency | Percent |
|---|---|---|
| Reproductive | 85 | 7.6 % |
| Respiratory | 537 | 47.8 % |
| Gastrointestinal | 74 | 6.6 % |
| Immunological | 180 | 16.0 % |
| Neurological | 201 | 17.9 % |
| Musculoskeletal | 22 | 2.0 % |
| Cardiovascular | 25 | 2.2 % |

Table 2 provides a detailed overview of the clinical status of patients, categorized by their chief complaints upon admission. The data reveals a varied distribution of medical concerns, with respiratory issues being the most prevalent, accounting for 47.8% of cases. This aligns with the well-documented respiratory involvement in COVID-19, where symptoms like cough, shortness of breath, and pneumonia are common initial manifestations (Khan *et al.*, 2021). Neurological complaints are the second most frequent, comprising 17.9% of cases. This highlights the significant impact of COVID-19 on the nervous system, which is consistent with emerging research that identifies neurological symptoms such as altered mental status, headaches, and hemiparesis in a substantial number of patients (Situmeang *et al.*, 2021). Immunological issues are also notable, representing 16.0% of cases. This category likely includes conditions such as cytokine storm syndrome and other immune-mediated complications, which are critical in the pathophysiology of severe COVID-19 (Mehta *et al.*, 2020). Reproductive health concerns, though less common, account for 7.6% of cases, indicating the broad spectrum of COVID-19's impact, which extends to reproductive organs and functions. Gastrointestinal issues make up 6.6% of the cases, reflecting the known association of COVID-

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19 with symptoms like diarrhea, nausea, and abdominal pain. Cardiovascular complaints, while representing only 2.2% of cases, are still significant, considering the virus's potential to exacerbate pre-existing cardiovascular conditions or directly affect the heart (Guo *et al.*, 2020). Musculoskeletal complaints are the least frequent, accounting for 2.0% of cases, but pain related to myalgia and arthralgia remains a notable symptom in some patients (Murat *et al.*, 2020).

The distribution of these complaints demonstrates the wide spectrum of health concerns related with COVID-19, emphasizing the need for extensive clinical examination and therapeutic techniques. This variety in presenting symptoms emphasizes that healthcare practitioners must be watchful for a wide range of possible consequences, particularly in patients with pre-existing comorbidities, which can complicate the clinical picture and impact outcomes.

***Table 3. Clinical Profile of the Patients in terms of Chest X-Ray Results***

| Chest X-Ray | Frequency | Percent |
|---|---|---|
| None | 44 | 3.9 % |
| Normal | 393 | 35.0 % |
| Atheromatous Aorta | 127 | 11.3 % |
| Pneumonia | 451 | 40.1 % |
| Cardiomegaly | 51 | 4.5 % |
| Pleural Effusion | 7 | 0.6 % |
| PTB | 28 | 2.5 % |
| Pneumonitis | 12 | 1.1 % |
| Pulmonary Mass | 2 | 0.2 % |
| Chronic Bronchitis | 3 | 0.3 % |
| Consolidation | 3 | 0.3 % |
| Fibrothorax | 1 | 0.1 % |
| Pneumothorax | 2 | 0.2 % |

The table details the clinical status of patients based on chest X-ray examination results, highlighting the frequencies and percentages of various pulmonary conditions. Pneumonia emerges as the most prevalent condition, observed in 40.1% of cases, underscoring the significant impact of COVID-19 on the respiratory system. This is followed by normal chest X-ray findings in 35.0% of patients, suggesting that a substantial portion of the population may have mild or asymptomatic disease, or that chest X-ray may not detect all COVID-19 related abnormalities in early stages. Atheromatous aorta is noted in 11.3% of patients, indicating a relatively common presence of vascular changes, which could be associated with aging or underlying cardiovascular risk factors. Cardiomegaly, observed in 4.5% of cases, may reflect the cardiac complications often seen in severe COVID-19, including myocarditis and stress-induced cardiomyopathy (Guo *et al.*, 2020). Pulmonary tuberculosis (PTB) is present in 2.5% of cases, and although not directly related to COVID-19, its presence highlights the ongoing burden of TB in the region, which may complicate COVID-19 management. Pneumonitis, identified in 1.1% of patients, along with rarer conditions such as pulmonary mass, chronic bronchitis, consolidation, fibrothorax, and pneumothorax (each comprising less than 1% of the total), showcases the wide spectrum of chest pathologies that may be observed in this patient population. Additionally, 3.9% of patients did not undergo chest X-ray examinations, which might be due to various factors including clinical discretion or logistical challenges, while pleural effusion is detected in only 0.6% of cases.

These findings provide a comprehensive overview of the pulmonary conditions identified through chest X-ray examinations, reflecting the diversity of clinical presentations among the patients. Recent studies emphasize the role of chest X-ray in the clinical assessment of COVID-19, particularly in evaluating disease severity and progression. Rahman (2021) and Srisud (2022) both found a significant correlation between chest X-ray abnormalities and the severity of COVID-19, suggesting its utility in triage and treatment planning. The most common radiographic findings in COVID-19 patients include patchy and confluent ground-glass opacities, typically with a peripheral subpleural distribution, and involving multiple lung zones bilaterally. These findings have been consistently reported across various studies, underscoring the importance of chest X-rays as a key diagnostic tool in managing COVID-19 patients (Khan *et al.*, 2020; Hussain *et al.*, 2021).

