

**KNOWLEDGE, PERCEPTION, AND COMPLIANCE ON FLU
AND PNEUMOCOCCAL VACCINATION
AMONG ELDERLY**

MIKAELA ANNE C. COLINA

CRISTEAN M. DELA PEÑA

CARYL H. DINOROG

AIZES AMOR M. DIZON

HONEY S. DOLDOLIA



MISAMIS UNIVERSITY

May 2025

**KNOWLEDGE, PERCEPTION, AND COMPLIANCE ON FLU
AND PNEUMOCOCCAL VACCINATION
AMONG ELDERLY**

An Undergraduate Thesis

Presented to the Faculty of the College of Nursing,

Midwifery and Radiologic Technology

Misamis University,

Ozamis City

In Partial Fulfillment of the

Requirement for the Degree

Bachelor of Science in Nursing

MIKAELA ANNE C. COLINA

CRISTEAN M. DELA PEÑA

CARYL H. DINOROG

AIZES AMOR M. DIZON

HONEY S. DOLDOLIA

May 2025



Misamis University
Ozamiz City



COLLEGE OF NURSING, MIDWIFERY & RADIOLOGIC TECHNOLOGY
CERTIFIED: ISO 21001: 2018 Educational Organizations Management System by DNV
ACCREDITED: Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA)

CERTIFICATE OF PANEL APPROVAL

In partial fulfillment of the requirements for the Bachelor of Science in Nursing degree, this research study with the title, **“KNOWLEDGE, PERCEPTION, AND COMPLIANCE ON FLU AND PNEUMOCOCCAL VACCINATION AMONG ELDERLY”**, prepared and submitted by **Mikaela Anne C. Colina, Cristean M. Dela Peña, Caryl H. Dinorog, Aizes Amor M. Dizon, Honey S. Doldolia** has been examined and recommended for acceptance and approval.

GINALYN C. ELMEDULAN, MAN, RN

Adviser

Approved by the College of Nursing, Midwifery and Radiologic Technology Thesis Committee.

MAEBIL MARIE B. GO, MAN, RN

Panel

CHARRY JO P. LIAN, MAN, RN

Panel

SAMMY B. TAGHOY, PhD, RN

Chairman

Accepted and Approved in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Nursing.

Oral Defense Date: May 2025

SAMMY B. TAGHOY, PhD, RN

Dean, CNMRT

ABSTRACT

Aging is a complex process involving physical, psychological, and social dimensions that increases older adults' susceptibility to respiratory infections, making timely flu and pneumococcal vaccination essential. This quantitative, descriptive-correlational study, guided by the Health Belief Model, examined knowledge, perceptions, and compliance with flu and pneumococcal vaccination among 192 elderly residents of a selected barangay in Ozamiz City using stratified random sampling. A researcher-developed questionnaire was used on a 4-point Likert scale to assess knowledge and perceptions. Data were analyzed using the mean, standard deviation, frequency, percentage, and binary logistic regression. Findings revealed a very high level of knowledge among respondents, particularly regarding vaccine availability. Perceptions were generally positive, with high perceived susceptibility and benefits, though some barriers remained. Flu vaccination compliance was slightly higher than pneumococcal vaccination. A significant positive relationship was found between knowledge of vaccine availability and compliance, while perceived benefits showed a paradoxical negative association with vaccination behavior. This study suggests that the elderly may proactively engage in community health programs. In contrast, public health agencies may expand campaigns that address their fears and misconceptions to increase vaccination compliance.

Keywords: *compliance, elderly, flu and pneumococcal vaccination, knowledge, perception`*

DEDICATION

This research paper is dedicated wholeheartedly to the people who have supported and inspired us the most throughout this academic journey.

First and foremost, the researchers dedicate this work to our Almighty God, whose wisdom, grace, and guidance have kept us going on this journey. None of this would have been possible without His heavenly light, power, and providence—
all glory and praise to Him.

To the researchers' parents, who have been the cornerstone of everything the researchers have accomplished with their everlasting love, boundless patience, and unending sacrifices. The unwavering support, prayers, and guidance have carried us through the most challenging times. This endeavor would not have been possible without the support. This achievement belongs to the parents just as much as it does to the researchers.

To the research adviser, Prof. Ginalyn C. Elmedulan, MAN, RN, whose advice, insight, and dedication were essential to the success of this study. The researchers appreciated the mentorship that pushed them to reach their full potential and instilled faith in their abilities.

This work is a tribute to all the inspiration, love, and faith we have been showered with. The researcher's gratitude will never fade.

The Researchers

ACKNOWLEDGMENT

Without the kind support and help of numerous people and organizations, this research study would not have been feasible, and for that, the researchers are extremely grateful.

The researchers' profound gratitude goes to the Barangay Health Workers and Barangay Officials of Ozamiz City, whose guidance, cooperation, and support throughout the data-gathering process were crucial. The cooperation and candor enabled the researchers to obtain crucial information that served as the foundation for this study.

Additionally, the researchers would like to express sincere gratitude to Prof. Charry Jo P. Lian, Prof. Maebil Marie B. Go, and Dr. Sammy B. Taghoy, the panel members whose helpful criticism, perceptive recommendations, and support have been crucial to the development and completion of this study.

The researchers are especially grateful to Prof. Arnielyn Elmedulan, the statistician, for her promptness, advice, and knowledge in assisting the researchers with the data interpretation and analysis.

The researchers also want to express their gratitude to Misamis University for the opportunity to develop, learn, and engage in meaningful research. This work has been greatly influenced by the institution's academic environment, resources, and support.

Thank you to everyone who helped make this study a success.

The Researchers

TABLE OF CONTENTS

	Page
TITLE	i
APPROVAL SHEET	iii
ABSTRACT.....	iv
DEDICATION	v
ACKNOWLEDGEMENT	vi
TABLE OF CONTENTS.....	vii
LIST OF TABLES.....	ix
LIST OF FIGURE.....	x
INTRODUCTION	
Rationale/ Background of the Study	1
Theoretical Framework.....	5
Conceptual Framework	8
Objectives of the Study	15
Significance of the Study	15
RESEARCH METHODOLOGY	
Design	17
Environment.....	17
Respondents of the Study/ Unit Analysis and Sampling Procedure	17
Data Gathering Instrument	18
Data Gathering Procedure.....	19
Validity and Reliability of the Instrument	19
Scoring Guidelines	20

Mode of Analysis/ Statistical Treatment	21
Ethical Considerations	23
RESULTS AND DISCUSSIONS	
CONCLUSIONS AND RECOMMENDATIONS	
Conclusions.....	34
Recommendations.....	35
REFERENCES	37
APPENDICES	
Appendix A -Survey Questionnaire.....	42
Appendix B -Sample of the Filled-out Questionnaire	50
Appendix C -Sampling Computation.....	55
Appendix D -Informed Consent.....	56
Appendix E -Approved Letters of Consent	59
Appendix F -Statistical Computation.....	61
Appendix G -Documentation.....	63
Appendix H -Turnitin Result	64
Appendix I –Grammarly Result.....	65
CURRICULUM VITAE	66

LIST OF TABLES

Tables		Page
1	Respondents' Knowledge on Flu and Pneumococcal Vaccination	26
2	Respondents' Perception on Flu and Pneumococcal Vaccination	27
3	Respondents' Compliance on Flu and Pneumococcal Vaccination	29
4	Significant Relationship Between Respondents' Knowledge and their Compliance on Flu and Pneumococcal Vaccination	31
5	Significant Relationship Between Respondents' Perception and their Compliance on Flu and Pneumococcal Vaccination	33

LIST OF FIGURE

Tables		Page
1	Schematic Presentation of the study	14

INTRODUCTION

Rationale/ Background of the Study

Aging is an inevitable aspect of life that everyone will eventually experience. The physical, psychological, and societal aspects of aging are all interconnected and indivisible, making it a dynamic and complex process. It is a typical process that suggests ongoing development, growth, and adaptation all the way to death (Younis et al., 2024). Given that aging is a crucial stage of life, it is a social responsibility to address the needs and illnesses of this period (Rajati et al., 2023). Because many older adults experience illness and overall health decline, their health status is a significant concern in day-to-day living (Lutzman& Sommerfeld, 2021).

The geriatric population, defined as those aged 60 years and above, is particularly susceptible to infectious diseases like flu and pneumonia due to the natural decline in immune function over time (Cruz et al., 2021). The World Health Organization estimates that seasonal flu affects 1 billion people annually, with up to 5 million severe cases and 650,000 deaths. A recent report found that individuals over 50 made up 71% of invasive pneumococcal cases and 82% of related deaths, with hospitalizations costing an estimated \$2.5 billion annually (Walkowski et al., 2021). In the Philippines, lower respiratory diseases, including pneumonia, are among the leading causes of death (Philippine Statistics Authority, 2023). Recent data show that chronic respiratory diseases, including pneumonia, are significant causes of death in Northern Mindanao, including Misamis Occidental. From January to September 2023, respiratory disorders accounted for 3.6% of nationwide deaths, primarily affecting vulnerable groups such as the elderly (Department of Health, 2023; Philippine Statistics Authority, 2023).

In response, the Department of Health (DOH) has initiated free vaccination programs for flu and pneumococcal disease, targeting indigent elderly as mandated by the Expanded Senior Citizens Act of 2010. These programs aim to curb the prevalence of these illnesses, which disproportionately impact older adults in rural areas where healthcare access may be limited (Villanueva, 2024). Despite the DOH's efforts to increase vaccination rates among the elderly, compliance remains critically low. Although this has enabled people over 60 to achieve 52.9% pneumococcal vaccination coverage, because there is no comprehensive immunization policy, the flu vaccination coverage rate remains low. Consequently, as of 2019, only 36.3% of persons aged 60 or older had ever received a flu vaccination (Cordero, 2023).

Knowledge, combined with motivation and skills, is essential for health literacy, helping people obtain, understand, evaluate, and use health information. It enables them to make informed decisions in everyday life regarding healthcare, disease prevention, and health promotion to sustain or enhance their quality of life (Suitner et al., 2022). There is a direct correlation between vaccine compliance and knowledge. It has been demonstrated that older adults' compliance rates increase with greater knowledge of vaccination benefits and safety (Roller-Wirnsberger et al., 2021). Unfortunately, current studies indicate that most older adults have limited knowledge of the common cold, flu, and pneumococcal vaccinations (Elmahdy et al., 2023).

Several factors contribute to this limited knowledge among older adults, including the widespread reliance on traditional, non-prescribed treatments for flu and pneumonia. Additionally, a significant number of the elderly were illiterate and lived in rural areas where access to healthcare information and vaccination resources is limited. These factors,

combined with misconceptions about the flu and pneumococcal vaccines, contribute to poor vaccine compliance (Hu et al., 2021). Improving knowledge levels is expected to positively affect older adults' attitudes toward vaccination against the common cold, flu, and pneumococcal diseases. This finding aligns with a study by Soozen et al. (2021), which found that after being informed about the pneumococcal vaccine, 26.4% of patients who initially said they would not receive the recommended vaccine ultimately did so.

Perception is a significant factor in compliance with the flu and pneumococcal vaccine, with barriers such as a low perceived risk of the disease, skepticism about the vaccine's effectiveness, beliefs that it may cause illness, low perceived behavioral control, and distrust of the vaccine or health authorities (Trent et al., 2021). Elderly individuals with comorbidities may perceive themselves as "too sick" to benefit from vaccination or believe that their condition negates its necessity. On the contrary, healthier seniors often perceive vaccination as unnecessary, assuming their good health provides sufficient protection against illness (Olson, 2023). Vaccination decisions are strongly influenced by perceptions of the vaccine's safety and effectiveness (Welch et al., 2023). These perceptions are frequently based on individual experiences and cultural influences (Liang et al., 2022). Ultimately, a perceived sense of invulnerability—from feelings of being too young, too healthy, or not at risk—remains a significant factor contributing to vaccine refusal (Evren et al., 2019).

Among older adults, perceptions significantly influence health-related decision-making, especially given their increased vulnerability to serious illnesses such as flu and pneumonia. Their decision to get vaccinated largely depends on how they view the vaccine's safety, usefulness, and importance. As per Dardalas et al. (2020), the emotional

risk perception barriers for older individuals include low disease concerns, perceived adverse events, reduced regret about non-vaccination, and cognitive or emotional perceptions about the vaccine. Misconceptions, fears, or lack of trust in healthcare systems can hinder vaccine uptake, even when vaccines are available and accessible. Heinemeier et al. (2025) state that there is typically little awareness, knowledge, and perceived risk of the disease. Furthermore, complacent people do not view vaccination as a social standard and do not have a strong attitude toward it. Understanding the elderly's perceptions of flu and pneumococcal vaccination is therefore essential for designing targeted interventions that promote vaccine acceptance and protect this vulnerable population.

Vaccination compliance among the elderly is influenced by multiple factors, including inadequate health education, financial constraints, and disparities in healthcare access (University of the Philippines Population Institute [UPPI] & Demographic Research and Development Foundation [DRDF], 2021). Although many countries have already implemented policies encouraging flu vaccination for high-risk individuals, particularly the elderly, vaccine compliance among aging populations remains below WHO guidelines, even in affluent countries (Kharroubi et al., 2021). Results from the study by Zens et al. (2022) indicate that Switzerland has low pneumococcal vaccination coverage among people aged 65 to 85 and those with underlying medical conditions. At-risk individuals may recognize their elevated risk but feel they lack sufficient information to pursue vaccination or have not received a recommendation from their physician.

