

## RESEARCH ARTICLE: Treatment adherence among patients with pulmonary tuberculosis in Jolo

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**ABSTRACT.** This study assessed the level of treatment adherence among pulmonary tuberculosis patients at the Rural Health Unit-Jolo in terms of disease awareness, health care support, and family support. With 33 samples taken through non-probability sampling method via purposive sampling, and with the use of weighted mean, standard deviation, t-test for independent samples, One-way ANOVA, and Pearson's *r*, this study reveals the following findings: 1) Of the 100 respondents, mostly are male, married within the age range of 30 years old & below, and with high school of education; 2) On the average, patients at Rural Health Unit-Jolo are perceived to have moderate adherence to treatment of Pulmonary Tuberculosis; 3) Generally, unlike age and civil status, variables such as gender and educational attainment do not significantly mediate in ways how respondents assessed the levels of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo; 4) Generally, the group of respondents who assessed the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo, in the context of disease awareness as Moderate Adherent is mostly probably the same group of respondents who assessed the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo, in the context of disease awareness in contexts of Family Support and Healthcare Support as Moderate Adherent, respectively; and 5) This study seems to support Health Belief Model (HBM) by Edward C. Green and Elaine Murphy (2020) elucidates the cognitive processes influencing nurses' behaviors in the context of infection control.

**KEYWORDS:** *Treatment Adherence, Pulmonary Tuberculosis, Disease Awareness*

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## Introduction

Pulmonary tuberculosis (TB) is a serious infection that affects the lungs and can spread to other organs. It is caused by *Mycobacterium tuberculosis* (MTB) bacteria. Physicians were better able to treat and prevent tuberculosis (TB) spread after the discovery of antibiotics such as streptomycin and, in particular, isoniazid, as well as improved living circumstances. Since then, most affluent countries have experienced a reduction in tuberculosis cases.

According to the World Health Organization (WHO), tuberculosis (TB) remains one of the top ten causes of death worldwide, with poor countries accounting for 95% of all TB-related diagnoses and deaths. If treatment is not received, the condition may cause life-threatening complications, including irreparable lung damage. Patients with tuberculosis (TB) have challenges with long-term treatment regimens. A better understanding of adherence as a multidimensional

behavioral problem, as well as the unique barriers and enablers of patient adherence, is required to improve treatment outcomes. Treatment adherence should be prioritized more in the current TB control program (Weiguo, 2009). Noncompliance is associated with adverse pharmacological reactions, personal situations, significant financial responsibilities, and a lack of social support. Health practitioners' direct observation and routine home visits appear to reduce the chance of noncompliance. Improving treatment adherence necessitates more patient-centered interventions and a closer examination of structural barriers. Although there hasn't been much relevant research conducted in the northeast, medication adherence is critical for lowering tuberculosis rates.

Many quantitative studies have been conducted throughout the years to investigate the factors that influence TB patients' treatment adherence. A cross-sectional questionnaire-based study conducted in Russia discovered that social and psychological factors were significantly associated with medication adherence among tuberculosis patients.<sup>11</sup> A second study conducted in Sri Lanka revealed a link between poor medication adherence and treatment-related adverse events, such as experiencing side effects from anti-TB drugs.<sup>12</sup> It has also been shown that mental health (including stigma and anxiety) and awareness of tuberculosis therapy have important roles in drug adherence. Furthermore, a previous study found a relationship between poor medication adherence and harmful behaviors such as consuming alcohol and smoking (16). However, previous research in China concentrated mainly on sociodemographic variables, medication supervision methods, social support, and TB knowledge and cognition as determinants of medication adherence in TB patients. Treatment factors and stigma were not thoroughly investigated.

I selected to investigate treatment adherence among Pulmonary Tuberculosis (PTB) patients because of its enormous influence on public health. Recognizing the global burden of tuberculosis and its potential implications, I am fascinated by the complexity of patients' commitment to treatment regimens. Understanding the elements that influence adherence is critical not just for individual patients' well-being, but also for preventing the disease from spreading throughout communities. By looking into this area, I gave vital insights that can inform focused interventions, enhance patients' outcomes, and eventually contribute to broader efforts to control and manage tuberculosis.

### **Research Questions**

The purpose of this study was to determine the treatment adherence among patients with Pulmonary Tuberculosis in Rural Health Unit Jolo. Specifically, it answered the following questions:

1. What is the demographic profile of the respondent in terms of the following:
  - 1.1 Age;
  - 1.2 Gender;
  - 1.3 Civil Status; and
  - 1.4 Educational Attainment?
2. What is the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the context of:
  - 2.1 Disease Awareness;
  - 2.2 Health Care Support; and
  - 2.3 Family Support?