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*Table 4. Clinical Profile of the Patients in terms of Comorbidity by System*

| Comorbidity | Frequency | Percent |
|---|---|---|
| None | 450 | 40.0 % |
| Cardiovascular | 253 | 22.5 % |
| Endocrine | 76 | 6.8 % |
| Gastrointestinal | 8 | 0.7 % |
| Hematology | 18 | 1.6 % |
| Immunology | 13 | 1.2 % |
| Metabolic System | 6 | 0.5 % |
| Musculoskeletal | 1 | 0.1 % |
| Neurology | 10 | 0.9 % |
| Pulmonary | 20 | 1.8 % |
| Reproductive | 114 | 10.1 % |
| Respiratory | 47 | 4.2 % |
| Urinary | 108 | 9.6 % |

Table 4 presents the clinical status of patients with respect to the presence of comorbidities. Notably, 40.0% of patients do not have any comorbid conditions, indicating that a significant portion of the population might have been affected by COVID-19 without underlying health issues. Among those with comorbidities, cardiovascular conditions are the most common, affecting 22.5% of patients. This is consistent with the established understanding that cardiovascular diseases, including hypertension and coronary artery disease, are significant risk factors for severe COVID-19 outcomes (Sultana *et al.*, 2022). Reproductive system issues are the next most prevalent, observed in 10.1% of patients, followed closely by urinary conditions in 9.6% of cases. Endocrine disorders, particularly diabetes mellitus, are present in 6.8% of patients, further emphasizing the role of metabolic dysfunction in complicating COVID-19 (Abida *et al.*, 2020). Respiratory and pulmonary comorbidities, including chronic obstructive pulmonary disease (COPD) and asthma, are identified in 4.2% and 1.8% of patients, respectively, highlighting their role in increasing susceptibility to severe respiratory complications in COVID-19 patients (Dong *et al.*, 2021).

Less common comorbidities, including gastrointestinal, hematological, immunological, metabolic, musculoskeletal, and neurological conditions, affect a small percentage of the patient population, each contributing to the complexity of managing COVID-19 in these individuals.

Research consistently demonstrates that COVID-19 patients with comorbidities, especially those with conditions such as hypertension, diabetes, cardiovascular disease, cerebrovascular disease, and chronic lung disease, are at a significantly higher risk of severe complications and mortality (Indriyani *et al.*, 2022). These patients often exhibit lower lymphocyte counts and elevated inflammatory markers, indicative of a more severe disease course (Dong *et al.*, 2021). The prognosis worsens with the presence of multiple comorbidities, making clinical management more challenging (Indriyani *et al.*, 2022). However, there have been successful cases where patients with comorbidities responded well to targeted therapies, such as Tocilizumab, which has been shown to mitigate the severe inflammatory response associated with COVID-19 (Sultana *et al.*, 2022).

**Part III. Clinical Outcome of the Patients**

*Table 5. Clinical Outcome of the Patients in terms of Severity of the Disease*

| Severity of the Disease | Frequency | Percent |
|---|---|---|
| Mild | 455 | 40.5 % |
| Moderate | 504 | 44.8 % |
| Severe | 130 | 11.6 % |
| Critical | 35 | 3.1 % |

The table above highlights the distribution of disease severity among the patient population, revealing that 44.8% of patients exhibit moderate disease severity. This suggests a significant impact on their health, requiring careful monitoring and management, though still within manageable limits. Meanwhile, 40.5% of patients experience mild disease severity, indicating that their conditions are relatively stable and manageable with standard care protocols. A smaller subset of the population, 11.6%, faces severe disease, which indicates a considerable impact on their health and often necessitates intensive treatment or close monitoring to prevent further deterioration. Critical cases are the least common, representing only 3.1% of patients, but they signify the most severe level of illness. These cases typically require immediate and intensive medical intervention, such as mechanical ventilation or admission to the intensive care unit (ICU). This breakdown provides valuable insights into the range of COVID-19 severity among patients, offering healthcare professionals a clearer understanding of the spectrum of conditions they may encounter. It also underscores the necessity of tailoring care approaches to the severity of the disease,

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ensuring that each patient receives the appropriate level of intervention.

Recent studies have identified several factors that influence the severity of COVID-19. For instance, Baimakanova *et al.* (2021) found that patients with chronic conditions, especially those affecting the endocrine, circulatory, and respiratory systems, are more likely to experience severe forms of the disease. This finding emphasizes the need for heightened vigilance and proactive management in patients with pre-existing health conditions. Furthermore, Abdulah *et al.* (2022) highlighted the predictive value of certain biomarkers, such as C-reactive protein (CRP) and D-dimer, in assessing disease severity and mortality risk. Elevated levels of these biomarkers have been associated with more severe disease outcomes, making them critical tools in the early identification of high-risk patients. These studies collectively underscore the importance of early detection, continuous monitoring, and targeted interventions to improve clinical outcomes in patients with varying degrees of COVID-19 severity.