Globally, studies have identified several factors affecting vaccine compliance among older adults, including social influences, perceived benefits, and safety concerns (Tong et al., 2024). Research from countries like Singapore, Turkey, and Australia

highlights the impact of education, socioeconomic status, and healthcare provider recommendations on vaccination rates (Gazibara et al., 2019). Among these factors, healthcare professionals, particularly primary care physicians, play a crucial role in improving vaccine compliance. Studies indicate that physician recommendations are a crucial factor in older adults' decision to vaccinate, as healthcare providers can address fears and correct misinformation (Sezik& Tekin, 2021). Moreover, interventions such as health education campaigns and structured health assessments have proven effective in other Asia-Pacific countries, leading to increased awareness and vaccination compliance among older adults (Tong et al., 2024).

Local studies predominantly focus on vaccine compliance among adults in urban centers, leaving the knowledge and perception of the elderly in underserved regions largely unexplored (Asia Pacific Journals, 2021). This study aimed to explore the level of knowledge, perception, and compliance with flu and pneumococcal vaccination among elderly populations in Ozamiz City. Understanding these factors will not only provide insights into current compliance levels but also inform future public health strategies tailored to the unique needs of elderly populations in rural settings. By focusing on the elderly in Ozamiz City, this research seeks to contribute to more equitable healthcare practices and help reduce the incidence of preventable diseases within this vulnerable population

Theoretical Framework

The Health Belief Model (HBM), developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels, is a framework for explaining and predicting individuals' health behavior by analyzing their beliefs about health conditions. It outlines

key factors that influence behavior: perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. Individuals are more inclined to participate in health-enhancing behaviors when they see themselves as at risk for a health issue (perceived susceptibility), think the issue can lead to serious outcomes (perceived severity), are convinced that taking a specific action will lower their risk (perceived benefits), and feel that the advantages surpass the drawbacks or costs (perceived barriers). The model includes cues for action (stimuli that encourage behavioral change) and self-efficacy (beliefs in one's ability to take action).

In this study, the essential elements of the Health Belief Model (HBM) were used to examine how knowledge and perceptions of older adults affect their adherence to flu and pneumococcal vaccination. The study assessed perceived susceptibility — how likely elderly participants believed they were to contract these diseases — and found that respondents typically regarded themselves as at risk, mainly because of their age and existing health conditions. Furthermore, the perceived advantages were examined, specifically whether participants believed vaccination would reduce their risk of illness or complications. This study is anchored in the Health Belief Model (HBM) to provide a comprehensive understanding of the factors influencing compliance with flu and pneumococcal vaccination among the elderly. This theory has been widely applied in health behavior research and is instrumental for understanding how beliefs and attitudes shape health-related decisions, including vaccination compliance. The HBM provides a structured lens for assessing how elderly individuals' beliefs about flu and pneumonia—including their perceived vulnerability and vaccine-related concerns—shape their decisions about whether to comply with vaccination.

Perceived susceptibility and severity are particularly relevant for understanding the vaccination behaviors of elderly individuals. Those who feel more vulnerable to flu or pneumonia due to their existing health conditions may be more inclined to get vaccinated. It aligns with prior research suggesting that elderly individuals with higher perceived susceptibility to influenza are more likely to adopt preventive measures, such as vaccination (Gazibara et al., 2019). By addressing these aspects, the HBM provides a structured lens for evaluating why older adults may or may not choose to adhere to vaccination programs.

Another crucial aspect of the HBM is the concept of self-efficacy, which refers to the confidence in one's ability to undertake health-promoting behaviors, such as getting vaccinated. For elderly individuals, especially those in rural areas with limited healthcare resources, self-efficacy may influence their vaccination decisions. Elderly individuals with high self-efficacy might feel empowered to access vaccines despite logistical barriers. This model supports this study's exploration of how knowledge, personal beliefs, and comorbidities impact flu vaccination uptake among the elderly in rural areas, particularly as their susceptibility to influenza and pneumonia is heightened by age-related immune decline and additional health concerns (Tong et al., 2024).

The HBM provides a robust framework for understanding and analyzing elderly individuals' beliefs, knowledge, and behavioral intentions regarding flu and pneumococcal vaccines. The HBM addresses individual health beliefs and motivations by focusing on personal perceptions of illness severity and susceptibility. The integration of HBM supports this study's objective to explore the relationship between elderly individuals' beliefs, attitudes, and comorbidities and their vaccination adherence, particularly in

underserved rural areas. The HBM also aligns with this study's focus on examining how different sociodemographic factors, such as age, education, and comorbidity status, influence vaccination behavior.

This theory can help researchers better understand how social dynamics, knowledge, and belief systems affect older people with comorbidities' adherence to pneumococcal and flu vaccinations. By applying this theory, this study will gain insights into how belief systems and perceived social pressures contribute to vaccination hesitancy or acceptance among elderly populations in rural areas. The larger family system can be a significant resource that helps people understand the seriousness of this disease and the necessity of accepting vaccination, given the lack of an effective treatment until now (Vintilă et al., 2019).

Conceptual framework

Flu and pneumococcal vaccinations are crucial for protecting older adults, a population particularly vulnerable to these infections. However, vaccination rates remain suboptimal. This study investigates the key factors influencing vaccination compliance in this group, focusing on the interplay between knowledge about the vaccines and individuals' perceptions of their benefits and risks. Understanding these factors is critical for developing targeted interventions to improve vaccination uptake and public health outcomes.

Knowledge addresses the level of understanding individuals have regarding flu and pneumococcal vaccines, including their availability, benefits, and risks. A person's willingness to be vaccinated was often influenced by their overall health knowledge, the vaccine's effectiveness, and concerns about potential side effects. Providing concise, clear

information about the vaccine—including its efficacy and safety profile—helped address concerns and potentially changed the minds of those who were hesitant or unsure about vaccination (Zhang, 2021). Essentially, knowledge empowers individuals to make informed decisions, leading to more rational vaccination choices.

Vaccine Availability This refers to the respondents' awareness of where and how they can access flu and pneumococcal vaccinations. Access to flu and pneumococcal vaccines for the elderly varied depending on location and healthcare infrastructure. Availability may also have been affected by seasonal fluctuations in vaccine supply and logistical challenges in distribution, particularly in remote or underserved communities. Raising awareness about vaccine availability and benefits, and tailoring vaccination campaigns to specific groups (such as men, rural residents, certain populations, and those with lower socioeconomic status), helped increase vaccination rates (Gilmour, 2024). While many countries had national vaccination programs aiming for widespread coverage, disparities still existed between rural and urban areas and among different socioeconomic groups.

Vaccine Benefits. The vaccine benefits refer to the advantages individuals gain from receiving those vaccines. Flu and pneumococcal vaccines offered substantial benefits to older adults, who were at significantly higher risk of severe complications from these infections. As immune systems naturally decline with age, older adults become more susceptible to severe illness and long-term health consequences from infectious diseases (Calabrò et al., 2020). Vaccination significantly reduced the likelihood of contracting flu and pneumococcal pneumonia and lessened the severity of illness if infection did occur. This finding leads to fewer hospitalizations, reduced mortality rates, and an improved

overall quality of life for vaccinated individuals. The benefits extended beyond the individual, contributing to a healthier community by reducing the spread of these contagious diseases.

Vaccine Risks. Vaccine risks are the possible adverse effects associated with vaccination. While the benefits of flu and pneumococcal vaccines significantly outweigh the risks for the elderly, potential adverse effects should be considered. Common side effects included mild pain, redness, or swelling at the injection site, and some individuals experienced fever, muscle aches, or fatigue. More serious allergic reactions were rare but possible. Previous research showed that the sources individuals relied on for information about risks influenced their knowledge, beliefs about vaccines, and preventive actions, such as vaccination (Xu & Lin, 2024). Healthcare providers carefully assessed each patient's health condition and discussed potential risks before administering the vaccines, ensuring informed consent and addressing any concerns. Open communication about potential side effects was crucial for promoting vaccine uptake among the elderly.

Perception refers to the respondents' beliefs about vaccinations. The perception component was represented by sub-elements of the Health Belief Model (HBM): perceived susceptibility, perceived benefits, and perceived barriers. These elements reflected an individual's assessment of their personal risk of flu and pneumococcal infection, their understanding of the benefits of vaccination, and the obstacles they perceived to vaccination.

Perceived susceptibility refers to an individual's belief about their likelihood of contracting flu or pneumococcal disease. Due to comorbidities and age-related declines in immune function, older people often believe they are more vulnerable to these diseases.

When considering the intention to be vaccinated, "perceived susceptibility" reflected how likely someone thought they were to contract the illness. Some individuals may have completely dismissed the possibility of getting sick, while others felt highly vulnerable to infection. This range of beliefs influenced their decision about vaccination (Shmueli, 2021). Their health behaviors, especially their decision to be vaccinated, were strongly influenced by this perception of susceptibility.

Perceived benefits include understanding the advantages of vaccination, such as reducing illness severity or preventing complications. "Perceived benefits" refers to how much someone believed that a protective health action, such as getting vaccinated, would actually help them avoid or lessen the severity of the health threat they were facing (Xu & Lin, 2024). Older adults' perceptions of the advantages of vaccinations increased when they realized they could avoid serious illness, reduce the risk of hospitalization, and lower the risk of complications or death. This impression was further strengthened by the knowledge that vaccination could safeguard not only their own health but also that of their loved ones and the larger community.

Perceived barriers encompass any perceived drawbacks to vaccination, such as side effects, cost, or inconvenience. They may also have harbored misconceptions about vaccine safety, efficacy, or necessity, often fueled by misinformation or personal beliefs. If elderly individuals perceived themselves as highly susceptible to pneumococcal or influenza infections and believed vaccination offered significant benefits, they were more likely to be vaccinated despite these barriers. A simple statistical analysis revealed that perceived barriers and perceived benefits (but not perceived threat) were significant factors

in their decisions to be vaccinated (Mercadante & Law, 2020). Understanding and addressing these barriers was essential to improving vaccination rates among older adults.

Vaccination compliance among the elderly refers to whether or not they received the flu and pneumococcal vaccinations. It was a crucial public health indicator, as these vaccines protected vulnerable individuals from grave illness and complications. To safeguard older adults and those at risk of vaccine-preventable diseases (VPDs), public health systems prioritized and strengthened vaccination programs. Expanding vaccination efforts beyond traditional settings could have significantly increased access for vulnerable populations (Calabrò, 2020). Efforts to improve vaccination rates often involved community outreach programs and educational initiatives targeting both the elderly and their caregivers.

Flu vaccination refers to whether or not they received the flu vaccination. This vaccine was a crucial preventive strategy implemented by the DOH for the elderly, who were at increased risk of developing severe respiratory complications due to age-related immune decline. Despite its benefits, vaccine uptake among the elderly remained inconsistent, often influenced by knowledge gaps, access issues, and personal beliefs. Thus, understanding whether respondents received the flu vaccination was crucial not only for assessing their knowledge and perceptions but also for assessing their actual health behavior and compliance (Gazibara et al., 2019). Improving awareness and access increased vaccination rates among this vulnerable group.

Pneumococcal vaccination refers to whether or not they received the pneumococcal vaccination. This vaccine was essential for maintaining vaccination rates among the elderly, given their increased susceptibility to pneumococcal diseases such as pneumonia,

meningitis, and bloodstream infections. A retrospective cohort study found that pneumococcal vaccination significantly reduced the incidence of pneumococcal illness among 47,365 elderly individuals aged 65 and older (Huang et al., 2021). Although the vaccine had been shown to be effective in reducing morbidity and mortality, older adults' uptake of it remained below ideal levels, often due to logistical obstacles, low perceived risk, and misinformation (Matanock et al., 2020; Kang et al., 2023). Compliance rates among elderly populations have been found to improve with interventions such as patient education, doctor recommendations, and community outreach initiatives (Okoli et al., 2021; Kang et al., 2023).