3. Is there a significant difference in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile, in terms of:

- 3.1 Age;
- 3.2 Gender;
- 3.3 Civil Status; and
- 3.4 Educational Attainment?

4. Is there a significant correlation among the sub-categories subsumed under the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the context of disease awareness, health care support, and family support?

### **Literature**

This part is devoted to a review of related literature and research that have a direct relevance to the current topic. The primary goal of a literature review is to get a full overview of the existing research and discussions concerning a specific topic or area of study. The findings from such a review are then given in the form of a written report.

#### *Foreign Literatures*

Pulmonary tuberculosis primarily affects the upper lungs. According to McAllister (1992), TB has a preference for the lower lobes in those with diabetes. A retrospective document review was performed on all patients diagnosed with both diabetes and pulmonary tuberculosis and admitted to a healthcare facility. The study's goal was to identify the particular site of tuberculosis as seen in these patients' initial chest radiographs. The chest radiograph demonstrated that those with and without diabetes who had pulmonary tuberculosis frequently had involvement of many lobes.

According to Behzadmehr (2022), diabetes is a common noncommunicable disease on a global scale. In many developed countries, this disease ranks as the fourth or fifth major cause of death. The link between tuberculosis and diabetes has been known for some years, with diabetes identified as a substantial risk factor for tuberculosis in the field of research. Tuberculosis is not only common in diabetics, but it can also affect the visual portrayal of tuberculosis in medical imaging.

According to Adrian R Martineau (2023), the treatment of tuberculosis (TB) requires the long-term use of anti-mycobacterial drugs. The emergence of drug-resistant strains of *Mycobacterium tuberculosis* (Mtb), the organism that causes tuberculosis, has provided a substantial barrier to lowering death rates. This problem is exacerbated by the disease's severity in those with co-existing illnesses like diabetes and HIV. In situations of severe tuberculosis, the clinical symptoms are mostly caused by the host's excessive and powerful immune responses, which are aimed at limiting the bacteria's development. The development of pulmonary illness, such as cavitation and fibrosis, is the result of persistent inflammation caused by pro-inflammatory mediators released by the host in response to a high bacterial burden. The need to improve clinical outcomes and shorten treatment durations has led to a dual strategy that includes the development of novel antimicrobial medicines as well as host-directed therapies (HDT) that favorably modulate immune responses to *Mycobacterium tuberculosis* (Mtb). The procedures used in high-dose therapy (HDT) include the integration of immune modulation approaches with the goal of decreasing wasteful inflammatory reactions and improving antibacterial mechanisms. This strategy is designed to reduce lung damage and speed up the recovery of symptoms. The use of

HDT in conjunction with proven antimycobacterial medications has the potential to improve the overall prognosis for tuberculosis patients.

Most tuberculosis control programs continue to face major challenges in dealing with treatment default. According to Shargie (2007), nonadherence to treatment increases the likelihood of treatment resistance, recurrence, death, and prolonged infectiousness. A study was done to investigate characteristics that may predict adherence to therapy among patients with smear-positive pulmonary tuberculosis. Using the questionnaire, 81 of 404 patients did not finish their treatment, with the majority of them (91%) stopping during the ongoing treatment phase. Factors such as distance from the treatment center, age over 25, and dependency on public transportation were discovered to have an independent relationship with noncompletion. According to the poll, physical access to the treatment center was the most significant predictor of this issue.

Wang (2009) explored a similar study in Jiangsu Province, China, using a combination of quantitative and qualitative methods. The quantitative analysis comprised 780 people diagnosed with sputum-smear-positive tuberculosis (TB) who had been registered consecutively from 2006. These persons were chosen from thirteen counties (districts). These subjects' data were collected using a standardized questionnaire. Non-adherent patients missed 10% of their total permissible tuberculosis drug doses and were classed as such. In addition, a cohort of 20 tuberculosis (TB) patients and a group of ten local healthcare experts were invited to participate in thorough interviews. The elements associated with non-adherence were then investigated using content analysis in accordance with qualitative research standards.

Treatment adherence should be prioritized in the present tuberculosis (TB) control program. Non-adherence is frequently associated with a number of factors, including considerable financial constraints, poor social support, adverse drug reactions, and individual traits. The use of direct observation and regular home visits by healthcare personnel has shown promise in reducing the incidence of nonadherence. To improve treatment adherence, interventions must focus patients' needs and preferences while also addressing the underlying structural barriers that inhibit adherence.