***Table 6. Clinical Outcome of the Patients in terms of Disposition Upon Discharged***

| Disposition Upon Discharged | Frequency | Percent |
|---|---|---|
| Alive | 929 | 82.7 % |
| Transferred to Higher Level Facility | 69 | 6.1 % |
| Discharged Against Medical Advised | 14 | 1.2 % |
| Died | 112 | 10.0 % |

The clinical outcomes of patients upon discharge from medical care, as shown in the table above, reveal a diverse distribution of dispositions that reflect varying levels of recovery and ongoing healthcare needs. The vast majority, 82.7%, were discharged alive, signifying successful treatment and recovery. This positive outcome underscores the effectiveness of the medical interventions provided during their hospitalization. However, a significant portion of the patient population, 10.0%, succumbed to their illness. This highlights the severity and potential lethality of COVID-19, particularly in patients with underlying health conditions or those who experienced severe or critical disease. The mortality rate underscores the ongoing challenges in managing and treating the most vulnerable patient groups. Additionally, 6.1% of patients were transferred to higher-level medical facilities, indicating that their conditions required more specialized care or resources that were not available in the initial care setting. This transfer to tertiary or specialized centers often reflects the need for advanced interventions, such as mechanical ventilation, renal replacement therapy, or more intensive monitoring. A smaller percentage of patients, 1.2%, were discharged against medical advice (DAMA), suggesting instances where patients or their families opted to leave the hospital contrary to the recommendations of their healthcare providers. DAMA cases can be complex, often involving considerations of personal beliefs, financial constraints, or a perceived lack of improvement, and they pose additional risks for adverse outcomes.

These varied discharge outcomes offer valuable insights into the complexity of patient experiences and the challenges within the healthcare system, reflecting both successful recoveries and the difficulties in managing severe medical conditions. Recent studies have provided further understanding of these clinical outcomes in COVID-19 patients. Ishaque *et al.* (2020) and Wang *et al.* (2020) reported that the majority of patients experienced significant recovery, including a reduction in symptoms and improvements in chest X-ray findings, upon discharge. However, it was also noted that some patients faced complications post-discharge, including transient fever and the recurrence of symptoms, leading to a small percentage requiring readmission (Wang *et al.*, 2020). Persistent symptoms such as fatigue were common, indicating that recovery from COVID-19 can be prolonged and may require ongoing care and support (Ishaque *et al.*, 2021). These findings emphasize the importance of continued monitoring and follow-up care for discharged COVID-19 patients to ensure full recovery and address any lingering health issues.

**Part IV. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Selected Profile Variables**

***Table 7. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Age***

| Clinical Status | p-Value | Decision |
|---|---|---|
| Chief Complaint | < .001 | Reject $H0_1$ |
| Chest X-Ray Result | < .001 | Reject $H0_1$ |
| Comorbidity | 0.301 | Failed to Reject $H0_1$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

Table 7 presents an analysis of the clinical profile of COVID-19 patients, categorized by age, which yielded significant findings. The analysis revealed that both the chief complaints and chest X-ray results varied significantly across different age groups, as indicated by p-values of less than 0.001. These low p-values led to the rejection of the null hypothesis, suggesting that age plays a

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crucial role in influencing the clinical presentation and radiological findings of COVID-19 patients. Specifically, the differences in reported symptoms and chest X-ray abnormalities among various age groups underscore the importance of considering age as a key factor in the assessment and management of COVID-19. In contrast, the analysis of comorbidities yielded a p-value of 0.301, indicating that there is insufficient evidence to reject the null hypothesis. This suggests that, unlike symptoms and chest X-ray results, the prevalence and impact of comorbidities do not significantly differ across age groups in this patient population. Therefore, while age is a significant determinant of symptom severity and radiological findings, it may not be as influential in the context of underlying health conditions.

These findings are supported by a body of research that highlights the relationship between age and chest X-ray findings in COVID-19 patients. Li *et al.* (2020) and Mohan *et al.* (2023) both reported that older patients, particularly those with pre-existing comorbidities, tend to exhibit more severe chest X-ray abnormalities. Mohan *et al.* (2023) specifically noted that older age groups had higher radiographic severity scores, reflecting more extensive lung involvement. Similarly, studies by M.D. *et al.* (2021) and Parlak *et al.* (2020) identified significant differences in chest X-ray features based on age, with older patients displaying more pronounced radiological changes. These studies collectively suggest that age, along with the presence of comorbidities, significantly influences the severity of chest X-ray findings in COVID-19 patients, thereby impacting their overall clinical profile and prognosis.

***Table 8. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Sex***

| Clinical Status | p-value | Decision |
|---|---|---|
| Chief Complaint | < .001 | Reject $H0_1$ |
| Chest X-Ray Result | 0.002 | Reject $H0_1$ |
| Comorbidity | 0.970 | Failed to Reject $H0_1$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

The analysis of the clinical profile of COVID-19 patients categorized by sex revealed significant findings, particularly in the areas of chief complaints and chest X-ray results. The p-values for both of these variables were found to be less than 0.05, which led to the rejection of the null hypothesis. This indicates that there are significant differences in the clinical presentation of COVID-19 between males and females, specifically in terms of reported symptoms and radiological findings. These differences suggest that sex may play a critical role in the severity and nature of the disease, with potential implications for diagnosis and treatment strategies. On the other hand, when evaluating the presence of comorbidities, the analysis yielded a p-value of 0.970, which indicates insufficient evidence to reject the null hypothesis. This suggests that there is no significant difference in the prevalence of pre-existing health conditions between males and females in this patient cohort. Therefore, while sex appears to be a significant factor influencing symptom severity and chest X-ray abnormalities, it does not seem to have a substantial impact on the distribution of comorbidities among COVID-19 patients.

These findings align with existing research that highlights sex-specific differences in COVID-19 outcomes. For instance, a study by Peckham *et al.* (2020) demonstrated that males are more likely to experience severe outcomes and higher mortality rates compared to females, potentially due to differences in immune response and the presence of certain risk factors. Additionally, Zhao *et al.* (2020) found that males are more prone to severe chest X-ray findings, such as bilateral lung involvement and greater lung opacity, which could explain the significant differences observed in this study. However, when it comes to comorbidities, research by Biswas *et al.* (2021) indicates that the distribution of underlying conditions such as hypertension, diabetes, and cardiovascular disease is relatively similar between sexes, supporting the finding that sex does not significantly influence the prevalence of comorbidities in COVID-19 patients.