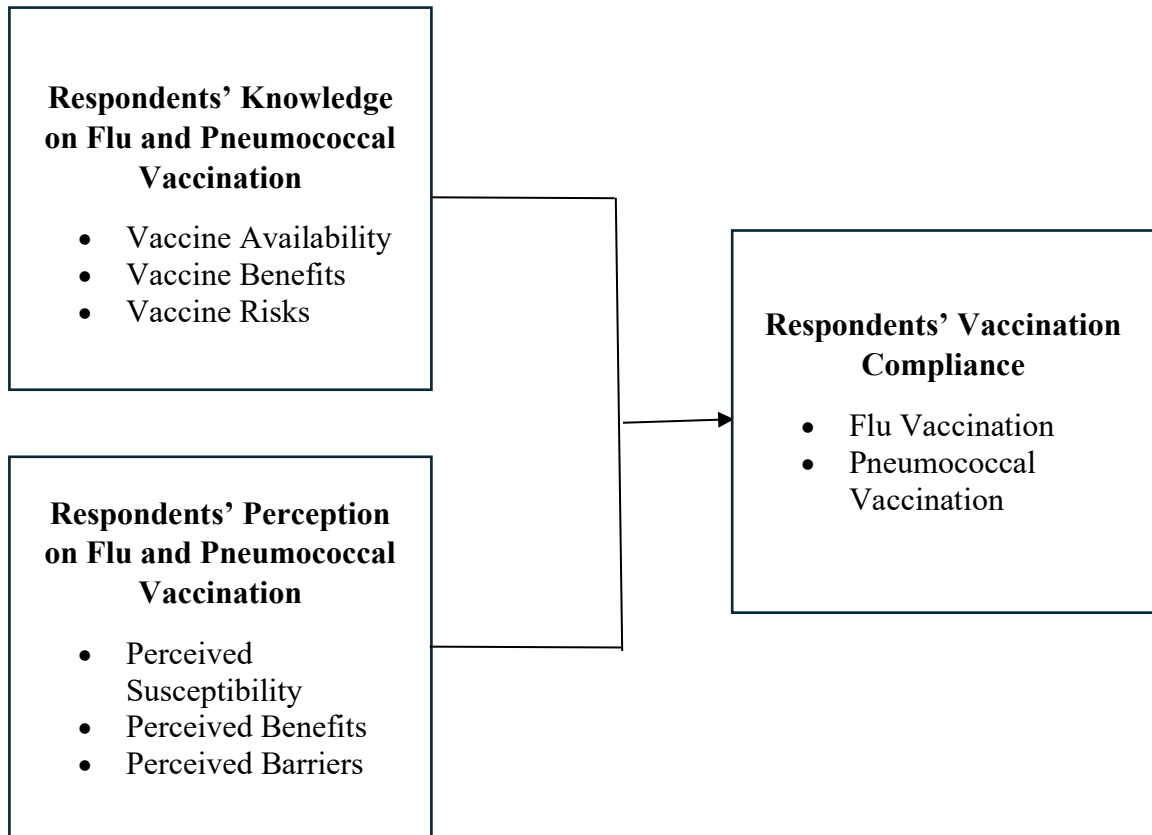


Figure 1. Schematic Presentation of the Study

Objectives of the Study

This study aimed to determine the knowledge, perception, and compliance of flu and pneumococcal vaccination among the elderly.

Specifically, it sought to answer the following questions: (1) Determine the respondents' knowledge on flu and pneumococcal vaccination, in terms of vaccine availability, vaccine benefits, and vaccine risks. (2) Identify the respondents' perception on flu and pneumococcal vaccination in terms of perceived susceptibility, perceived benefits, and perceived barriers. (3) Determine the respondents' compliance on flu and pneumococcal vaccination. (4) Explore the significant relationship between respondents' knowledge and their compliance on flu and pneumococcal vaccination. (5) Explore the significant relationship between respondents' perception and their compliance on flu and pneumococcal vaccination.

It was hypothesized that: (HO1) There was no significant relationship between respondents' knowledge and their compliance on flu and pneumococcal vaccination. (HO2) There was no significant relationship between respondents' perception and their compliance on flu and pneumococcal vaccination.

Significance of the Study

This study would shed light on the following individuals and agencies. It would investigate knowledge and perceptions of the flu vaccine, and compliance with flu and pneumococcal vaccination among the elderly. It would be crucial for informing public health interventions aimed at increasing vaccination rates in this vulnerable population.

Elderly. The study would empower elderly individuals with knowledge about influenza and pneumococcal vaccines, enabling them to make informed decisions about

their health and increase their vaccination rates, ultimately improving their health outcomes and quality of life.

Senior Citizen Association. The study would help design effective educational programs to promote flu and pneumococcal vaccination, address identified knowledge gaps, and improve vaccine uptake among its members. This study would lead to better health outcomes within the association.

Public Health Agencies. The study would provide crucial data for public health agencies to assess the effectiveness of current vaccination programs and identify opportunities to improve vaccine accessibility, communication, and outreach. It would lead to better resource allocation and more targeted interventions.

Barangay Health Workers. The findings would equip barangay health workers with valuable insights into the knowledge gaps and perceptions influencing vaccination uptake among the elderly in their communities. It would allow them to tailor their health education strategies and improve vaccination outreach programs.

Department of Health/Policy Makers. The study would help inform DOH program policies and enable the development of more effective strategies to increase vaccination coverage among the elderly nationwide. The findings may be used to develop more effective strategies to increase vaccination coverage among the elderly population nationwide.

Future Researchers: The study would contribute to the existing body of knowledge on vaccination behavior among the elderly, providing a foundation for future research exploring related topics and refining research methodologies in this area. It would also identify areas needing further investigation.

RESEARCH METHODOLOGY

Design

This study employed a quantitative, descriptive-correlational research design to examine the relationships among knowledge, perception, and vaccination compliance among the elderly. Quantitative research design is a method for collecting and analyzing numerical data to answer research questions. Descriptive-correlational research is a research design that attempts to explain the relationship between two or more variables without asserting causality or effect. This research design enabled the measurement and statistical analysis of knowledge, perceptions, and compliance with flu and pneumococcal vaccination among the elderly, thereby assessing their impact on vaccination compliance.

Environment

This study was conducted in a selected barangay in Ozamiz City. The barangay was chosen for its significant elderly population, making it an important area for the research study, particularly in the context of public health programs for the elderly. It has a diverse senior population with a range of socioeconomic backgrounds, educational attainment, and health beliefs, all of which can affect how they feel about getting vaccinated against flu and pneumococcal disease.

Respondents of the Study/ Unit Analysis and Sampling Procedure

One hundred ninety-two (192) elderly people were bona fide registered senior citizens in the selected barangay in Ozamiz City who were willing to participate in the study, regardless of religion, race, occupation, education level, health status, or whether they had received flu and pneumococcal vaccinations. The selected respondents have been

residents of the barangay for the past 6 months. This age group was explicitly selected due to their increased susceptibility to influenza and pneumonia, making vaccination compliance a critical area of research. To participate, respondents must be registered senior citizens residing in the selected barangay in Ozamiz City and willing to provide informed consent. The respondents were selected through stratified random sampling to ensure a representative sample of the population. This stratification ensures that every purok is fairly represented in the study sample and provides a more realistic portrayal of the community's diversity. To ensure randomization of respondents within strata, the researchers would use an online randomizer; if the selected respondents refused, the next respondents were selected through another randomizer.

Data Gathering Instrument

The study utilized a researcher-made questionnaire that is divided into three sections:

A. Respondents' Knowledge on Flu and Pneumococcal Vaccination. This tool was used to measure the respondents' knowledge on flu and pneumococcal vaccination. It contained six questions, each constructed around Vaccine Availability, Vaccine Benefits, and Vaccine Risks. It used a 4-point Likert Scale with the following responses: 4 - Strongly Agree; 3 - Agree; 2 - Disagree; 1 - Strongly Disagree.

B. Respondents' Perception on Flu and Pneumococcal Vaccination. This tool was used to measure respondents' perception on flu and pneumococcal vaccination. It contained six questions, each constructed around Perceived Susceptibility, Perceived Benefits, and Perceived Barriers. It used a 4-point Likert Scale with the following responses: 4 - Strongly Agree; 3 - Agree; 2 - Disagree; 1 - Strongly Disagree.

C. Respondents' Vaccination Compliance on Flu and Pneumococcal Vaccination. This tool was used to determine the adherence to the recommended flu and pneumococcal vaccinations. It utilized a dichotomous question with simple "yes or no" responses.

Data Gathering Procedure

Prior to implementing the study, the researchers obtained permission from the dean of the College of Nursing, Midwifery, and Radiologic Technology. Followed by securing permission from the Local Government Unit (LGU). Permission was then sought from the City Health Office and the Barangay Captain of the selected barangay in Misamis Occidental. Respondents were stratified, and random sampling was conducted within each stratum to ensure fair representation. Informed consent was obtained, including a statement of the study's purpose, significance, and ethical considerations. It was further explained to the respondents, and informed consent was sought before their participation. After obtaining informed consent, respondents who expressed no interest were replaced by other respondents.

Data were collected, and when necessary, data collectors offered support and clarification while maintaining the objectivity of the responses. Respondents were encouraged to answer independently to minimize response bias. The accuracy and completeness of completed questionnaires were checked before the respondents left. The collected data were then analyzed using the statistical tool.

Validity and Reliability of the Instrument

The questionnaires were evaluated and validated by a panel of experts and underwent a pilot test with 20 respondents not included in the study. To ensure the

reliability of the questionnaires, Cronbach's alpha was calculated and found to be 0.70 or above. For the constructs under the knowledge, the Cronbach alphas are 0.83 for Vaccine Availability, 0.91 for Vaccine Benefits, and 0.87 for Vaccine Risks. While constructs under the Perception, the Cronbach alpha results are 0.84 for Perceived Susceptibility, 0.94 for Perceived Benefits, and 0.81 for Perceived Barriers. After the results were gathered, the researchers selected six (6) of the highest rated Cronbach alpha results questionnaires per construct to be utilized for the study.

Scoring Guidelines

In this study, a four-point Likert scale was used to measure respondents' levels of knowledge and perceptions regarding flu and pneumococcal vaccination. Every response was assigned a numerical value from 1 to 4, with "Strongly Disagree" at 1 and "Strongly Agree" at 4. The score ranges were interpreted as follows: 3.26 to 4.00 represented a Very High level, 2.51 to 3.25 a High level, 1.76 to 2.50 a Low level, and 1.00 to 1.75 a Very Low level. The scoring guidelines enabled the researchers to classify and interpret overall response patterns with clarity, offering a standardized means of measuring how informed and positive the elderly participants perceived flu and pneumococcal vaccination. Below was the continuum of the study:

A. Respondents' Knowledge on Flu and Pneumococcal Vaccination Questionnaire. This tool was used to assess the level of knowledge on flu and pneumococcal vaccination. A four-point Likert scale will be used:

Weight	Continuum	Response	Interpretation
4	3.26 - 4.0	Strongly Agree	Very High
3	2.51 - 3.25	Agree	High
2	1.76 - 2.50	Disagree	Low
1	1.00 - 1.75	Strongly Disagree	Very Low

B. Respondents' Perception on Flu and Pneumococcal Vaccination Questionnaire. This tool was used to assess the level of perception on flu and pneumococcal vaccination. A four-point Likert scale will be used:

Weight	Continuum	Response	Interpretation
4	3.26 - 4.0	Strongly Agree	Very High
3	2.51 - 3.25	Agree	High
2	1.76 - 2.50	Disagree	Low
1	1.00 - 1.75	Strongly Disagree	Very Low

Mode of Analysis/ Statistical Treatment

The data gathered were analyzed using the statistical tool with the use of statistical software:

Descriptive Statistics were utilized to summarize categorical data, providing frequencies and percentages. Descriptive statistics were used to report categorical data, including demographic variables and response distribution, through frequencies and percentages. It enabled the researchers to provide a clear picture of the sample profile and overall trends in knowledge and compliance before proceeding with regression analysis.

Measures of Central Tendency (mean) and Measures of Dispersion (standard deviation) for continuous variables such as health belief evaluations and knowledge scores.

The mean divides the total number of subjects by the sum of all the scores. The standard deviation, on the other hand, indicates how much the scores differ from one another. The mean represents the average score of the respondents and provides a general impression of their level of knowledge or perception regarding an issue—for example, flu and pneumococcal vaccination.

In contrast, the standard deviation reflects how spread out the answers are from that average. When the standard deviation is slight, most answers are concentrated near one another, reflecting similar levels of knowledge or perception. A high standard deviation, however, indicates that the answers are widely dispersed, suggesting significant variation in what participants do know or perceive about the subject. Employing both the mean and the standard deviation enables researchers to observe not only the average but also the consistency or diversity of the answers.

Binary Logistic Regression was used to examine the relationships among knowledge, perception, and vaccination compliance. It allows estimation of odds ratios and the likelihood that predictors such as vaccine availability, perceived benefits, and perceived barriers would affect the vaccination compliance. The results provided insight into which variables can significantly influence the vaccination behavior among the elderly in a community. The study used binary logistic regression to analyze the relationship between knowledge and compliance with flu and pneumococcal vaccination. The analysis showed a significant relationship between knowledge and compliance, with an odds ratio indicating a change in the probability of compliance.

Ethical Considerations

The researchers personally delivered the consent letter to obtain the Dean of the College of Nursing, Midwifery, and Radiologic Technology's permission. A letter of consent was then sought from the barangay captain before conducting the study in the community. The consent letter outlined the objectives and purpose of the study. Once approved, informed consent was sought from the research respondents with a consent letter. Respondents were given adequate time to consider their participation. The researchers ensured that each respondent understood they could withdraw from the study at any time without penalty and were willing to participate by agreeing to complete the self-report questionnaire. The study ensures the protection of respondents' privacy, the confidentiality of the research data, and the anonymity of individuals participating in the research. Additionally, the researchers assured that the results will not be used for any purpose other than the study. Data were retained until the study was completed or the findings were published.

RESULTS AND DISCUSSIONS

This section presents the study's findings. The results are presented and discussed according to the following:

Respondents' Knowledge on Flu and Pneumococcal Vaccination

Respondents' Perception on Flu and Pneumococcal Vaccination

Respondents' Compliance on Flu and Pneumococcal Vaccination

Significant Relationship between Respondents' Knowledge and their Compliance on Flu and Pneumococcal Vaccination

Significant Relationship between Respondents' Perception and their Compliance on Flu and Pneumococcal Vaccination

Respondents' Knowledge on Flu and Pneumococcal Vaccination

Table 1 presents respondents' knowledge on flu and pneumococcal vaccination, including vaccine availability, benefits, and risks.