Nonadherence to anti-tuberculosis (TB) treatment reduces the likelihood of treatment success. The phenomenon increases illness incidence and fatality rates. Furthermore, it contributes significantly to the development of drug resistance (Kulkarni, 2013). A prospective cohort study was done at 21 tuberculosis treatment institutions located in the Mumbai Municipal Corporation's E ward. This study included all newly diagnosed pulmonary tuberculosis patients with positive sputum smears who began a short course chemotherapy treatment regimen between January 1st and June 30th of that calendar year. Following the updated national tuberculosis control program, these patients were monitored until they obtained a result. Non-adherence refers to stopping anti-tuberculosis (TB) therapy for one month. The factors were found using univariate and logistic regression analytic approaches. The study's findings are as follows. Our study comprised 156 individuals who had just been diagnosed with pulmonary tuberculosis. Among the 78 instances, or 50% of the sample, the patients did not comply to the prescribed anti-tuberculosis treatment (ATT). The study identified male gender ( $P = 0.035$ ) and a lack of information about the need for regular therapy ( $P = 0.001$ ) as independent risk factors for non-adherence. Participating in sex work as a female was recognized as a substantial risk factor for nonadherence. There is a high demand for continuous, effective, and supportive health education for both patients and their families. Certain populations, such as males aged 15.49 years, individuals without parental support, such as migrants, and female sex workers (FSW), require special attention to guarantee

adherence to antiretroviral therapy (ATT). The area of interest is adherence to anti-tuberculosis treatment, with a focus on cases of non-adherence.

A study conducted in Zambia looked into the factors that contribute to nonadherence to tuberculosis (TB) therapy. Out of 736 patients, 29.8% discontinued their medication regimen. The key factors contributing to noncompliance were symptom improvement, poor awareness, medication depletion, and perceived excessive potency of TB therapies. A considerable minority of TB patients, 29.8%, failed to adhere to the prescribed TB medicine regimen after their health improved. A study conducted in Zambia found that noncompliance with tuberculosis (TB) therapy is a substantial issue. Of the 736 patients chosen at random over six months, 29.8% discontinued their treatment program. Patients' assumption that their symptoms had improved, a lack of awareness of the significance of finishing the treatment, a depleted medicine supply, and the opinion that TB medications were too potent were the main contributors to noncompliance. It is worth noting that a considerable minority of TB patients, 29.8%, did not adhere to the prescribed TB treatment regimen, although experiencing a positive change in their health status.

A field study in India sought to determine the effectiveness of providing nutritional assistance to home contacts of adult tuberculosis patients. The study found that nutritional support reduced the risk of tuberculosis-related death, and it is critical to incorporate nutritional support as a foundational component of patient-focused care. Drug-resistant tuberculosis is a major global health challenge, marked by its complex nature and increased rates of illness and mortality in affected countries, including Zambia (Zu, 2023). The primary motivation for conducting this study was a lack of available data on the drug-susceptibility patterns of both first-line and second-line anti-tuberculosis treatments, including newly developed and repurposed pharmaceuticals used to treat drug-resistant tuberculosis in Zambia. The current study effectively identified a significant prevalence of multidrug-resistant tuberculosis (TB), as well as cases of pre-extensively drug-resistant (pre-XDR) and extensively drug-resistant (XDR) TB. There is a need to improve surveillance of multidrug-resistant (MDR) and extensively drug-resistant (XDR) tuberculosis (TB) in order to provide significant insights for future guidance on the effective treatment and monitoring of these illnesses.

In recent years, tuberculosis (TB) has drawn a lot of attention due to its significant contribution to the global disease burden, especially in low- and middle-income countries where it is closely linked to Atkins, Salla & Lewin, Simon & Smith, Helen & Engel, Mark & Fretheim, Atle & Volmink, Jimmy. 2007). One of the main risk factors for poor treatment outcomes is non-adherence to anti-tuberculosis (anti-TB) medicine (Pradipta, Ivan & Houtsma, Daphne & Van Boven, Job & Alffenaar, Jan-Willem & Hak, Eelko. 2020). Patient nonadherence is the main challenge associated with long-term tuberculosis (TB) treatment (Lisum, Kristina & Waluyo, Agung & Nursasi, Astuti. 2021). Treatment adherence, according to the World Health Organization (WHO), is one factor that determines how well pulmonary tuberculosis treatments is managed. Four antimicrobial treatments are used to treat tuberculosis (TB), and almost all cases can be cured if the meds are administered and used as directed for the full six months. There may be factors contributing to TB patients' non-adherence to therapy because of its prolog treatment plans (Zaidi, Ilham & Sarma, P.S. & Khayyam, Khalid & Ahmad, Quazi & Ramankutty, V. & Singh, Gurpreet. 2023). Treatment adherence, according to the World Health Organization (WHO), is one factor that determines how well pulmonary tuberculosis treatments is managed. Treatment failure or recurrence may arise from non-adherence. A patient's ability to adhere to therapy depends on their level of knowledge on tuberculosis, which varies according to the information they have learned. (M.T. Ghozali & Cica Murani, 2023).