***Table 9. Test of Significant Difference on the Profile of the COVID-19 Patients when they are Grouped as to Civil Status***

| Clinical Status | p-value | Decision |
|---|---|---|
| Chief Complaint | 0.025 | Reject $H0_1$ |
| Chest X-Ray Result | < .001 | Reject $H0_1$ |
| Comorbidity | 0.466 | Failed to Reject $H0_1$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

Table 9 presents data on chief complaints categorized by civil status, with a p-value of 0.025, which is below the 0.05 threshold for statistical significance. This result indicates a significant association between civil status and the severity of symptoms reported by COVID-19 patients. Additionally, the p-value for chest X-ray findings was less than 0.001, reinforcing the conclusion that there is a notable difference in radiological results based on civil status. These findings suggest that civil status might impact the clinical presentation of COVID-19, particularly in terms of symptom severity and radiological manifestations. Conversely, the analysis of comorbidities yielded a p-value of 0.466, which exceeds the significance level, implying no

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substantial evidence to reject the null hypothesis. This result indicates that pre-existing health conditions do not significantly vary across different civil statuses in this study.

Supporting these findings, Zhao *et al.* (2020) discovered that married people with COVID-19 had more severe depression symptoms and somatic problems than single or widowed people. This study emphasizes the possible role of marital status in the psychological burden of the disease. Zhao's findings support the idea that civil status may influence the overall clinical and emotional outcomes of COVID-19 patients.

***Table 10. Test of Significant Difference on the Clinical Profile of the COVID-19 Patients when they are Grouped as to Occupation***

| Clinical Status | p-value | Decision |
|---|---|---|
| Chief Complaint | 0.111 | Failed to Reject $H0_1$ |
| Chest X-Ray Result | 0.007 | Reject $H0_1$ |
| Comorbidity | 0.427 | Failed to Reject $H0_1$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

The table assesses the clinical state of COVID-19 individuals from various occupational categories, with varying outcomes. The analysis of chief complaints and comorbidities yielded p-values of 0.111 and 0.427, respectively, which above the 0.05 significant level. This shows that occupational variations have no substantial effect on these elements of clinical state. In contrast, the p-value for chest X-ray data was 0.007, demonstrating a statistically significant difference according to occupation. Patients working in the government or commercial sector tended to have normal chest X-ray findings, but those who were jobless or self-employed had more aberrant outcomes. This demonstrates occupational differences in COVID-19 outcomes, notably in radiological results.

Recent literature supports these observations. Thompson (2023) documented that individuals who took time off work due to COVID-19 quarantine often experienced persistent physical, psychiatric, and neurocognitive challenges. Moghe (2021) found that employed individuals generally had better family connections and lower levels of tension compared to the unemployed, who were more anxious about productivity and work quality. Additionally, Little (2021) reported that individuals from high-poverty areas, often younger and with higher comorbidity rates, faced a steeper socioeconomic gradient in their COVID-19 clinical presentation. Ruffolo (2021) further highlighted that employed individuals experienced lower levels of mental health distress and higher psychosocial well-being, correlating with better overall quality of life. These studies underscore the need for targeted interventions to mitigate the differential impacts of employment status on COVID-19 patients' clinical outcomes.

**Part V. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Selected Profile**

***Table 11. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Age***

| Clinical Outcome | p-value | Decision |
|---|---|---|
| Severity of the Disease | 0.035 | Reject $H0_2$ |
| Disposition Upon Discharged | 0.266 | Failed to Reject $H0_2$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

The table shows that analyzing COVID-19 clinical outcomes by age yields substantial insights. The p-value of 0.035 for illness severity, which is less than the 0.05 level, indicating a significant difference in disease severity between age groups. This data implies that age influences the severity of COVID-19. In contrast, the p-value for discharge disposition was 0.266, which is larger than the significance level, showing no significant difference in discharge outcomes among age groups. This implies that, while age may influence the severity of the condition, it does not appear to have a substantial impact on the temperament after discharge.

Recent study confirms these findings, highlighting the impact of age on COVID-19 severity and prognosis. McKay (2021) discovered that older individuals with underlying diseases such hypoxia, tachycardia, hypertension, diabetes, coronary artery disease, chronic renal disease, and cancer have a greater chance of readmission. This study emphasizes the higher sensitivity of older people to severe COVID-19 problems, which is consistent with the present analysis's finding of substantial variations in illness severity by age group.

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*Table 12. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Sex*

| Clinical Outcome | p-value | Decision |
|---|---|---|
| Severity of the Disease | 0.994 | Failed to Reject $H0_2$ |
| Disposition Upon Discharged | 0.953 | Failed to Reject $H0_2$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

The table depicts an examination of COVID-19 clinical outcomes by gender, which revealed no significant variations in illness severity or discharge disposition. This shows that, within the scope of this study, sex had no meaningful impact on clinical outcomes for COVID-19 individuals.

However, an increasing body of evidence indicates that sex may play a significant impact in COVID-19 results. Matsumoto (2022) found that men patients with cardiovascular risk factors had a greater in-hospital death rate than their female counterparts. Similarly, Biole (2021) discovered that men had much higher 30-day death rates. Studies by Sha (2021) and Jirak (2022) support these findings, with both seeing greater illness severity in male patients. Sha (2021) also found a significant relationship between age and sex in in-hospital death rates. These studies show that males had poorer clinical outcomes than women, implying that sex may have a crucial role in explaining COVID-19 severity and mortality.