As shown in the table, the respondents' knowledge on flu and pneumococcal vaccination is very high with weighted mean of 3.46. It indicates that the majority of participants are well-informed about various aspects of vaccination, including availability, benefits, and risks. Specifically, knowledge about vaccine availability scored the highest, reflecting strong awareness of where and how to access vaccines within their communities. Meanwhile, understanding of vaccine benefits and risks also falls within the very high range, indicating that respondents recognize vaccination's protective benefits and are aware of potential side effects. The results can be attributed to the effective dissemination of information through various channels tailored to reach the elderly population. Community health programs, local clinics, and media efforts have helped elderly individuals receive

accurate and complete information. This very high level of knowledge may also be due to healthcare professionals' ability to provide individualized advice and address particular problems during community engagement. The consistency of messaging across channels also boosted vaccination awareness and dispelled myths and misinformation. Thus, informed elderly people are better suited to participate in preventative healthcare, improving health outcomes and reducing community disease burden.

The findings are supported by Kakwi et al. (2024), who demonstrated that targeted health campaigns significantly increase vaccine awareness and acceptance among older adults by using clear, relatable messaging. Similarly, Guan et al. (2024) highlighted that the presence of community health workers and their involvement in outreach activities play a crucial role in enhancing the elderly's understanding of vaccination benefits and risks. Furthermore, Salmon et al. (2023) found that integrating personalized healthcare advice into routine medical visits increases vaccination rates by addressing individual concerns and building trust. These studies collectively affirm that systematic, multifaceted approaches lead to greater knowledge, as evidenced by the high scores on vaccine availability, benefits, and risks observed in this study. By aligning with these established findings, the current study underscores the efficacy of comprehensive educational strategies in fostering well-informed health decisions among elderly populations.

Table 1.

Respondents' Knowledge on Flu and Pneumococcal Vaccination

n=192

Knowledge	Mean	StDev	Interpretation
<i>Vaccine Availability</i>	3.63	0.38	VH
<i>Vaccine Benefits</i>	3.37	0.62	VH
<i>Vaccine Risks</i>	3.39	0.37	VH
Overall Mean	3.46	0.46	VH
<i>Legend: 3.26- 4.00 – Very High (VH) 1.76- 2.50 – Low (L)</i>			
<i> 2.51- 3.25 – High (H) 1.00- 1.75 – Very Low (VL)</i>			

Respondents' Perception on Flu and Pneumococcal Vaccination

Table 2 presents respondents' perceptions on flu and pneumococcal vaccination regarding perceived susceptibility, benefits, and barriers.

As illustrated in the table, the overall perception is high, with a weighted mean of 3.07, indicating a generally favorable attitude towards vaccinations among the elderly. Perceived susceptibility is categorized as very high, reflecting that respondents believe they are at risk of contracting these diseases and recognize the importance of vaccinations in preventing them. Perceived benefits also scored very high, suggesting that participants recognize vaccination's health benefits. However, perceived barriers, which fall into the high range, indicate that while there are some obstacles to vaccination, they are not overwhelmingly significant. This perception could be influenced by factors such as vaccine accessibility and personal health beliefs. The results suggest that while there is strong recognition of the need for and benefits of vaccination, addressing perceived barriers could further enhance vaccination compliance and uptake among the elderly.

To support this, research by Dardas et al. (2023) shows that perceived susceptibility plays a crucial role in motivating individuals to engage in preventive health measures,

including vaccinations. Furthermore, it aligns with the study's finding of a very positive perception of susceptibility among the elderly. Additionally, a study by Prada-García et al. (2024) found that perceived benefits significantly enhance vaccination rates among older adults by reinforcing the protective value of vaccines against serious illnesses. It mirrored a very positive perception of vaccination benefits in the current study. However, perceived barriers remain a concern, as identified by Twomey et al. (2024), who emphasize the need to address logistical and psychological obstacles to improve vaccine uptake. By acknowledging these barriers and implementing targeted interventions, such as simplifying vaccine access and providing clear information, healthcare providers can effectively increase vaccination compliance. Collectively, these studies support the notion that enhancing positive perceptions and mitigating barriers can improve vaccination behaviors among the elderly, thereby contributing to better public health outcomes.

Table 2.

Respondents' Perception on Flu and Pneumococcal Vaccination

n=192

Perception	Mean	StDev	Interpretation
<i>Perceived Susceptibility</i>	3.39	0.55	VH
<i>Perceived Benefits</i>	3.28	0.70	VH
<i>Perceived Barriers</i>	2.55	0.69	H
Overall Mean	3.07	0.65	H
<i>Legend:</i> 3.26- 4.00 – <i>Very High (VH)</i> 1.76- 2.50 – <i>Low (L)</i> 2.51- 3.25 – <i>High (H)</i> 1.00- 1.75 – <i>Very Low (VL)</i>			

Respondents' Compliance on Flu and Pneumococcal Vaccination

Table 3 illustrates respondents' vaccination compliance with the flu and pneumococcal vaccines.

The table shows that compliance with the flu vaccine is slightly higher, with 54.69% of respondents reporting they have received it. In contrast, 45.31% reported receiving the pneumococcal vaccine. This discrepancy suggests that although a majority of the elderly are compliant with flu vaccination, there is a notable gap in pneumococcal vaccination uptake. Several factors could contribute to this difference, including varying levels of perceived importance between the two vaccines, differences in accessibility, or limited awareness regarding the pneumococcal vaccine's specific benefits. To improve overall compliance, it may be essential to enhance education and communication efforts surrounding the pneumococcal vaccine, ensuring that the elderly understand its significance and have easy access to it.

According to Calabrò et al. (2022), flu vaccination campaigns have historically been more robust and visible, resulting in higher compliance rates than pneumococcal vaccination campaigns. These findings were supported by Waszkiewicz et al. (2025), who found that targeted outreach and annual flu campaigns boost awareness and uptake. In contrast, studies such as Kirubarajan et al. (2023) suggest that the pneumococcal vaccine often receives less emphasis in public health messaging, which can lead to lower compliance. Moreover, Lin et al. (2021) underscore the role of healthcare providers in influencing vaccination decisions, noting that strong recommendations from medical professionals significantly increase compliance. These studies collectively highlight the importance of comprehensive and consistent public health strategies to promote both flu and pneumococcal vaccinations, ensuring that the elderly population receives the full spectrum of preventive care available.

Table 3.

Respondents' Compliance on Flu and Pneumococcal Vaccination

n=192

Vaccination Compliance Among the Elderly	Yes		No	
	Frequency	Percentage	Frequency	Percentage
<i>Flu Vaccine</i>	105	54.69%	87	45.31%
<i>Pneumococcal Vaccine</i>	87	45.31%	105	54.69%

**Significant Relationship between Respondents' Knowledge and their Compliance on
Flu and Pneumococcal Vaccination**

Table 4 highlights the significant relationship between respondents' knowledge and their compliance on flu and pneumococcal vaccination.

The binary logistic regression analysis demonstrates that flu vaccine availability significantly influences compliance, with a coefficient of 0.969 and a p-value of 0.04, indicating a significant relationship and rejecting the null hypothesis. The odds ratio of 2.64 implies that for every one-unit increase in knowledge about vaccine availability, the likelihood of an elderly individual complying with the flu vaccination increases by 164%. Conversely, knowledge about vaccine benefits and risks presents significant yet inverse relationships with compliance. With coefficients of -1.663 and -1.266, respectively, and p-values of 0.00 and 0.02, these suggest that while awareness of benefits is crucial, misconceptions or heightened concerns about risks could deter compliance. With an odds ratio of 0.19, this indicates a negative relationship between the knowledge of vaccine benefits and compliance, showing that misconceptions or misinformation may be prevalent. For pneumococcal vaccination, the analysis shows that knowledge of vaccine

availability significantly enhances compliance, as evidenced by a coefficient of 1.392 and a p-value of 0.00. The odds ratio of 4.02 indicates a strong positive relationship, suggesting that greater knowledge of vaccine availability significantly increases compliance by 402%. Likewise, knowledge of vaccine benefits significantly reduces compliance, with a coefficient of -1.290 ($p=0.00$) and an odds ratio of 0.28. The study findings suggest that while understanding the benefits is crucial, there may be underlying apprehensions that need to be addressed to boost compliance. In contrast, knowledge about vaccine risks does not show a significant relationship with compliance, as indicated by a p-value of 0.61, suggesting that other factors may play a more substantial role in influencing pneumococcal vaccine uptake.

The significant positive correlation between knowledge of vaccine availability and compliance, as demonstrated by the binary logistic regression analysis, is supported by Brewer (2021), who emphasizes the importance of accessibility in promoting vaccine uptake. The intense odds ratios for both flu and pneumococcal vaccines indicate that clear communication and easy access can substantially enhance compliance rates. Likewise, de Saint Laurent et al. (2022) highlight how misconceptions, particularly regarding vaccine benefits, can deter uptake, emphasizing the impact of misinformation on vaccination behaviors. The findings underscore the necessity for targeted educational interventions to address fears and misconceptions, as recommended by Larson et al. (2022). Advocacy for clear, consistent messaging is crucial to mitigate perceived risks, reinforcing the need for comprehensive public health strategies. Such strategies should focus not only on enhancing knowledge but also on tackling psychological and logistical barriers to vaccination, thereby improving overall compliance and health outcomes.

Table 4.

Significant Relationship between Respondents' Knowledge and their Compliance on Flu and Pneumococcal Vaccination

Variables	Coef	SE Coef	Chi Square	P-Value	Odds Ratio	Remarks
<u>Flu Vaccination:</u>						
<i>Vaccine Availability</i>	0.969	0.491	4.12	0.04*	2.64	Reject Null Hypothesis
<i>Vaccine Benefits</i>	-1.663	0.439	18.61	0.00**	0.19	Reject Null Hypothesis
<i>Vaccine Risks</i>	-1.266	0.571	4.99	0.02*	0.28	Reject Null Hypothesis
<u>Pneumococcal Vaccination:</u>						
<i>Vaccine Availability</i>	1.392	0.471	9.56	0.00**	4.02	Reject Null Hypothesis
<i>Vaccine Benefits</i>	-1.290	0.411	12.17	0.00**	0.28	Reject Null Hypothesis
<i>Vaccine Risks</i>	-0.276	0.538	0.26	0.61	0.76	Accept Null Hypothesis

Ho1: There is no significant relationship between knowledge and compliance on flu and pneumococcal vaccination among elderly.

*Legend: 0.00-0.01** Highly Significant, 0.02-0.05* Significant, above 0.05 Not Significant*

Significant Relationship between Respondents' Perception and their Compliance on Flu and Pneumococcal Vaccination

Table 5 presents the significant relationship between respondents' perception and their compliance on flu and pneumococcal vaccination.

In analyzing the relationship between respondents' perceptions and their compliance with flu and pneumococcal vaccination, specific hypotheses were rejected, highlighting significant associations. For instance, the perceived benefits of flu vaccination had an odds ratio (OR) of 0.37 with a p-value of 0.00, indicating a highly significant relationship. Thus, it suggests that as the perceived benefits of flu vaccination increase, the likelihood of compliance decreases by 63%. Similarly, for pneumococcal vaccination, the

perceived benefits had an OR of 0.56 ($p=0.05$), indicating a significant relationship. These findings underscore the importance of perceived benefits in influencing vaccination compliance, suggesting that interventions enhancing perceived benefits could effectively improve compliance rates.

In contrast, several hypotheses were accepted, demonstrating no significant relationship between certain perceptions and vaccination compliance. For flu vaccination, perceived susceptibility and perceived barriers had ORs of 0.89 and 1.56, with p -values of 0.75 and 0.07, respectively, both indicating non-significant relationships. Similarly, for pneumococcal vaccination, perceived susceptibility and perceived barriers had ORs of 1.63 and 1.48, respectively, with p -values of 0.17 and 0.09. These results suggest that changes in these perceptions do not significantly alter compliance odds. Therefore, while perceived benefits are pivotal for compliance, addressing perceived barriers or susceptibility might not be as impactful in enhancing vaccination uptake among the elderly.

The significant negative association between perceived benefits and compliance aligns with findings by Piehlmaier et al. (2023), which highlight that overconfidence in perceived benefits without addressing underlying fears or misconceptions can actually diminish compliance. This paradoxical result suggests that while individuals recognize the advantages of vaccination, unaddressed apprehensions or misinformation may outweigh perceived benefits, thereby reducing compliance. On the other hand, the lack of significant associations between perceived susceptibility and barriers to compliance supports Casalino's (2023) conclusion that these perceptions alone are insufficient to drive behavior change without concurrent educational and motivational interventions. Thus, the results advocate for comprehensive communication strategies that not only emphasize perceived

benefits but also actively dispel myths and address specific concerns, fostering a more informed and compliant elderly population regarding vaccination.

Table 5.