The Intense triad-model program, the case management with directly observed treatment short-course program, and the intervention package were the combined interventions to promote adherence to tuberculosis treatment. When appropriate, healthcare providers should apply these interventions and modify them to fit local contexts and conditions (Suwankeeree, Wongduan & Picheansathian, Wilawan. 2014). Patients with tuberculosis (TB) who have previously received treatment are a commonly recognized risk factor for multidrug-resistant TB. To reduce tuberculosis, particularly in a high-burden situation, it is imperative to identify patients' difficulties during therapy (Pradipta, Ivan & Idrus, Lusiana & Probandari, Ari & Lestari, Bony & Diantini, Ajeng & Alffenaar, Jan-Willem & Hak, Eelko, 2021). Under the direction of HBM, psychological counseling and educational treatments considerably reduced the intervention group's rate of treatment non-adherence. According to Tola, Habteyes & Shojaeizadeh, Davoud & Tol, Azar & Garmaroudi, Gholamreza & Yekaninejad, Saeed & Kebede, Abebaw & Ejeta, Luche Tadesse & Kassa, Desta & Klinkenberg, Eveline (2016), it is advised that TB patients who are receiving regular therapy be provided with psychological counseling and health education. Interventions such as counseling or education can help patients with latent TB finish their therapy. As might be predicted, the type of intervention and the causes of poor completion rates in the particular context will likely have an impact on the size of the benefit (M'Imunya, James & Kredo, Tamara & Volmink, Jimmy. 2012). Social support factors, such as support from peers, family, and medical professionals, play a crucial role in encouraging tuberculosis patients to follow their treatment plans (Barik, Ardila & Indarwati, Retno & Sulistiawati, Sulistiawati. 2020)

The main factors that improved adherence to pulmonary tuberculosis medication were perceived susceptibility, perceived severity, perceived hurdles, perceived advantages, and self-efficacy (Martono, Martono & Akhyar, M & Pamungkasari, Eti & Lestari, Anik. 2023). The Predisposing variables, which include education, information, and self-sufficiency, are the most important factors influencing treatment adherence in tuberculosis patients. (Islam, Fahrul & Ahmad, Haeranah & Nurbaya, Nurbaya & Ahmad, Masnaeni & Mursaha, Ansar & Ramadhan, Kadar & Syukri, Muhammad & Arrazy, Syafran & Perdana, Agung & Siregar, Deborah & Ningsih, Nining & Dwiastuti, Ikes & Hamid, St & Pasaribu, Asrul. 2024). In addition to resolving the drawbacks of physical DOTS, TB patients can improve their motivation and medication adherence by using GRVOTS, a mobile application with gamification and real-time features. Registration for a trial (Abas, Siti & Ismail, Nurhuda & Zakaria, Yuslina & Yasin, Siti Munira & Ismail, Ismassabah & Razali, Asmah & Sherzkawi, Mas & Ahmad, Norliza. 2024). An essential factor in the effectiveness of tuberculosis (TB) treatment is medication adherence. In order to improve long-term medicine adherence, conventional motivation is not the best option (Parwati, Ni & I Made, Bakta & Januraga, Pande Putu & Wirawan, I Made Ady. 2021).

Health policies for the academe and mitigating the impact through fact-based processes Chavez, J.V. (2020). By emphasizing how social factors, educational levels, and access to healthcare services influence treatment adherence, particularly among vulnerable populations such as indigent students and tuberculosis patients. The message patterns of gender-based humor in social media in different layers of discriminatory practices against certain genders, language biases against women and LGBT including elements of stereotyping and disempowering tools against the personal images of subordinate genders. (Chavez, J.V., Lamorinas, D.D., and Ceneciro, C.C. 2023). By investigating how social perceptions, biases, and stereotypes affect patient behavior and healthcare interactions, hence influencing treatment adherence across gender groups. Cultivation of gender-based humor in social media encourages contrarian language to gender mainstreaming. Gender-based humor posed threat on how to deliver equitable gender mainstreaming campaigns

through online (Chavez JV, Cuilan JT. (2024). By looking at how the normalization and continuation of discriminatory attitudes and stereotypes online can stymie efforts to promote gender-sensitive healthcare practices, potentially harming treatment adherence across gender groups.