*Table 13. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Civil Status*

| Clinical Outcome | p-value | Decision |
|---|---|---|
| Severity of the Disease | 0.045 | Reject $H0_2$ |
| Disposition Upon Discharged | 0.465 | Failed to Reject $H0_2$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

The research found a p-value of 0.045 for illness severity when categorized by civil status, which is less than the 0.05 criterion. This suggests a statistically significant variation in the severity of COVID-19 among various civil statuses. However, the p-value of 0.465 for discharge disposition indicates that there is no significant variation in discharge outcomes depending on civil status.

These findings are consistent with the findings of Farooqi (2021), who discovered increased illness severity among married health professionals. In contrast, several research give a different viewpoint. Biole (2021) and Jirak (2022) discovered that unmarried COVID-19 patients had greater levels of illness severity. Biole (2021) found that unmarried patients had more severe symptoms and higher fatality rates, whereas Jirak (2022) discovered that these patients also had longer ICU stays. This discrepancy shows that the influence of civil status on illness severity varies, with some research showing that unmarried individuals have a higher risk.

*Table 14. Test of Significant Difference on the Clinical Outcomes of the COVID-19 Patients when they are Grouped as to Occupation*

| Clinical Outcome | p-value | Decision |
|---|---|---|
| Severity of the Disease | 0.072 | Failed to Reject $H0_2$ |
| Disposition Upon Discharged | 0.102 | Failed to Reject $H0_2$ |

p-value of 0.05 and below is significant and above 0.05 is not significant

The analysis in Table 15, with p-values of 0.072 for illness severity and 0.102 for discharge disposition, shows that there is insufficient evidence to reject the null hypothesis for both measures. This shows that, according to this investigation, occupational variations have no significant effect on the severity of COVID-19 or the outcomes following discharge.

However, recent literature provides a more nuanced view of how occupation and employment status can influence COVID-19 outcomes. Ruffolo (2021) reported that employed individuals generally experienced better mental health throughout the pandemic. On the other hand, Dragano (2020) found that unemployed individuals faced a higher risk of hospitalization due to COVID-19, suggesting that employment status can impact the likelihood of severe outcomes. Clarke (2022) highlighted that individuals with disabilities experienced increased severity of COVID-19 outcomes, indicating that disability status might exacerbate the impact of the disease. Additionally, Sprong (2024) observed that there were no significant changes in employment rates among veterans with mental health disorders before and after the pandemic, suggesting stability in employment status for this group despite the pandemic. These studies collectively suggest that while occupation might not directly influence the clinical outcomes of COVID-19 as per the

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current analysis, related factors such as employment status, mental health, and disability status do play significant roles in shaping these outcomes.

**Part VI. Proposed Action Plan**

***Table 15. Health Education and Prevention Campaigns***

| Objective | Strategy / Actions | Tasks | Timeline | Persons Involved | Expected Outcome |
|---|---|---|---|---|---|
| Increase awareness and adoption of preventive measures among high-risk demographic groups. | Develop Targeted Educational Materials | Design informative materials addressing preventive measures for infectious diseases tailored to older adults, residents of Diffun and Cabarroguis, and individuals with cardiovascular conditions.<br><br>Create materials in multiple languages and accessible formats (e.g., large print, audio). | Twice a year | Public Health Department, in collaboration with medical professionals and communication experts. | Enhanced understanding and adoption of preventive measures among targeted groups. |
| | Collaborate with Community Leaders and Organizations | Engage local community leaders, grassroots organizations and religious institutions to disseminate information.<br><br>Partner with local schools and businesses to reach a broader audience. | Quarterly | Community Outreach Team, Public Health Department | Increased community involvement and dissemination of health information. |
| | Distribute Educational Materials | Use diverse channels such as social media platforms, local radio stations, community newsletters, and posters in public spaces.<br><br>Set up informational booths at community events and health fairs. | Monthly | Community Outreach Team, Local Media Partners | Wider reach and improved accessibility of educational materials. |
| | Conduct Regular Educational Sessions | Arrange regular sessions in healthcare facilities for patients, caregivers, and healthcare workers. | Quarterly | Public Health Department, Healthcare Facilities, Community Leaders | Reinforced preventive behaviors and updated knowledge on infectious diseases. |

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| | | | | | |
|---|---|---|---|---|---|
| | | Host workshops and webinars on preventive behaviors and updates on infectious diseases. | | | |
| | Implement School and Workplace Programs | Develop school-based programs focusing on hygiene practices, vaccination, and disease prevention.<br><br>Introduce workplace wellness programs that include health screenings and educational workshops. | Annually | School Administrators, Employers, Public Health Department | Improved preventive practices among students and employees. |
| | Evaluate and Adjust Campaign Effectiveness | Conduct surveys and focus groups to assess the impact of educational materials and sessions.<br><br>Analyze data on disease incidence and participant feedback to refine strategies. | Annually | Public Health Department, Research Analysts | Ongoing improvement of campaign strategies and effectiveness. |