Significant Relationship between Respondents' Perception and their Compliance on Flu and Pneumococcal Vaccination

Term	Coef	SE Coef	Chi Square	P-Value	Odds Ratio	Remarks
<u>Flu Vaccination:</u>						
<i>Perceived Susceptibility</i>	-0.177	0.369	0.10	0.75	0.89	Accept Null Hypothesis
<i>Perceived Benefits</i>	-1.001	0.329	10.29	0.00**	0.37	Reject Null Hypothesis
<i>Perceived Barriers</i>	0.443	0.249	3.25	0.07	1.56	Accept Null Hypothesis
<u>Pneumococcal Vaccination:</u>						
<i>Perceived Susceptibility</i>	0.491	0.370	1.85	0.17	1.63	Accept Null Hypothesis
<i>Perceived Benefits</i>	-0.583	0.311	3.77	0.05*	0.56	Reject Null Hypothesis
<i>Perceived Barriers</i>	0.391	0.233	2.87	0.09	1.48	Accept Null Hypothesis

Ho2: There is no significant relationship between perception and compliance on flu and pneumococcal vaccination among elderly.

*Legend: 0.00-0.01** Highly Significant, 0.02-0.05* Significant, above 0.05 Not Significant*

CONCLUSIONS AND RECOMMENDATIONS

This final chapter of the study provides the conclusions and recommendations from the results of the study.

Conclusions

Based on the findings, the researchers were able to conclude the following:

1. The study found that respondents' knowledge of the flu and pneumococcal vaccinations is very high, indicating that the majority of participants are well-informed about vaccine availability, benefits, and risks.
2. The overall perception of flu and pneumococcal vaccination among respondents was classified as high. Respondents perceive susceptibility and benefits are very high, indicating awareness of personal risk and reflecting recognition of health advantages. However, perceived barriers are high, suggesting some obstacles that need to be addressed to enhance compliance.
3. The study showed a higher compliance rate with the flu vaccine than with the pneumococcal vaccine.
4. There was a significant relationship between the respondents' knowledge and their compliance on flu. Also, there was a significant relationship between the respondents' knowledge and their compliance on pneumococcal vaccination. However, respondents' knowledge about vaccine benefits and risks shows an inverse relationship with compliance, suggesting that misconceptions or concerns about risks can deter vaccine uptake

5. The perceived benefits of flu and pneumococcal vaccinations are significantly negatively associated with compliance with these vaccinations. Conversely, perceived susceptibility and barriers do not significantly impact compliance on flu and pneumococcal vaccination.

Recommendations

Based on the conclusions, the researchers made the following recommendations:

1. Elderly individuals were encouraged to continue engaging with community health programs, seek updated information on flu and pneumococcal vaccinations, attend health talks and workshops to remain informed about new developments in vaccines and preventive health strategies, and encourage peers to share experiences and knowledge to improve overall community awareness.
2. Barangay Health Workers were encouraged to strengthen the implementation of DOH vaccination programs. Address misconceptions and fears directly to increase compliance among the elderly, and offer personalized consultations to address individual concerns about vaccine risks, benefits, and availability, thereby building trust and encouraging informed decision-making.
3. Public Health Agencies were encouraged to organize regular vaccination drives and educational campaigns specifically targeting the elderly. Use diverse media channels to ensure the message reaches a broad audience, and identify and reduce logistical barriers to vaccination, such as transportation challenges or inconvenient clinic hours, to improve access and compliance.
4. The Department of Health was advised to develop policies that support sustained educational campaigns and easy access to vaccines for the elderly, encourage

collaboration between the public and private sectors to maximize resource utilization, and implement systems to regularly monitor vaccine uptake and the effectiveness of educational interventions, enabling timely adjustments and improvements to strategies.

5. Future Researchers were encouraged to conduct similar studies on the psychological and social factors that influence vaccination compliance among the elderly, to develop targeted interventions, investigate the long-term impacts of educational and outreach programs on vaccination rates, comparing different demographic groups or regions to refine and tailor public health strategies.

REFERENCES

- AtsizSezik, H., & Tekin, N. (2021). Knowledge, attitudes, and behaviours of elderly people living at a nursing home related to pneumococcal and influenza vaccines. *Turkish Journal of Geriatrics/Türk GeriatriDergisi*, 24(2). Retrieved on April 16, 2025 from <https://turkishgeriatricjournal.com>
- Brewer, N. T. (2021). What works to increase vaccination uptake. *Academic pediatrics*, 21(4), S9-S16. Retrieved on May 23, 2025 from <https://tinyurl.com/ykc2fke4>
- Calabrò, G. E., Rumi, F., Fallani, E., Ricciardi, R., & Cicchetti, A. (2022). The economic and fiscal impact of influenza vaccination for health care workers in Italy. *Vaccines*, 10(10), 1707. Retrieved on May 23, 2025 from <https://tinyurl.com/tvkjer6f>
- Calabrò, G. E., Tognetto, A., Carini, E., Mancinelli, S., Sarnari, L., Colamesta, V., Ricciardi, W., & de Waure, C. (2020). Strategies to Improve Vaccination among At-Risk Adults and the Elderly in Italy. *Vaccines*, 8(3), 358. Retrieved from <https://doi.org/10.3390/vaccines8030358>
- Casalino, P. B. (2023). *Psychological Influences on Vaccination Decisions*. University of Hartford. Retrieved on May 23, 2025 from <https://tinyurl.com/3tn8v6kj>
- Cruz, M., Ramos, G., & Fernandez, L. (2021). Incidence of influenza and pneumonia in the elderly population in the Philippines. *Journal of Public Health and Ageing*.
- Dardas, L. A., Al-Leimon, O., Jaber, A. R., Saadeh, M., Al-Leimon, A., Al-Hurani, A., ... & Van de Water, B. (2023). Flu shots unveiled: A global systematic review of healthcare providers' uptake of, perceptions, and attitudes toward influenza vaccination. *Vaccines*, 11(12), 1760. Retrieved on May 23, 2025 from <https://tinyurl.com/dx4s94te>
- de Saint Laurent, C., Murphy, G., Hegarty, K., & Greene, C. M. (2022). Measuring the effects of misinformation exposure and beliefs on behavioural intentions: a COVID-19 vaccination study. *Cognitive Research: Principles and Implications*, 7(1), 87. Retrieved on May 23, 2025 from <https://tinyurl.com/4nuzx2ch>
- Evren, E. U., Evren, H., Ozcem, S. B., Yazgan, Z. O., Baris, S. A., & Yildiz, F. (2019). Knowledge of physicians about influenza and pneumococcal vaccination. *Turkish Thoracic Journal*, 21(1), 39–43. Retrieved from <https://doi.org/10.5152/turkthoracj.2019.180165>
- Gazibara, T., Kovacevic, N., Kistic-Tepavcevic, D., Nurkovic, S., Kurtagic, I., & Pekmezovic, T. (2019). Flu vaccination among older persons: Study of knowledge and practices. *Journal of Health, Population and Nutrition*, 38(1). Retrieved from <https://doi.org/10.1186/s41043-018-0159-8>

- Gilmour, H. (2024). Factors associated with shingles and pneumococcal vaccination among older Canadians. *Health Reports*, 35(1), 14-24. Retrieved from <https://doi.org/10.25318/82-003-x202400100002-eng>
- Guan, H., Zhang, L., Chen, X., Zhang, Y., Ding, Y., & Liu, W. (2024). Enhancing vaccination uptake through community engagement: evidence from China. *Scientific Reports*, 14(1), 10845. Retrieved on May 23, 2025 from <https://tinyurl.com/2ya42evv>
- Incalzi, R. A., Consoli, A., Lopalco, P., Maggi, S., Sesti, G., Veronese, N., & Volpe, M. (2023). Influenza vaccination for elderly, vulnerable and high-risk subjects: a narrative review and expert opinion. *Internal and Emergency Medicine*, 19(3), 619–640. Retrieved from <https://doi.org/10.1007/s11739-023-03456-9>
- Kakwi, J. D., Yakasai, K. M., Kakwi, J. D., & Raimi, M. O. (2024). Campaigning Against Vaccine Hesitancy: Evaluating the Effectiveness of Health Communication on COVID-19 Vaccination Uptake in Plateau State, Nigeria. *JMIR Preprints*, 22(09), 2024. Retrieved on May 23, 2025 from <https://tinyurl.com/3u5mkjuu>
- Kirubarajan, A., Lynch, M., Nasreen, S., Gebretekle, G. B., Fadel, S. A., Crowcroft, N. S., & Allin, S. (2023). Increasing pneumococcal vaccine uptake in older adults: a scoping review of interventions in high-income countries. *BMC geriatrics*, 23(1), 2. Retrieved on May 23, 2025 from <https://tinyurl.com/4h9p6uea>
- Larson, H. J., Lin, L., & Goble, R. (2022). Vaccines and the social amplification of risk. *Risk Analysis*, 42(7), 1409-1422. Retrieved on May 23, 2025 from <https://tinyurl.com/yzp4y5w6>
- Lin, C., Mullen, J., Smith, D., Kotarba, M., Kaplan, S. J., & Tu, P. (2021). Healthcare providers' vaccine perceptions, hesitancy, and recommendation to patients: a systematic review. *Vaccines*, 9(7), 713. Retrieved on May 23, 2025 from <https://tinyurl.com/5y96bvrX>
- Lutzman, M., & Sommerfeld, E. (2021). The role of meaning in life as a protective factor in suicidal ideation among elderly men with physical illnesses. *Current Psychology*, 42(13), 10603–10612. Retrieved from <https://doi.org/10.1007/s12144-021-02332-z>
- Mercadante, A. R., & Law, A. V. (2020). Will they, or Won't they? Examining patients' vaccine intention for flu and COVID-19 using the Health Belief Model. *Research in Social and Administrative Pharmacy*, 17(9), 1596–1605. Retrieved from <https://doi.org/10.1016/j.sapharm.2020.12.012>
- Olson, D. (2023, June 1). *2022 National Survey: Attitudes about Influenza and Pneumococcal Disease, and the Impacts of COVID-19*. NFID. Retrieved from <https://www.nfid.org/resource/2022-national-survey-attitudes-about-influenza-and-pneumococcal-disease-and-the-impacts-of-covid-19/>

- Paulus, K., Bass, S. B., Kelly, P. J. A., Pilla, J., Otor, A., Scialanca, M., Arroyo, A., & Faison, N. (2024). Using health belief model constructs to understand the role of perceived disease threat and resilience in responding to COVID-19 among people who use drugs: a cluster analysis. *Advances in Drug and Alcohol Research*, 4. Retrieved from <https://doi.org/10.3389/adar.2024.12197>
- Philippines Statistics Authority. (2023). Leading causes of death in the Philippines. Retrieved from <https://psa.gov.ph>
- Piehlmaier, D. M., Stagno, E., & Nagy, A. (2023). Overconfidence at the time of COVID-19: Does it lead to laxer attitudes?. *Social Science & Medicine*, 328, 116000. Retrieved on May 23, 2025 from <https://tinyurl.com/yc6w4zdn>
- Prada-García, C., Toquero-Asensio, M., Fernández-Espinilla, V., Hernán-García, C., Sanz-Muñoz, I., Eiros, J. M., & Castrodeza-Sanz, J. (2024). Analyzing Changes in Attitudes and Behaviors towards Seasonal Influenza Vaccination in Spain's Adult Population over Three Seasons. *Vaccines*, 12(10), 1162. Retrieved on May 23, 2025 from <https://tinyurl.com/4dtcydt4>
- Roller-Wirnsberger, R., Lindner, S., Kolosovski, L., Platzer, E., Dovjak, P., Flick, H., Tziraki, C., & Illario, M. (2021). The role of health determinants in the influenza vaccination uptake among older adults (65+): a scope review. *Aging Clinical and Experimental Research*, 33(8), 2123–2132. Retrieved from <https://doi.org/10.1007/s40520-021-01793-3>
- Salmon, D. A., Dudley, M. Z., Brewer, J., Shaw, J., Schuh, H. B., Proveaux, T. M., ... & Orton, P. Z. (2023). LetsTalkShots: personalized vaccine risk communication. *Frontiers in Public Health*, 11, 1195751. Retrieved on May 23, 2025 from <https://tinyurl.com/4r8jdras>
- Shmueli, L. (2021). Predicting intention to receive COVID-19 vaccine among the general population using the health belief model and the theory of planned behavior model. *BMC Public Health*, 21(1). Retrieved from <https://doi.org/10.1186/s12889-021-10816-7>
- Sözen, M., Karatoprak, A. P., Demirhan, Y., Nasırlıer, G. Ç., Selek, A., Gezer, E., Çetinarslan, B., Cantürk, Z., Tarkun, İ., Köksalan, D., & Azak, E. (2021). Awareness of influenza and pneumococcal vaccines in diabetic patients. *Journal of Diabetes & Metabolic Disorders*, 20(1), 757–763. Retrieved from <https://doi.org/10.1007/s40200-021-00812-4>
- Suitner, C., Casara, B. G. S., Maggi, S., & Baldo, V. (2022). An Independent Study to Compare Compliance, Attitudes, Knowledge, and Sources of Knowledge about Pneumococcal Vaccinations among an Italian Sample of Older Adults. *Vaccines*, 10(4), 490. Retrieved from <https://doi.org/10.3390/vaccines10040490>