Normalization proceeds as a way of life in making things light in the conversation and making these conversations intending to have enjoyment and entertainment. For tolerating sexist jokes, it appears that the actors in the online set-up manifest the markers for tolerance through “negligence” which seems to be alarming language production and language distribution to as many social media players (Chavez JV and Prado RTD 2023). By examining how societal norms, attitudes, and views expressed in online conversation may influence gender-specific health-seeking behaviors and treatment adherence in tuberculosis patients. Religious beliefs and systems have a profound impact on shaping individuals’ attitudes towards same-sex relationships. There is a diverse range of perspectives within religious communities, with some individuals adhering to traditional teachings that condemn homosexuality, while others engage in a process of reinterpretation to support and accept same-sex relationships (Chavez JV, Ceneciro CC. 2024). By investigating how cultural and religious attitudes about relationships and sexuality influence healthcare-seeking behaviors and treatment adherence, particularly among people who identify as LGBTQ+. Understanding how social factors, gender dynamics, discriminatory behaviors, and cultural beliefs influence healthcare interactions is crucial for fostering fair treatment adherence and inclusive healthcare practices among various groups.

## **Methodology**

Chapter III describes the research design, location, respondents, sampling, data collection processes, research instrument, validity and reliability, and statistical analysis of data.

### *1. Research design*

The study used a descriptive research approach to collect data on treatment adherence among pulmonary tuberculosis patients in the Jolo district. The use of descriptive research design is an effective tool used by scientists and researchers to collect detailed data about a certain group or issue. According to Sirisilla (2023), this type of research provides a full and detailed description of the characteristics and actions displayed by a given community or subject. This study falls under the qualitative research paradigm, hence a descriptive design is applicable.

### *2. Research Locale*

The study was carried out in the Municipality of Jolo, which contains the Rural Health Care Unit - Jolo. Jolo is constitutionally designated as a first-class municipality and serves as the capital of the Philippines' Sulu province. According to data from the 2020 census, the area in question has a population of 137,266 people. The researchers determined that data gathering would be limited to this specific geographical area.

### *3. Respondents of the Study*

The study’s responders were 100 male and female patients diagnosed with pulmonary tuberculosis who were actively taking treatment and met the inclusion criteria, ranging in age from 20 to 60 years.

### *4. Sampling Design*

This study used the purposive sampling method. Purposive sampling is a class of non-probability sampling procedures in which units are chosen because they possess traits that are required in the sample. In other words, units are chosen “on purpose” in purposive sampling. The study included a total of 100 patient responders.

### *5. Research Instrument*

To collect the requisite data, the research study used research instruments adapted from Edward C. Green and Elaine Murphy's Health Belief Model (HBM), which was developed in 2020. The major data gathering instrument used in the study was a structured questionnaire. The questionnaire is a comprehensive and exhaustive document that has been created to meet the necessary requirements for fulfilling the study's objectives. It is critical to ensure that the questionnaire is thoroughly designed before the study begins. As a result, the researcher tested the questionnaire to ensure that it met all of the requirements for effective data collecting. This allows the study to successfully collect the necessary data and meet its objectives. The questionnaire comprises two sections. Part 1 focuses on the demographics of the respondents, whereas Part II focuses on the level of treatment adherence among pulmonary tuberculosis patients in Rural Health Unit Jolo, which is divided into three subscales: disease awareness, family support, and health care support.

### *6. Validity and Reliability*

To ensure validity and reliability, the research instrument was reviewed by two (2) panels of specialists from the School of Graduate Studies. This was done to ensure that the research instrument was appropriate for the study and that the statements were clear, readable, and understandable.

### *7. Data Gathering Procedure*

Before conducting the investigation, the researcher sought a permit to collect the necessary data. A request letter was addressed to the Public Health Officer and the Public Health Nurse for their approval. After acquiring the aforementioned permit, the researchers gave questionnaires to the collected participants after briefing them on our objectives and the nature of the study. Furthermore, researchers conduct an online survey to suit individuals who may have time constraints and prefer convenience. The researchers personally administer and monitor the questionnaires, ensuring that respondents provide real and valid data. The surveys were gathered by the researchers on the same day that they were distributed.

### *8. Statistical Treatment of Data*

This study used the following statistical tools to contextualize the collected empirical data:

The primary empirical data for this study was gathered using the following statistical tools:

- i. For Problem Number 1, frequency and percentage were the statistical tools utilized to determine the respondents' age, gender, civil status, and educational achievement.
- ii. For Problem Number 2, the weighted mean and standard deviation were used to assess the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, taking into account illness awareness, health care support, and family support.
- iii. For Problem Number 3, T-test for independent variable was employed to determine the significant differences in the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data were grouped according to gender; and One-way Analysis of Variance (ANOVA) was employed to determine the significant differences in the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data are grouped acc
- iv. For Problem Number 4, Pearson product-moment correlation was used to determine the significant correlation among the sub-categories of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of disease awareness, health care support, and family support.