## DISCUSSION

### Demographic Profile of COVID-19 Patients

The analysis of COVID-19 patients admitted to Quirino Province Medical Center from 2021 to 2022 provides valuable insights into the demographic characteristics of this population, which are essential for tailoring healthcare delivery and resource allocation. The age distribution of admitted COVID-19 patients is notably diverse. However, a significant concentration of patients falls within the 58-67 age group. This trend suggests a heightened risk for severe illness among older adults. The increased vulnerability in this age bracket may be due to age-related factors such as weakened immune response and the presence of comorbid conditions, which are known to exacerbate the severity of COVID-19. The data indicates a slight predominance of female patients. This gender distribution, while not drastically imbalanced, could influence the design and implementation of gender-sensitive health interventions and support services. The majority of patients are married, which could impact family dynamics and caregiving responsibilities during illness. Understanding the marital status of patients can help in planning family support services and ensuring that caregivers receive appropriate resources and guidance. There is a notable higher representation of patients from Diffun and Cabarroguis. This geographical concentration may reflect regional variations in infection rates or access to healthcare facilities. It highlights the need for targeted public health interventions and resource allocation in these areas to manage and mitigate the spread of the virus more effectively. The predominant religion among the patients is Roman Catholicism. This information can be useful in addressing the cultural and religious needs of patients, ensuring that health communication and support services are culturally sensitive and respectful of religious practices. A significant proportion of patients are unemployed. This demographic factor may be associated with socioeconomic vulnerabilities, including limited access to healthcare and resources. Addressing these socioeconomic factors can improve healthcare delivery and ensure that interventions are equitable and inclusive.

In conclusion, analyzing the demographic profile of COVID-19 patients at Quirino Province Medical Center helps healthcare planners and policymakers customize their plans more efficiently. Healthcare services can be optimized to improve patient outcomes and promote health equity in the community by focusing on the specific needs and characteristics of various patient groups, such as older adults, those from specific regions, and individuals with specific socioeconomic conditions.

### Clinical Profile of COVID-19 Patients

The clinical profile of COVID-19 patients reveals a wide range of presentations and underlying medical concerns, offering

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crucial insights for effective management and treatment. The most common chief complaints among COVID-19 patients are respiratory issues. These include symptoms such as cough, shortness of breath, and chest pain, which are indicative of the significant pulmonary impact of the virus. Respiratory issues being predominant underscores the critical need for focused respiratory care and close monitoring throughout the course of the illness.In addition to respiratory symptoms, neurological complaints (e.g., headache, confusion, and altered mental status) and immunological issues (e.g., cytokine storm and systemic inflammation) are also frequently observed. The prominence of these complaints highlights the necessity of a comprehensive approach to patient care that not only addresses respiratory symptoms but also anticipates and manages potential neurological and immunological complications.

Comorbidity analysis demonstrates that the vast majority of individuals had no pre-existing health issues. This study is crucial because it demonstrates how COVID-19 may have a serious impact on those who have no past health difficulties, underlining the significance of universal preventative efforts and early identification techniques to reduce risks across all patient categories. Cardiovascular diseases are the most prevalent comorbidities in individuals. Conditions including hypertension, heart disease, and prior cardiac episodes are common. The significant prevalence of cardiovascular disorders shows that heart health is critical to COVID-19 results. As a result, emphasizing cardiac surveillance and therapy for individuals with preexisting cardiovascular diseases is critical for improving their prognosis and managing any consequences.

Chest X-rays show that pneumonia is the most common radiological finding among COVID-19 patients. The occurrence of pneumonia indicates that the illness has caused considerable lung involvement. Regular imaging is critical for detecting disease development, determining medication efficacy, and making appropriate changes to the management strategy. In addition, some individuals have normal chest X-rays, indicating that the disease's severity and expression vary. This diversity emphasizes the need of imaging as part of a comprehensive diagnostic strategy that includes clinical examination and other diagnostic testing.

The clinical profile of COVID-19 patients, as shown by primary complaints, comorbidities, and chest X-ray abnormalities, offers a complete picture of the disease's impact. Respiratory difficulties remain fundamental to COVID-19 therapy, but the existence of neurological and immunological symptoms, as well as concomitant cardiovascular disorders, needs a multidisciplinary approach to patient care. This extensive breakdown of clinical and radiological signs underscores the importance of a comprehensive care approach that considers all elements of the patient's health. Healthcare practitioners can give more effective and individualized therapy to COVID-19 patients by taking into account respiratory, neurological, immunological, and cardiovascular factors.

**Clinical Outcomes of COVID-19 Patients**

The clinical outcomes of COVID-19 patients reveal a spectrum of disease severity and diverse treatment responses, which provide valuable insights for healthcare management and planning. The analysis of clinical outcomes demonstrates varying degrees of disease severity among patients. A significant proportion of patients have moderate disease severity, followed by those experiencing mild symptoms. The management of moderate cases often involves monitoring and addressing symptoms to prevent progression. There were also severe cases and critical cases, which often needing immediate medical intervention. This patients necessitating intensive treatment. These cases often involve severe respiratory distress, potential organ dysfunction, and may require advanced therapeutic interventions such as mechanical ventilation or high-flow oxygen therapy. Critical cases often involve life-threatening complications and may necessitate specialized treatments in intensive care units or other advanced care settings. This distribution informs healthcare professionals about the range of conditions they may encounter and the level of care needed. The distribution of disease severity levels helps healthcare professionals anticipate the range of conditions they may encounter and allocate resources appropriately. Understanding the varying needs of patients based on severity can enhance the efficiency and effectiveness of healthcare delivery.