- Tong, W. T., Seth, A., Ng, M. P. E., Tong, S. C., Lau, A., Chen, T. Y., Ong, S. E., & Yoong, J. S. (2024). Factors related to, and effective interventions for, vaccination uptake among older adults in two Asia-Pacific countries: A rapid review. *Asia Pacific Journal of Public Health*. Retrieved from <https://doi.org/10.1177/10105395241258530>
- Twomey, E. P., Herman, D., Marín-Rodríguez, J. A., & Jimenez-Moleon, J. J. (2024). Influenza Vaccination Uptake and Associated Factors among Individuals with Diabetes Mellitus in Spain: A Cross-Sectional Study Using Data from the European Health Interview Survey 2020. *Vaccines*, 12(8), 915. Retrieved on May 23, 2025 from <https://tinyurl.com/kdnv2ccc>
- University of the Philippines Population Institute (UPPI) & Demographic Research and Development Foundation, Inc. (DRDF). (2021, April). Vaccinating the most & vulnerable group in the time of pandemic: Insights from a national survey of older people (UPPI/DRDF Research Brief No. 9). Retrieved from <https://www.uppi.upd.edu.ph/sites/default/files/pdf/COVID-19Research-Brief-09.pdf>
- Villanueva, R. (2024, July 5). DOH: 5 million flu vaccines for elderly due August. *Philstar.com*. Retrieved from <https://www.philstar.com/nation/2024/07/06/2368113/doh-5-million-flu-vaccines-elderly-due-august>
- Walden University ScholarWorks. Walden Dissertation and Doctoral Studies Collection (2023). Influences on Influenza Vaccine Uptake Among Older Lebanese Adults
- Waszkiewicz, M., Wnuk, K., Świtalski, J., & Augustynowicz, A. (2025). Knowledge, attitudes, and beliefs of pharmacists regarding vaccinations against influenza and pneumococci—a systematic review. *Human Vaccines & Immunotherapeutics*, 21(1), 2489889. Retrieved on May 23, 2025 from <https://tinyurl.com/ssttm4>
- Worasathit, R., Wattana, W., Okanurak, K., Songthap, A., Dhitavat, J., & Pitisuttithum, P. (2015). Health education and factors influencing acceptance of and willingness to pay for influenza vaccination among older adults. *BMC Geriatrics*, 15(1). Retrieved from <https://doi.org/10.1186/s12877-015-0137-6>
- Xu, X., & Lin, C. A. (2024). COVID-19 Vaccine Information Exposure: The Effect of Online Authority vs. Non-Authority Sources on Beliefs, Emotions and Information Engagement Behaviors. *Vaccines*, 12(10), 1096. Retrieved from <https://doi.org/10.3390/vaccines12101096>
- Zhang, X., Guo, Y., Zhou, Q., Tan, Z., & Cao, J. (2021). The Mediating Roles of Medical Mistrust, Knowledge, Confidence and Complacency of Vaccines in the Pathways from Conspiracy Beliefs to Vaccine Hesitancy. *Vaccines*, 9(11), 1342. Retrieved from <https://doi.org/10.3390/vaccines9111342>

Zhao, L., Ying, M., Qian, Y., Zhou, L., & Yang, P. (2024). A Dynamic Model of Information-Vaccination-Disease That Accounts for Emerging Viral Variants: Model Development and a Case Study for COVID-19 in Iceland. *Discrete Dynamics in Nature and Society*, 2024. Retrieved from <https://doi.org/10.1155/2024/4098357>

Appendix A- Survey Questionnaire

**KNOWLEDGE ON FLU AND PNEUMOCOCCAL
VACCINATION QUESTIONNAIRE**

Directions: Please read each statement carefully and select the number that best represents your level of agreement, using the following scale: 4 - Strongly Agree, 3- Agree, 2 - Disagree, 1 - Strongly Disagree.

	Strongly Agree (4)	Agree (3)	Dis- agree (2)	Strongly Disagree (1)
<i>A. Vaccine Availability (Pagka-anaa sa Bakuna)</i>				
1. I am informed about where flu and pneumococcal vaccines are available in my community (e.g., clinics, pharmacies, or health facilities) <i>(Ako nahibalo asa makuha ang mga bakuna batok sa trangkaso ug pneumococcal sa among komunidad (pananglitan, sa mga klinika, botika, o pasilidad sa panglawas).)</i>				
2. I am aware of the availability of pneumococcal and flu vaccines at local health centers. <i>(Nakahibalo ako nga adunay mga bakuna sa pneumococcal ug trangkaso sa local nga mga health centers.)</i>				
3. Vaccination schedules in health centers are announced in the barangay. <i>(Ang mga iskedyul sa pagbakuna sa mga health center gipahibalo sa barangay.)</i>				

Appendix A- Cont'd

4. I am aware that the local government ensures an adequate supply of the pneumococcal vaccine. <i>(Nahibalo ko nga giseguro sa local na gobyerno ang nga adunay igo nga supply sa pneumococcal nga bakuna.)</i>				
5. I acknowledge that outreach programs are conducted to provide vaccinations in remote or underserved areas. <i>(Nahibalo ko nga outreach programs nga naghatag og bakuna sa mga lagyong dapit o kulang og serbisyo.)</i>				
6. I know that vaccination site locations in our community are clearly announced to facilitate easier access for the elderly. <i>(Nahibalo ko nga ang mga lokasyon sa bakunahanan sa among komunidad kay klaro nga gipahibalo aron mapadali ang pag-access sa mga tigulang.)</i>				
B. Vaccine Benefits (Benepisyo sa Bakuna)				
1. I understand that vaccination against pneumococcal disease can reduce the risk of contracting pneumonia. <i>(Akong nasabtan nga ang mga pagbakuna batok sa sakit nga pneumococcal makapakunhod sa risgo nga mataptan og pulmonya.)</i>				
2. I think getting vaccinated not only protects me but also those around me. <i>(Nagtuo ko nga ang pagpabakuna dili lang makapanalipod kanako kondili apil pod ang mga duol kanako.)</i>				
3. I consider vaccination as an effective method to lower the number of hospitalizations caused by pneumonia and the flu. <i>(Giisip nako nga ang pagbakuna usa ka epektibo nga paagi aron mapaminusan ang gidaghanon sa mga na ospital tungod sa pneumonia ug trangkaso.)</i>				

Appendix A- Cont'd

4. I acknowledge that the best protection is obtained by receiving both the flu and pneumococcal vaccines. <i>(Ginakonsidera nako nga ang labing maayong proteksyon makuha pinaagi sa pag dawat sa mga bakuna sa trangkaso ug pneumococcal)</i>				
5. I am aware that vaccines help lessen the risk of complications related to flu and pneumonia, and also reduce the cost of treatment. <i>(Nahibalo ko nga ang bakuna maka pamenos sa risgo sa komplikasyon nga may kalabutan sa flu ug pneumonia, ug makapamenos sa gasto sa tambal.)</i>				
6. I acknowledge that annual vaccination is important due to the constant changes in flu virus strains. <i>(Nasabtan nako nga importante ang matag-tuig nga pagpabakuna tungod sa kanunay nga pagbag-o sa mga klase sa flu virus.)</i>				
C. Vaccine Risks (Risgo sa Bakuna)				
1. I understand that mild side effects, such fever or soreness, may happen after receiving a vaccination. <i>(Nakasabot ko nga may posibilidad nga makasinati og mga kasagaran nga side effects, sama sa hilanat o kasakit, pagkahuman sa pag pabakuna.)</i>				
2. I do not believe vaccines weaken the immune system. <i>(Dili ko motuo nga ang mga bakuna maka-pahuyang sa immune system.)</i>				
3. I believe it is important to consult a healthcare professional about potential vaccine risks before getting vaccinated. <i>(Nagtuo ko nga importante ang pagkonsulta sa usa ka propesyonal bahin sa posibleng mga risgo sa bakuna bago mag pabakuna.)</i>				

Appendix A- Cont'd

4. Before we were vaccinated, we were informed about the possible risks. <i>(Adiser kami bakunahan, ilaha kami nga gipahibalo sa mga possible nga mga risiko)</i>				
5. I believe that different types of vaccines carry varying levels of risk. <i>(Nagatuo ako nga ang klase-klase nga bakuna adunay lahi-lahi nga lebel sa risiko)</i>				
6. I have not experienced refusing a vaccine due to its potential side effects <i>(Wala ko nakasulay nga nibalibad sa bakuna tungod sa potensyal nga side effects niini)</i>				

Appendix A- Cont'd

	Strongly Agree (4)	Agree (3)	Dis- agree (2)	Strongly Disagree (1)
A. Perceived Susceptibility (Gituohan nga Pagkapeligro)				
1. I believe my health puts me at risk of getting pneumonia or flu. <i>(Nagtuo ko nga ang akong kahimtang sa pang lawas nag butangkanakosarisgongamatakdanog pneumonia o trangkaso.)</i>				
2. I am concerned about the effects of flu or pneumonia on my overall health. <i>(Nabalaka ko sa epekto sa trangkaso o pulmonya sa akong kinatibuk-ang panglawas.)</i>				
3. I believe that my age increases my risk of contracting illnesses. <i>(Nagatuo ako nga ang akoang edad maka pataas sa risgo nga makakuha og sakit.)</i>				
4. I believe I am at a higher risk of getting sick if I do not get vaccinated. <i>(Nagatuo ako nga aduna akoy taas nga risgo nga maka kuha og sakit kung dili magpabakuna.)</i>				
5. I believe that individuals with weakened immune systems should receive vaccinations. <i>(Nagatuo ako nga ang mga tawo nga adunay hina nga immune system dapat magpabakuna.)</i>				
6. Even though I may be at risk for certain illnesses, I will still choose to get vaccinated. <i>(Bisan ako naay posibilidad sa risgo sa mga sakit, magpabakuna gihapon ko.)</i>				

Appendix A- Cont'd

B. Perceived Benefits (Gituohang Benepisyo)				
1. I believe that vaccination is an effective way to prevent pneumonia and flu. <i>(Ang pagpabakuna usa ka epektibong pamaagi sa pag pugong sa pneumonia ug trangkaso.)</i>				
2. I understand that getting vaccinated helps strengthen my overall health and well-being. <i>(Ang pagpabakuna makatabang sa pagpalig-on sa akong kinatibuk-ang panglawas ug kaayohan.)</i>				
3. I believe that vaccination gives me peace of mind regarding my health during flu season. <i>(Ang pagpabakuna naghatag kanako og kalinaw sa huna-huna bahin sa akong panglawas panahon sa trangkaso.)</i>				
4. I am aware that vaccination can reduce the likelihood of hospitalization due to respiratory illnesses <i>(Para kanako ang pagpabakuna maka-pakunhod sa posibilidad nga ma ospital tungod sa sakit sa respiratoryo.)</i>				
5. I believe that vaccines are among the most reliable methods to protect myself from seasonal diseases. <i>(Ang bakuna usa sa kasaligan nga pamaagi aron mapanalipdan ang akong kaugalingon gikan sa pana-panahon nga sakit.)</i>				
6. I understand that vaccination can reduce the financial burden of medical expenses. <i>(Ang pagpabakuna makapamenos sa pinansyal nga palas-anon sa medikal nga gasto alang kanako.)</i>				

Appendix A- Cont'd

C. Perceived Barriers (Gituohang Babag)				
1. I have concerns regarding the effectiveness of the pneumococcal and flu vaccines. <i>(Adunay ako mga kabalaka bahin sa ka epiktibo sa mga bakuna sa pneumococcal ug trangkaso.)</i>				
2. My access to vaccination services is made difficult by logistical issues (e.g, travel, scheduling.) <i>(Nag lisod ako mu apil sa mga serbisyo sa pagpabakuna tungod sa mga isyu sa lokal (pananglitan, pagbiyahe, pag-iskedyul).)</i>				
3. I am concerned that vaccination may interfere with the medications I am currently taking. <i>(Nabalaka ako nga ang pagpabakuna maka samok sa mga tambal nga akong ginatumar karon.)</i>				
4. I acknowledge that my religious or cultural beliefs make me hesitant to accept vaccines. <i>(Ang akong relihiyoso o kultural nga mga pagtuo naghimo kanako nga magduha-duha sa pagdawat sa mga bakuna.)</i>				
5. I have been influenced by the negative opinions or experiences of others regarding vaccination. <i>(Naimpluwensyahan ako sa negatibo nga mga opinyon o mga kasinatian sa uban bahin sa pagbakuna.)</i>				
6. I recognize that my fear of needles discourages me from getting vaccinated. <i>(Ang akong kahadlok sa dagom nagpaluya kanako sa pagpabakuna.)</i>				

Appendix A- Cont'd

COMPLIANCE ON FLU AND PNEUMOCOCCAL VACCINATION

AMONG ELDERLY QUESTIONNAIRE

Direction: Please read each question carefully. Indicate your answer by placing a check mark (✓) in the box next to **Yes** or **No**.