## Results And Discussions

This chapter discusses the results presentations, analysis, and interpretations based on the data collected for this investigation. It presents respondents' demographic profiles in terms of age, gender, civil status, and educational attainment; the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Disease Awareness, Health Care Support, and Family Support; and the significant correlation and differences in the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data are grouped according to. Based on the proper scoring and statistical treatments of the data acquired for this study, the following are the presentations, analyses, and interpretations of results that correspond to each of the research questions:

Based on the proper scoring and statistical treatments of data acquired for this study, the following presentations, analyses, and interpretations of results apply to each of the research questions:

1. What is the demographic profile of the respondents in terms of: 1.1 Age; 1.2 Gender; 1.3 Civil status; and 1.4 Educational attainment?

### 1.1 In terms of Age

Table 1.1 Demographic profile of the respondents in terms of age

Age	Number of Teachers	Percent
20 years old & below	29	29.0%
21-29 years old	16	16.0%
30 years old & above	55	55.0%
Total	100	100%

Table 1.1 shows the respondents' demographic profile in terms of age. This table shows that out of 100 respondents, 29 (29.0%) are under the age of 20, 16 (16.0%) are between the ages of 21 and 29, and 55 (55.0%) are 30 and over. This suggests that more than half of responders are 30 years or older. This finding indicates that respondents to this study were both middle-aged and senior adults.

### 1.2 In terms of Gender

Table 1.2 Demographic profile of the respondents in terms of gender

Age	Number of Respondents	Percent
Male	54	54.0%
Female	46	46.0%
Total	100	100%

Table 1.2 shows the respondents' demographic profile in terms of gender. This table shows that 54 (54.0%) of the 100 responders are male, while 46 (46.0%) are female. This suggests that more than half of the respondents in this survey are male, which is slightly greater than the number of female respondents.

### 1.3 In terms of Civil Status

Table 1.3 Socio-demographic profile of the respondents in terms of civil status

Civil Status	Number of Respondents	Percent
Single	36	36.0%
Married	42	42.0%

Separated	14	14.0%
Widowed	8	8.0%
Total	33	100%

Table 1.3 displays the socio-demographic characteristics of respondents based on their civil status. This table shows that out of 100 responses, 36 (36.0%) are single, 42 (42.0%) are married, 14 (14.0%) are separated, and 8 (8.0%) are widowed. This suggests that roughly half of the responders are married, implying that those participating have several occupations.

*1.4 In terms of Educational Attainment*

*Table 1.4 Demographic profile of the respondents in terms of educational attainment*

Educational Attainment	Number of Respondents	Percent
Elementary level	23	23.0%
High School level	48	48.0%
College level	24	24.0%
Postgraduate	5	5.0%
Total	100	100%

Table 1.4 displays the demographic profile of respondents based on their educational attainment. This table shows that out of 100 responses, 23 (23.0%) are at the elementary level, 48 (48.0%) are at the high school level, 24 (24.0%) are at the college level of education, and 5 (5.0%) have a postgraduate degree (masters or PhD). This suggests that approximately half, if not the majority, of the respondents in this study had completed high school.

*2. What is the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the context of: 2.1 Disease Awareness; 2.2 Family Support; and 2.3 Health Care Support?*

*2.1 In the context of Disease Awareness*

*Table 2.1 Level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in the context of Disease Awareness*

	Disease Awareness	Mean	S.D.	Rating
1	I take anti tuberculosis (PTB) medication regularly.	3.2400	1.2722	Moderate Adherent
2	I take anti tuberculosis (PTB) timely as prescribed by physician.	3.2900	1.1485	Moderate Adherent
3	I visit a doctor when I have any severe health problem related to anti tuberculosis (PTB) medication.	3.2700	1.2048	Moderate Adherent
4	Even though I feel better I continue taking anti tuberculosis (PTB) medication as prescribed.	3.2200	1.1684	Moderate Adherent
5	I meet with doctor according to scheduled appointments.	3.1500	1.3055	Moderate Adherent
6	I eat at least 3 meals per day.	3.1600	1.2120	Moderate Adherent
7	I eat egg, meat or fish every day	3.2100	1.1036	Moderate Adherent
8	I drink one glass of milk every day.	3.2400	1.1381	Moderate Adherent
9	I drink a glass of fruit juice or some fruits every day.	3.2200	1.0008	Moderate Adherent
10	I eat vegetables in every meal.	3.2000	1.0917	Moderate Adherent
11	I drink water 6-8 glass per day.	3.2400	1.1111	Moderate Adherent