A large number of patients were discharged alive, indicating successful treatment and recovery. This positive outcome reflects the effectiveness of the healthcare interventions provided and underscores the importance of timely and appropriate care. Unfortunately, some patients succumbed to the illness. The occurrence of fatalities highlights the potential severity of COVID-19 and the challenges associated with managing advanced or complicated cases. This outcome underscores the need for continuous improvement in treatment protocols and patient care strategies. A portion of patients required transfer to higher-level medical facilities for specialized care. These transfers are often necessary for patients with complex or severe conditions that cannot be adequately managed at the initial treatment facility. The need for such transfers emphasizes the importance of a well-coordinated healthcare system that can support patient needs through various levels of care. Some patients chose to discharge themselves against medical advice. This decision can pose risks to patient health and may complicate outcomes. Addressing the reasons for DAMA discharges and providing adequate counseling and support can help mitigate these risks.

The diverse clinical outcomes of COVID-19 patients highlight the complexity of the disease and the challenges faced in managing it. The range of disease severities and outcomes underscores the necessity for a flexible and responsive healthcare system that can cater to different levels of care needs. It also emphasizes the importance of effective treatment protocols, patient monitoring, and the need for specialized care when necessary. By understanding the various clinical outcomes, healthcare providers

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can better prepare for and manage the diverse needs of COVID-19 patients, ultimately improving patient care and outcomes.

**Significant Differences in the Clinical Profile of COVID-19 Patients Based on Selected Demographic Factors**

The analysis of COVID-19 patient clinical status, categorized by age, sex, civil status, and occupation, revealed both significant and insignificant variations across different aspects of their clinical profiles. These findings offer valuable insights into how demographic factors may influence the presentation and outcomes of COVID-19 patients.

When patients were divided by age, there were substantial disparities in reported symptoms and chest X-ray results. Older individuals exhibited more severe symptoms and radiological abnormalities. This shows that age has a significant impact on both the intensity of symptoms and the amount of pulmonary involvement as determined by chest imaging. Despite the large disparities in symptoms and X-ray findings, there were no discernible differences in the incidence of comorbidities among age groups. This suggests that, while age influences the clinical presentation and severity of COVID-19, it is not always associated with the presence of other health issues.

When patients were divided into sexes, reported symptoms and chest X-ray results varied significantly. These variations indicate that sex may impact the severity and kinds of symptoms experienced, as well as the level of pulmonary involvement as shown by radiological evaluations. However, no significant variations in comorbidities were discovered across sexes, demonstrating that, while sex may influence symptom severity and imaging results, it has no effect on the chance of having pre-existing health disorders.

Grouping patients by civil status revealed significant disparities in both reported symptoms and chest X-ray findings. This implies that a patient's civil status might affect the severity of symptoms and the extent of lung damage. Nonetheless, no significant differences in comorbidities across different civil statuses were observed. This suggests that while civil status influences symptom severity and radiological outcomes, it does not necessarily correlate with the presence of comorbidities.

The impact of occupation on the clinical profile of COVID-19 patients showed varied results. There were no significant differences in reported symptoms and comorbidities among different occupational groups. However, chest X-ray results exhibited significant disparities based on occupation. Specifically, patients employed in government or private sectors were more likely to show normal chest X-ray results compared to those who were unemployed or self-employed. This may reflect differences in exposure risk or access to healthcare resources based on occupation. The significant differences in chest X-ray findings underscore the need to consider occupational factors when evaluating the clinical outcomes of COVID-19 patients.

In summary, the analysis highlights how demographic factors such as age, sex, civil status, and occupation can influence various aspects of the clinical profile of COVID-19 patients. Significant differences in symptoms and chest X-ray results were observed based on these factors, while comorbidities appeared unaffected by these demographic variables. These findings underscore the importance of considering demographic characteristics in understanding and addressing disparities in COVID-19 clinical outcomes, ultimately contributing to more targeted and effective healthcare strategies.

**Significant Differences in the Clinical Outcomes of COVID-19 Patients Based on Selected Demographic Factors**

The analysis of clinical outcomes for COVID-19 patients, categorized by various demographic factors, has revealed significant insights into how these factors influence patient outcomes. This evaluation highlights the nuanced role of demographic characteristics in determining clinical outcomes.

When examining the clinical outcomes by age, a significant difference was found in disease severity, with a p-value of 0.035. This suggests that age has a notable impact on the severity of COVID-19, with older patients potentially experiencing more severe manifestations of the disease. However, the analysis showed no significant difference in discharge disposition across age groups, with a p-value of 0.266. This indicates that while age significantly influences disease severity, it does not appear to have a substantial effect on the final discharge outcomes of patients. In other words, regardless of age, the likelihood of being discharged alive or otherwise does not vary significantly.

The analysis of clinical outcomes based on sex did not reveal significant differences in either disease severity or discharge disposition. The p-values for both outcomes were above conventional significance thresholds, indicating that sex may not play a significant role in determining the severity of illness or the nature of discharge outcomes for COVID-19 patients. This finding suggests that, in this study, the impact of sex on clinical outcomes is relatively minor.

The evaluation of clinical outcomes by civil status revealed a significant association with disease severity, as indicated by a p-value of 0.045. This suggests that civil status might influence the severity of the disease, with variations potentially reflecting differences in social support or other related factors. However, no significant difference was observed in discharge disposition across different civil statuses, with no substantial variance in how patients with different civil statuses were discharged. This implies that while civil status may affect the severity of COVID-19, it does not significantly influence the likelihood of discharge outcomes.

Analysis of clinical outcomes based on occupation showed no significant associations with either disease severity or discharge disposition. The p-values for these outcomes were 0.072 and 0.102, respectively, indicating that occupation does not have a

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significant impact on the severity of illness or the nature of discharge outcomes for COVID-19 patients. This suggests that occupational factors, in this context, do not markedly influence clinical outcomes.