1. I consistently receive the flu vaccine each year as recommended

☐ Yes

☐ No

2. I received a pneumococcal vaccine in the past five years.

☐ Yes

☐ No

Appendix B - Sample of the Filled-out Questionnaire

QUESTIONNAIRE SA KAALAM MAHITUNGOD SA BAKUNA BATOK SA TRANGKASO UG PNEUMOCOCCAL

Direksyon: Palihug basaha pag-ayo ang matag pahayag ug pilia ang numero nga labing maayo nga nagrepresentar sa imong lebel sa pag-uyon, gamit ang mosunod nga sukdanan: 4 - Naka-uyon kaayo, 3 - Naka-uyon, 2 - Wala naka-uyon, 1 - Wala gyud naka-uyon

	Naka-uyon kaayo (4)	Naka-uyon (3)	Wala naka-uyon (2)	Wala gyud naka-uyon (1)
A. Pagka-anaa sa Bakuna				
1. Ako nahibalo asa makuha ang mga bakuna batok sa trangkaso ug pneumococcal sa among komunidad (pananglitan, sa mga klinika, botika, o pasilidad sa panglawas).	✓			
2. Nakahibalo ako nga adunay mga bakuna sa pneumococcal ug trangkaso sa lokal nga mga health centers.	✓			
3. Ang mga iskedyul sa pagbakuna sa mga health center gipahibalo sa barangay.	✓			
4. Nahibalo ko nga giseguro sa lokal na gobyerno ang nga adunay igo nga supply sa pneumococcal nga bakuna.	✓			
5. Nahibalo ko nga outreach programs nga naghatag og bakuna sa mga lagyong dapit o kulang og serbisyo.		✓		
6. Nahibalo ko nga ang mga lokasyon sa bakunahan sa among komunidad kay klaro nga gipahibalo aron mapadali ang pag-access sa mga tigulang.	✓			
B. Benepisyo sa Bakuna				
1. Akong nasabtan nga ang mga pagbakuna batok sa sakit nga pneumococcal makapakunhod sa risiko nga mataptan og pulmonya.	✓			
2. Nagtuo ko nga ang pagpabakuna dili lang makapanalipod kanako kon dili apil pod ang mga duol kanako.	✓			

Appendix B - Cont'd

3. Giisip nako nga ang pagbakuna usa ka epektibo nga paagi aron mapaminusan ang gidaghanon sa mga naospital tungod sa pneumonia ug trangkaso.	✓			
4. Ginakonsidera nako nga ang labing maayong proteksyon makuha pinaagi sa pagdawat sa mga bakuna sa trangkaso ug pneumococcal		✓		
5. Nahibalo ko nga ang bakuna makapamenos sa risiko sa komplikasyon nga may kalabutan sa flu ug pneumonia, ug makapamenos sa gasto sa tambal.	✓			
6. Nasabtan nako nga importante ang matag-tuig nga pagpabakuna tungod sa kanunay nga pagbag-o sa mga klase sa flu virus.	✓			
<i>C. Risiko sa Bakuna</i>				
1. Nakasabot ko nga may posibilidad nga makasinati og mga kasagaran nga side effects, sama sa hilanat o kasakit, pagkahuman sa pagpabakuna.	✓			
2. Dili ko motuo nga ang mga bakuna makapahuyang sa immune system.		✓		
3. Nagtuo ko nga importante ang pagkonsulta sa usa ka propesyonal bahin sa posibleng mga risiko sa bakuna bago magpabakuna.	✓			
4. Adiser kami bakunahan, ilaha kami nga gipahibalo sa mga posible nga mga risiko	✓			
5. Nagatuo ako nga ang klase-klase nga bakuna adunay lahi-lahi nga lebel sa risiko	✓			
6. Wala ko nakasulay nga nibalibad sa bakuna tungod sa potensyal nga side effects niini	✓			

Appendix B - Cont'd

**QUESTIONNAIRE SA PANGHUNA-HUNA MAHITUNGOD SA BAKUNA BATOK SA
TRANGKASO UG PNEUMOCOCCAL**

Direksyon: Palihug basaha pag-ayo ang matag pahayag ug pilia ang numero nga labing maayo nga nagrepresentar sa imong lebel sa pag-uyon, gamit ang mosunod nga sukdanan: 4 - Naka-uyon kaayo, 3 - Naka-uyon, 2 - Wala naka-uyon, 1 - Wala gyud naka-uyon

	Naka-uyon kaayo (4)	Naka-uyon (3)	Wala naka-uyon (2)	Wala gyud naka-uyon (1)
A. Gituohan nga Pagkapeligro				
1. Nagtuo ko nga ang akong kahintang sa panglawas nagbutang kanako sa risgo nga matakdan og pneumonia o trangkaso.	✓			
2. Nabalaka ko sa epekto sa trangkaso o pulmonya sa akong kinatibuk-ang panglawas.	✓			
3. Nagatuo ako nga ang akoang edad makapataas sa risgo sa pagkuha og sakit.	✓			
4. Nagatuo ako nga aduna akoy taas nga risgo nga makakuha og sakit kon ako dili magpabakuna.	✓			
5. Nagatuo ako nga ang mga tawo nga adunay hina nga immune system dapat magpabakuna.	✓			
6. Bisan ako naay posibilidad sa risgo sa mga sakit, magpabakuna gihapon ko.	✓			
B. Gituohang Benepisyo				
1. Ang pag pabakuna usa ka epektibong pamaagi sa pag pugong sa pneumonia ug trangkaso.	✓			
2. Ang pag pabakuna makatabang sa pagpalig-on sa akong kinatibuk-ang panglawas ug kaayohan.	✓			
3. Ang pag pabakuna naghatag kanako og kalinaw sa hunahuna bahin sa akong panglawas panahon sa trangkaso.	✓			

Appendix B - Cont'd

4. Para kanako ang pag pabakuna makapakunhod sa posibilidad nga maospital tungod sa sakit sa respiratoryo.	✓			
5. Ang bakuna usa sa kasaligan nga pamaagi aron mapanalipdan ang akong kaugalingon gikan sa pana-panahon nga sakit.	✓			
6. Ang pag pabakuna makapamenos sa pinansyal nga palas-anon sa medikal nga gasto alang kanako.	✓			
<i>C. Gituohang Babag</i>	.			
1. Adunay ako mga kabalaka bahin sa kaepiktibo sa mga bakuna sa pneumococcal ug trangkaso.	✓			
2. Nag lisod ako mu apil sa mga serbisyo sa pag pabakuna tungod sa mga isyu sa lokal (pananglitan, pagbiyahe, pag-iskedyul).	✓			
3. Nabalaka ako nga ang pag pabakuna makasamok sa mga tambal nga akong gina tumar karon.	✓			
4. Ang akong relihiyoso o kultural nga mga pagtuo naghimo kanako nga magduha-duha sa pagdawat sa mga bakuna.	✓			
5. Naimpluwensyahan ako sa negatibo nga mga opinyon o mga kasinatian sa uban bahin sa pagbakuna.	✓			
6. Ang akong kahadlok sa dagom nagpaluya kanako sa pagpabakuna.	✓			

Appendix B - Cont'd

**QUESTIONNAIRE SA PAGSUNOD SA BAKUNA BATOK SA TRANKASO UG
PNEUMOCOCCAL ALANG SA MGA TIGULANG**

Direksyon: Palihug basaha og maayo ang matag pangutana. Ipakita ang imong tubag pinaagi sa pagbutang og tsek (✓) sa kahon tupad sa (Oo) o (Wala).

1. Nakapa-inject ko sa flu vaccine matag tuig ingon sa gisugyot.

☐ Oo

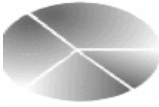
☒ Wala

2. Nakapa-inject ko sa pneumococcal vaccine sa miaging lima ka tuig.

☒ Oo

☐ Wala

Appendix C – Sampling Computation



Raosoft®

What margin of error can you accept? %
5% is a common choice

What confidence level do you need? %
Typical choices are 90%, 95%, or 99%

What is the population size?
If you don't know, use 20000

What is the response distribution? %
Leave this as 50%

Your recommended sample size is **192**

Stratification in Sampling Computation	
Number of Puroks	Number of Population per purok
Purok 1	38
Purok 1A	26
Purok 2	20
Purok 3	31
Purok 3A	13
Purok 4	13
Purok 5	23
Purok 6	28
	Total Population: 192

Appendix D - Informed Consent

 **Misamis University**
Ozamiz City

MISAMIS UNIVERSITY RESEARCH CENTER
CERTIFIED: ISO 21001: 2018 Educational Organizations Management System by DNV
ACCREDITED: Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA)

MU-RC-042/13 November 2024

Thesis/Research Data Gathering Approval Form

Date: _____

Name of Authors: Mikella Anne C. Calina, Christian M. Delapina, Camil H. Dimerag, Rizar Amar M. Dizon, Henry J. Pidalid
College/Department: College of Nursing, Midwifery, and Radiologic Technology
Research Title: Knowledge, Perception, and Compliance on HIV and Pneumococcal Vaccination Among Elderly

Data Gathering Procedure:

a. Type of Research: (Kindly check)

☒ Quantitative	☐ Qualitative	☐ Experimental
☒ Approved Research Title & Problem/Objectives	☒ Approved Data Gathering Procedure	☒ Approved Data Gathering Instrument/Data Sheets

b. Respondents/Participants/Subject/Samples to be Collected: Elderly People

c. Procedure:

☒ Survey	☐ Interview	☐ Experimentation	☐ Laboratory Testing
--	------------------------------------	--	---

d. Place of Implementation/Study Area: Barangay Lam-an, Ozamiz City

If to be conducted outside the school campus, indicate the nature of transportation to be used:

☐ Own private vehicle	☒ public utility vehicle	☐ rental	☐ Others, please indicate _____
--	--	---------------------------------	--

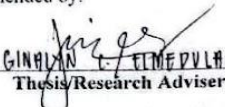
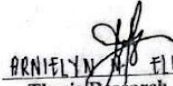
e. Date/s of Implementation/Sampling: March - April 2025

Attachments:

☐ Approved Letter of Consent from the designated authority in the area/place where the study is to be conducted
☒ Signed Parents' Consent

The thesis proposal mentioned above is hereby recommended for the commencement of data gathering implementation.

Recommended by:

 GINALYN C. FIMEVILAN Thesis/Research Adviser	 ARNIELYN A. FIMEVILAN, DAN, RN Thesis/Research Instructor
---	---

Approved by: 
Sammy B. Tagbay PhD, RN
College Dean

CONTROLLED DOCUMENT

Appendix D – Cont'd

**KNOWLEDGE, PERCEPTION, AND COMPLIANCE ON FLU AND
PNEUMOCOCCAL VACCINATION AMONG ELDERLY**

Dear Respondents,

We are third-year students of Misamis University taking up Bachelor of Science in Nursing. As a requirement of our course, we are conducting a research study entitled "Knowledge, Perception, and Compliance on Flu and Pneumococcal Vaccination Among Elderly." This study aims to assess the level of knowledge, perception, and compliance of elderly individuals regarding flu and pneumococcal vaccination. The primary objective of this research is to understand factors influencing their knowledge, perceptions, and compliance to vaccination recommendations.

Your participation in this survey is voluntary. All information you provide will be kept confidential and will be used solely for academic research purposes. No personal data will be shared or disclosed. Your cooperation and honesty in answering this survey will be highly appreciated.

Thank you for your time and participation in this study.

Sincerely,

The Researchers

Consent Statement

I have been informed about the purpose, scope, and objectives of the research study entitled "Knowledge, Perception, and Compliance on Flu and Pneumococcal Vaccination Among Elderly." I understand that my participation in this study is voluntary and that all information I provide will be kept confidential and used solely for academic research purposes.

I acknowledge that I have the right to withdraw from the study at any time without any consequences. I confirm that I am participating willingly and providing honest responses to the best of my knowledge.

By signing below, I give my consent to participate in this study.

Full Name: _____

Signature: _____

Date: _____

**KNOWLEDGE, PERCEPTION, AND COMPLIANCE ON FLU AND
PNEUMOCOCCAL VACCINATION AMONG ELDERLY**

Mga Minahal nga Respondente,

Kami mga third-year nga estudyante sa Misamis University nga nagkuha sa kurso nga Bachelor of Science in Nursing. Isip usa ka rekisito sa among kurso, kami nagahimo og usa ka research study nga gitituloan "Knowledge, Perception, and Compliance on Flu and Pneumococcal Vaccination Among Elderly." Kini nga pagtuon nagtinguha sa pagsukod sa lebel sa kahibalo, panglantaw, ug pagsunod sa mga katigulangan bahin sa pagpabakuna batok sa trangkaso ug pneumococcal nga mga sakit. Ang tumong ani nga research mao ang pagsabot sa mga hinungdan nga nakaapekto sa mga kahibalo, panglantaw, ug pagsunod sa rekomendasyon sa pagpabakuna.

Ang inyong pag-apil ani nga survey boluntaryo. Ang tanang impormasyon nga inyong ihatag magpabiling pribado ug gamiton lamang para sa akademikong research. Walay bisan unsang personal nga datos nga ipadayag o ipanghatag sa uban. Dako among pasalamat sa inyong kooperasyon ug pagkamatitud-anon sa pagtubag sa survey.

Salamat sa inyong oras ug partisipasyon.

Matinahuron,

Ang mga Researcher

Pahayag sa Pagsugot

Gipahibalo ko bahin sa tumong, sakop, ug katuyuan sa research nga may titulong "Knowledge, Perception, and Compliance on Flu and Pneumococcal Vaccination Among Elderly." Nasabtan nako nga ang akong pag-apil sa kini nga research boluntaryo ug ang tanang impormasyon nga akong ihatag magpabiling tinago ug gamiton lamang para sa akademikong katuyuan.

Ginaila nako nga aduna koy katungod sa pag-undang sa akong pag-apil sa research bisan kanus-a nga walay bisan unsang sangputanan. Gikumpirma nako nga ako boluntaryong nag-apil ug motubag sa tinuod nga impormasyon sumala sa akong kahibalo.

Pinaagi sa pagpirma sa uban, ako nagahatag sa akong pagtugot sa pag-apil ani nga research.