12	I eat enough nutritious food for maintain my health.	3.3700	1.1428	Moderate Adherent
13	I do breathing exercise.	3.3000	1.0200	Moderate Adherent
14	I do physical exercise at least 3 times per week.	3.4500	1.1044	Moderate Adherent
15	I do exercise at least 30 minutes per day.	3.3900	1.0434	Moderate Adherent
16	I do normal physical activity such as walking.	3.4400	1.1130	Moderate Adherent
17	I avoid heavy working such as lifting heavy weight items.	3.5500	1.0088	Less Adherent
18	I avoid staying or working in the smoking environment.	3.4900	1.1414	Moderate Adherent
19	I avoid being in crowded environments.	3.4500	1.1492	Moderate Adherent
20	I avoid dust and polluted air.	3.3300	1.1464	Moderate Adherent
21	I throw tissue paper in trash cans that have lids.	3.4100	1.0550	Moderate Adherent
22	I open the windows of my room to get good air flow and good exposure of sunlight.	3.3900	1.1182	Moderate Adherent
23	I cover my mouth and nose while coughing and sneezing.	3.3400	1.2078	Moderate Adherent
24	I avoid sharing any personal items with others such as spoons, towels, and glasses.	3.3100	1.1865	Moderate Adherent
25	I dispose of the tissues with sputum immediately into trash can with covering bag.	3.4000	1.2060	Moderate Adherent
26	I avoid spitting here and there.	3.3939	1.2273	Moderate Adherent
27	I try to stay away from stressors.	3.3300	1.2065	Moderate Adherent
28	I avoid unhealthy food.	3.4000	1.1281	Moderate Adherent
29	I don't smoke cigarette.	3.0600	1.4894	Moderate Adherent
30	I don't drink alcohol or beer.	3.2300	1.4554	Moderate Adherent
31	I avoid close contact with someone who has influenza or common cold.	3.2700	1.1794	Moderate Adherent
32	I know that the drug should be taken under observation.	3.3500	1.1044	Moderate Adherent
33	I know that disease does not cure when symptoms subside.	3.3400	1.0845	Moderate Adherent
34	I know the duration of treatment.	3.4000	1.1281	Moderate Adherent
35	I know the curability of the disease	3.4300	1.1033	Moderate Adherent
36	I know of symptoms of Pulmonary Tuberculosis (PTB).	3.3900	.98365	Moderate Adherent
37	I know the prevention of transmission of the disease.	3.3800	1.0519	Moderate Adherent
38	I know the mode of transmission of the disease.	3.3800	1.0227	Moderate Adherent
39	I know the of cause of the disease.	3.4300	1.0565	Moderate Adherent
	Total Weighted Mean	3.3290	.95193	Moderate Adherent

Legend: (5) 4.50-5.0=Not Adherent; (4) 3.50 – 4.49=Less Adherent; (3) 2.50 – 3.49=Moderate Adherent; (2) 1.50 – 2.49=Adherent; (1) 1.00 – 1.49=High Adherent

Table 2.1 displays the level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in relation to Disease Awareness. This table shows that this subcategory has a mean score of 3.3290 with a standard deviation of .95193, indicating that it is Moderately Adherent. These findings suggest that respondents in this study had a moderate level of adherence to pulmonary tuberculosis treatment in terms of disease awareness. More specifically, respondents in this study expressed moderate adherence, among others, to the following items: “I take anti-tuberculosis (PTB) medication regularly,” “I take anti-tuberculosis (PTB) timely as prescribed by physician,” “I visit a doctor when I have any severe health problem related to anti-

tuberculosis (PTB) medication,” “I avoid staying or working in the smoking environment.”, “I know the cause of the disease.”, “I avoid heavy work such as lifting he (at least ten selected things).

## 2.2 In the context of Family Support

*Table 2.2 Level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in the context of Family Support*