These findings highlight the complex interplay between demographic factors and clinical outcomes in COVID-19 patients. Age and civil status were found to have significant associations with disease severity, reflecting their influence on how severely patients experience the disease. However, neither age nor civil status significantly affected discharge outcomes. In contrast, sex and occupation did not show significant associations with either disease severity or discharge disposition, suggesting their limited impact on these clinical outcomes. Overall, this analysis underscores the importance of considering various demographic factors when assessing clinical outcomes for COVID-19 patients. Understanding these associations can help in tailoring healthcare strategies and interventions to better address the needs of different patient groups and improve overall management of the disease.

## CONCLUSIONS

The results of this study offer comprehensive insights into the clinical profiles and outcomes of COVID-19 patients at Quirino Province Medical Center, leading to several key conclusions:

1. The analysis of patient demographics revealed a broad age range, with a notable concentration in the 58-67 age group, which is particularly susceptible to severe COVID-19 outcomes. This underscores the need for targeted health interventions for older adults. Additionally, there was a slight predominance of female patients, and most were married, with a significant proportion identifying as Roman Catholic. Many patients were unemployed, indicating they may face specific challenges related to health access and support. These demographic patterns suggest a pressing need for tailored health interventions and support services that address the unique needs of these groups.
2. Respiratory issues emerged as the most common clinical complaint among patients, indicating the primary impact of COVID-19 on the respiratory system. Notably, many patients did not have pre-existing comorbidities, emphasizing that even individuals without underlying health conditions are at risk for severe illness from COVID-19. Among those with comorbidities, cardiovascular conditions were prevalent, which points to the critical need for integrated cardiovascular care alongside COVID-19 treatment. Chest X-ray examinations frequently revealed pneumonia, highlighting the necessity for early and effective respiratory management to address this common complication.
3. The clinical outcomes of COVID-19 patients varied significantly. While most patients experienced moderate disease severity, there were notable cases of severe and critical conditions, reflecting the diverse impact of the virus. The majority of patients were discharged alive, suggesting effective clinical management for many. However, the presence of transfers to higher-level facilities and fatalities underscores ongoing challenges in treating severe cases and the need for continued refinement of treatment protocols.
4. Significant differences in clinical profiles and outcomes were observed when patients were grouped by demographic factors such as age, sex, civil status, and occupation. Variations in symptom presentation and radiological findings based on these factors highlight the importance of personalized treatment approaches. Tailoring healthcare strategies to account for demographic differences can enhance the effectiveness of care and improve patient outcomes.

This study provides valuable insights into the clinical profiles and outcomes of COVID-19 patients, emphasizing the need for tailored healthcare strategies. Understanding the diverse demographic factors influencing patient experiences and outcomes can aid in developing targeted interventions and improving overall response strategies. By addressing the specific needs of different patient groups, particularly in settings similar to the level 1 hospital studied, healthcare providers can better manage COVID-19 and optimize patient care. In summary, the findings underscore the importance of a nuanced approach to COVID-19 management that incorporates demographic considerations to enhance care delivery and patient outcomes.

## RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proposed to enhance the management of COVID-19 and similar infectious diseases:

1. Targeted Health Interventions**:** The Hospital Administration should prioritize developing and implementing health programs tailored for high-risk groups. Specifically, targeted initiatives should be designed for older adults, particularly those in the 58-67 age group, who are at increased risk for severe COVID-19 outcomes. Additionally, the administration should focus on outreach and educational campaigns for unemployed individuals and residents in geographic areas with higher case rates, such as Diffun and Cabarroguis. These targeted efforts can help address the specific needs of these vulnerable populations and improve preventive measures and health outcomes.
2. Enhanced Cardiovascular Care**:** Health practitioners are encouraged to strengthen cardiovascular care for COVID-19 patients and those with pre-existing cardiovascular conditions. This involves implementing robust cardiovascular monitoring and management protocols to mitigate complications and enhance patient outcomes. Given the high prevalence of cardiovascular issues among patients with comorbidities, regular cardiovascular assessments should be integrated into patient care plans to address potential risks effectively.
3. Holistic and Personalized Patient Care**:** Health practitioners should adopt a holistic approach to patient care that goes beyond addressing respiratory symptoms. This approach should also consider and manage potential neurological and immunological complications, as indicated by the diversity

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of patient complaints and clinical conditions. By providing personalized care that addresses all aspects of a patient's health, practitioners can improve overall treatment efficacy and patient outcomes.

4. Data-Driven Healthcare Delivery**:** Hospital management should utilize data from this study to inform resource allocation and healthcare delivery strategies. This involves ensuring that adequate medical supplies and personnel are available to address the varying levels of severity observed in COVID-19 cases. Additionally, analyzing demographic data can help predict potential hotspots and anticipate resource needs, allowing for more effective planning and response to emerging healthcare challenges.
5. Training and Continuous Education for Healthcare Providers**:** Healthcare providers should participate in specialized training programs that address the unique challenges of managing COVID-19, including the impact of various demographic factors on disease progression and outcomes. Continuous education on the latest COVID-19 treatments and management strategies is essential to keep healthcare staff updated on best practices. This training should also extend to other infectious diseases, ensuring that healthcare providers are well-prepared to handle a broad range of healthcare scenarios.

These recommendations aim to improve the management and treatment of COVID-19 patients by addressing specific needs, enhancing care practices, and utilizing data-driven strategies. Implementing these suggestions can contribute to more effective healthcare delivery and better patient outcomes.

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