Pangalan: 

Perma: _____

Petsa: 4-25-2025

Appendix E –Approved Letters of Consent



MISAMIS UNIVERSITY
Ozamiz City 7200, Philippines
College of Nursing, Midwifery and Radiologic Technology
Tel No. +63 88 521-0367 / Telefax No. +63 88 521-2917
E-mail Address: mu@mu.edu.ph

CERTIFIED: ISO 21001:2018 Educational Organizations Management System by DNV
ACCREDITED: Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA)
GRANTED: AUTONOMOUS STATUS by the Commission on Higher Education (CHED)

March 28, 2025

SAMMY B. TAGHOY, PHD
Dean, College of Nursing, Midwifery and Radiologic Technology
Misamis University

Dear Dr. Taghoy,

We are third-year students of Misamis University taking up Bachelor of Science in Nursing. As a requirement of our course, we are conducting a research study entitled "Knowledge, Perception, and Compliance on Flu and Pneumococcal Vaccination Among Elderly."

This study aims to assess the level of knowledge, perception, and compliance of elderly individuals regarding flu and pneumococcal vaccination. The primary objective of this research is to understand factors influencing their knowledge, perceptions, and compliance with vaccination recommendations.

In line with this, we respectfully seek your approval to conduct our study. We assure you that all ethical considerations will be observed, including confidentiality and voluntary participation. The findings of this research may contribute to improving vaccination awareness and compliance among the elderly population.

We hope for your kind consideration and support in granting us permission to proceed with our study. Should you require further details, please feel free to contact us at your convenience.

Thank you very much for your time and support.

Sincerely yours,


MIKAELA ANNE C. COLINA

CRISTEAN M. DELA PEÑA

CARYL H. DINOROG

AIZESAMOR M. DIZON

HONEY S. DOLDOLIA
Researchers

Noted by: 
GINALYN C. ELMEDULAN, MN, MAN
Research Adviser

Approved by: 
SAMMY B. TAGHOY, PHD
College Dean

Appendix E - Cont'd



MISAMIS UNIVERSITY
Ozamiz City 7200, Philippines
College of Nursing, Midwifery and Radiologic Technology
Tel No. +63 88 521-0367 / Telefax No. +63 88 521-2917
E-mail Address: mu@mnu.edu.ph



CERTIFIED: ISO 21001:2018 Educational Organizations Management System by DHV
ACCREDITED: Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA)
GRANTED: AUTONOMOUS STATUS by the Commission on Higher Education (CHED)

April 03, 2025

HON. AMADO H. BAUL SR.
Barangay Captain
Barangay Lam-an
Ozamiz City, Philippines

Dear Hon. Baul,

We are third-year students of Misamis University taking up Bachelor of Science in Nursing. As a requirement of our course, we are conducting a research study entitled "Knowledge, Perception, and Compliance on Flu and Pneumococcal Vaccination Among Elderly."

This study aims to assess the level of knowledge, perception, and compliance of elderly individuals regarding flu and pneumococcal vaccination. The primary objective of this research is to understand factors influencing their knowledge, perceptions, and compliance with vaccination recommendations.

In line with this, we respectfully seek your approval to conduct our study within your barangay. We assure you that all ethical considerations will be observed, including confidentiality and voluntary participation. The findings of this research may contribute to improving vaccination awareness and compliance among the elderly population.

We hope for your kind consideration and support in granting us permission to proceed with our study. Should you require further details, please feel free to contact us at your convenience.

Thank you very much for your time and support.

Sincerely yours,

MIKAELA ANNE C. COLINA

CRISTEAN M. DELAPEÑA

CARYL H. DINOROG

AIZES AMOR M. DIZON

HONEY S. DOLDOLIA
Researchers

Noted by:

GINALYN C. ELMEDULAN, MN, MAN
Research Adviser

SAMMY B. TAGHOY, PhD, RN
College Dean

Approved by:

HON. AMADO H. BAUL SR. 4/3/25
Barangay Captain
Lam-an, Ozamiz City

Appendix F- Statistical Computation

Questionnaire I

A. Vaccine Availability - Cronbach's alpha = 0.8266						
Omitted Item Statistics						
Omitted Variable	Adj. Total Mean	Adj. Total StDev	Item-Adj. Total Corr	Squared Multiple Corr	Cronbach's Alpha	
KA1	30.250	3.823	0.2899	0.7119	0.8295	
KA2	30.250	3.768	0.4037	0.7989	0.8208	
KA3	30.150	3.617	0.7227	0.9491	0.7948	
KA4	30.100	3.712	0.5303	0.7748	0.8109	
KA5	30.150	3.631	0.6914	0.8187	0.7974	
KA6	30.400	3.515	0.6048	0.6485	0.8006	
KA7	30.550	3.649	0.4591	0.6757	0.8166	
KA8	30.450	3.471	0.6932	0.8350	0.7901	
KA9	30.300	3.541	0.7355	0.9292	0.7892	
KA10	30.700	3.614	0.2843	0.6152	0.8535	

B. Vaccine Benefits - Cronbach's alpha = 0.9076						
Omitted Item Statistics						
Omitted Variable	Adj. Total Mean	Adj. Total StDev	Item-Adj. Total Corr	Squared Multiple Corr	Cronbach's Alpha	
KB1	30.600	4.740	0.6639	0.8736	0.8986	
KB2	30.600	4.795	0.4557	0.7319	0.9141	
KB3	30.300	4.835	0.5219	0.8400	0.9069	
KB4	30.300	4.703	0.8482	0.9646	0.8891	
KB5	30.400	4.684	0.6826	0.9412	0.8975	
KB6	30.400	4.762	0.6464	0.8833	0.8996	
KB7	30.350	4.705	0.7310	0.9146	0.8945	
KB8	30.400	4.672	0.7912	0.9201	0.8909	
KB9	30.450	4.696	0.6746	0.8080	0.8980	
KB10	30.400	4.695	0.7544	0.9345	0.8932	

C. Vaccine Risks - Cronbach's alpha = 0.8656						
Omitted Item Statistics						
Omitted Variable	Adj. Total Mean	Adj. Total StDev	Item-Adj. Total Corr	Squared Multiple Corr	Cronbach's Alpha	
KC1	29.450	4.407	0.2233	0.4283	0.8943	
KC2	29.300	4.402	0.6863	0.6831	0.8509	
KC3	29.450	4.148	0.6778	0.8874	0.8441	
KC4	29.250	4.191	0.6770	0.7931	0.8444	
KC5	28.850	4.416	0.6109	0.8419	0.8540	
KC6	29.550	4.186	0.6932	0.8991	0.8430	
KC7	29.350	4.171	0.7544	0.7515	0.8383	
KC8	29.200	4.348	0.4980	0.7769	0.8591	
KC9	29.050	4.310	0.6337	0.9047	0.8494	
KC10	29.500	4.186	0.6541	0.8776	0.8463	

Appendix F – Cont’d

Questionnaire II

A. Perceived Susceptibility - Cronbach's alpha = 0.8443						
Omitted Item Statistics						
Omitted Variable	Adj. Total Mean	Adj. Total StDev	Item-Adj. Total Corr	Squared Multiple Corr	Cronbach's Alpha	
PA1	29.600	4.031	0.5605	0.8192	0.8281	
PA2	29.500	3.967	0.7568	0.8115	0.8123	
PA3	29.400	4.160	0.5106	0.6633	0.8338	
PA4	29.600	3.939	0.7131	0.7901	0.8140	
PA5	29.750	3.905	0.4816	0.6731	0.8421	
PA6	29.600	4.070	0.5902	0.7947	0.8266	
PA7	29.800	3.901	0.5488	0.8152	0.8313	
PA8	29.500	4.199	0.3420	0.4202	0.8459	
PA9	29.950	4.032	0.6968	0.8888	0.8189	
PA10	29.850	4.107	0.3979	0.8682	0.8434	
B. Perceived Benefits - Cronbach's alpha = 0.9394						
Omitted Item Statistics						
Omitted Variable	Adj. Total Mean	Adj. Total StDev	Item-Adj. Total Corr	Squared Multiple Corr	Cronbach's Alpha	
PB1	28.900	5.180	0.6455	0.8683	0.9379	
PB2	28.850	5.029	0.8772	0.9669	0.9280	
PB3	28.800	5.012	0.6811	0.9681	0.9373	
PB4	28.900	5.088	0.8158	0.9162	0.9310	
PB5	28.950	4.957	0.7558	0.9203	0.9333	
PB6	28.750	5.139	0.5521	0.7862	0.9430	
PB7	28.850	4.998	0.8112	0.9072	0.9302	
PB8	28.950	4.893	0.9450	0.9761	0.9233	
PB9	28.700	5.006	0.7350	0.7332	0.9341	
PB10	28.800	5.053	0.7991	0.8358	0.9312	
C. Perceived Barriers - Cronbach's alpha = 0.8146						
Omitted Item Statistics						
Omitted Variable	Adj. Total Mean	Adj. Total StDev	Item-Adj. Total Corr	Squared Multiple Corr	Cronbach's Alpha	
PC1	23.500	5.135	0.4032	0.6437	0.8070	
PC2	23.500	5.052	0.4645	0.8000	0.8012	
PC3	23.750	5.098	0.4884	0.8877	0.7995	
PC4	24.000	4.920	0.6646	0.6772	0.7811	
PC5	24.150	4.826	0.6656	0.7881	0.7781	
PC6	24.350	4.749	0.7367	0.9191	0.7689	
PC7	24.350	4.945	0.6037	0.7249	0.7868	
PC8	24.100	4.723	0.6482	0.8146	0.7788	
PC9	23.600	5.295	0.1621	0.6890	0.8307	
PC10	24.100	5.230	0.1811	0.6833	0.8341	

Appendix G - Documentation



Appendix H - Turnitin Result



Page 2 of 62 - Integrity Overview

Submission ID trn:oid::28447:118182009

22% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

► Bibliography

Match Groups

-  **151 Not Cited or Quoted 19%**
Matches with neither in-text citation nor quotation marks
-  **23 Missing Quotations 3%**
Matches that are still very similar to source material
-  **0 Missing Citation 0%**
Matches that have quotation marks, but no in-text citation
-  **0 Cited and Quoted 0%**
Matches with in-text citation present, but no quotation marks

Top Sources

- 10%  Internet sources
- 6%  Publications
- 21%  Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

for-grammarly-and-turn-it-in-V1-research

by Misamis University

General metrics

64,005	8,745	682	34 min 58 sec	1 hr 7 min
characters	words	sentences	reading time	speaking time

Writing Issues

 No issues found

Plagiarism

This text hasn't been checked for plagiarism

CURRICULUM VITAE

PERSONAL DATA

Name : Aizes Amor M. Dizon
Date of Birth : January 15, 2003
Parents : Mrs. Genevive B. Madrina
Religion : Roman Catholic
Residence : Lam-An, Ozamiz City
Contact Number : 09610386664
Email : aizesamor@gmail.com



EDUCATIONAL BACKGROUND

Elementary : Katipunan Elementary School
Junior High School : Esperanza Switch National High School
Senior High School : Holy Child Catholic School Inc.
Tertiary : Misamis University

CURRICULUM VITAE

PERSONAL DATA

Name : Cristean M. Dela Peña
Date of Birth : October 10, 2003
Parents : Mrs. Timotea Dela Peña
Religion : Roman Catholic
Residence : Lapu- Lapu St. Aguada, Ozamis City
Contact No. : 09300073193
Email : cristeanp@gmail.com



EDUCATIONAL BACKGROUND

Elementary : Ozamiz Elementary School
Junior High School : San Antonio's National Highschool
Senior High School : Misamis University
Tertiary : Misamis University

CURRICULUM VITAE

PERSONAL DATA

Name : Caryl H. Dinorog
Date of Birth : March 23, 2001
Parents : Mr. & Mrs. Sofio B. Dinorog Jr.
Religion : Catholic
Residence : Purok 2, Lam-An, Ozamiz City
Contact Number : 09676657770
Email : caryldinorog23@gmail.com



EDUCATIONAL BACKGROUND

Elementary : Oroquieta City Central Elementary School
Junior High School : Misamis Occidental National High School
Senior High School : Deor and Dune Academe School of Technology, Inc.
Tertiary : Misamis University

CURRICULUM VITAE

PERSONAL DATA

Name : Honey S. Doldolia
Date of Birth : August 19, 2002
Parents : Mr. & Mrs. Reni C. Doldolia
Religion : Roman Catholic
Residence : P-5 Masabud, Clarin, Misamis Occidental
Contact Number : 09639396591
Email : doldoliahoneysags@gmail.com



EDUCATIONAL BACKGROUND

Elementary : Clarin Central School
Junior High School : Clarin National High School
Senior High School : Clarin National High School
Tertiary : Misamis University

CURRICULUM VITAE

PERSONAL DATA

Name : Mikaela Anne C. Colina
Date of Birth : January 24, 2004
Parents : Mr. & Mrs. Arnel F. Colina
Religion : UCCP
Residence : P-4 Lapasan Clarin, Misamis Occidental
Contact Number : 09682839688
Email : colinamikaela038@gmail.com



EDUCATIONAL BACKGROUND

Elementary : Shalom Science Institute Inc.
Junior High School : Shalom Science Institute Inc.
Senior High School : San Isidro High School
Tertiary : Misamis University