	Family Support	Mean	S.D.	Moderate Adherent
1	My family encourages me when I am afraid about long term treatment regimen	3.5100	1.1055	Moderate Adherent
2	My family is concerned about symptoms related to the disease that happened to me	3.4000	1.1634	Moderate Adherent
3	My family cheers me up when I feel bore to maintain my health.	3.3200	1.1090	Moderate Adherent
4	My family encourages me to maintain religious activities such as praying.	3.4200	1.0934	Moderate Adherent
5	My family encourages me to relax such as watching television, listening to the radio, and telling me funny stories.	3.3800	1.1171	Moderate Adherent
6	My family helps me to build trust that disease will be cured.	3.4300	1.1393	Moderate Adherent
7	My family is loving and affectionate to me even though I have tuberculosis (PTB).	3.3900	1.0626	Moderate Adherent
8	My family asks me about my feeling throughout the treatment period.	3.3700	1.0885	Moderate Adherent
9	My family is sensitive about my emotional change.	3.2800	1.1466	Moderate Adherent
10	My family listens to me when I want to talk about anything.	3.4200	1.1207	Moderate Adherent
11	My family helps me to pay for my medication, treatment, and transportation	3.3100	1.1694	Moderate Adherent
12	My family gives me money to use in case of emergency	3.4500	1.1135	Moderate Adherent
13	My family accompanies me when I go to see the doctor.	3.4500	1.0859	Moderate Adherent
14	My family helps me in my daily activities	3.2900	1.1396	Moderate Adherent
15	My family helps me to clean my room	3.4400	1.0571	Moderate Adherent
16	My family helps me to clean my sheets and cloths and expose them to sunlight.	3.4900	1.0683	Less Adherent
17	My family helps open the window to maintain good ventilation in my house	3.3800	1.1351	Moderate Adherent
18	My family provides me with well-balanced food and adequate nutrition	3.4900	1.0298	Moderate Adherent
19	My family supports me with transportation when I go to hospital.	3.4500	1.0766	Moderate Adherent
20	My family helps me to find information about how to maintain health	3.4800	1.0296	Moderate Adherent
21	My family helps me to ask information from doctor.	3.4500	1.0952	Moderate Adherent
22	My family helps me to understand information regarding disease and treatment	3.3000	1.1849	Moderate Adherent
23	My family provides information to me about the importance of taking medicine timely and regularly.	3.4500	1.1404	Moderate Adherent
24	My family provides information to me about the way to prevent the spreading of tuberculosis (PTB).	3.3400	1.1390	Moderate Adherent

25	My family collects information from health care professionals when I need it	3.4200	1.0934	Moderate Adherent
26	My family tells me the importance of follow up visits to the tuberculosis (PTB) clinic which is very important for getting further information	3.3700	1.0977	Moderate Adherent
27	My family ensures that I have the ability to deal with my health related problems	3.5200	1.0098	Moderate Adherent
28	My family is very open in discussing different things with me.	3.3700	1.1604	Moderate Adherent
29	My family is happy when I continuously maintain my health	3.4300	.98734	Moderate Adherent
30	My family gives me feedback when I do something.	3.3300	1.1106	Moderate Adherent
31	My family allows me to participate in decision making about my treatment	3.3600	1.1416	Moderate Adherent
32	My family assures me that I am still important to them	3.3700	1.1428	Moderate Adherent
33	Total Weighted Mean	3.4019	.99407	Moderate Adherent

Legend: (5) 4.50-5.0=Not Adherent; (4) 3.50 – 4.49=Less Adherent; (3) 2.50 – 3.49=Moderate Adherent; (2) 1.50 – 2.49=Adherent; (1) 1.00 – 1.49=High Adherent

Table 2.2 depicts the level of treatment adherence among Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo in terms of Family Support. This table shows that this sub-category has a mean score of 3.4019 with a standard deviation of .99407, indicating that it is Moderately Adherent. These findings suggest that respondents to this study had intermediate adherence to pulmonary tuberculosis therapy in terms of family support. More specifically, respondents in this study expressed moderate adherence, among others, to the following items: “My family encourages me when I am afraid about long-term treatment regimen”, “My family is concerned about symptoms related to the disease that happened to me”, “My family cheers me up when I feel bored to maintain my health.”, “My family encourages me to maintain religious activities such as praying.”, “My family encourages me to maintain religious activities su (at least ten selected things).

### 2.3 In the context of Healthcare Support

*Table 2.3 Level of treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in the context of Healthcare Support*

	Healthcare Support	Mean	S.D.	Rating
1	Pulmonary Tuberculosis (PTB) clinic too far from home.	3.0300	1.2589	Moderate Adherent
2	Encourage to complete treatment.	3.4000	1.2870	Moderate Adherent
3	Dissatisfied by the care provided.	2.2400	1.2070	Moderate Adherent
4	I Follow doctor's advices.	3.4200	1.2075	Moderate Adherent
5	I receiving health education on Pulmonary Tuberculosis PTB from Health Care Provider.	3.5000	1.2350	Moderate Adherent
6	My healthcare provider explains my treatment plan clearly. Having treatment supporter.	3.4800	1.2266	Moderate Adherent
7	I feel comfortable discussing my concerns with my healthcare provider. Getting health education at every visit.	3.7100	1.1746	Moderate Adherent
8	I'm satisfied with the level of communication between me and my healthcare provider regarding my PTB treatment plan?	3.6100	1.1361	Moderate Adherent

9	I'm adequately informed about the potential medication side effects of your Pulmonary Tuberculosis (PTB) medications by my healthcare provider.	3.5000	1.2831	Moderate Adherent
10	Attitude of health care providers. Responsive in addressing the concerns and queries related to my Pulmonary Tuberculosis (PTB) treatment.	3.5800	1.2158	Moderate Adherent
11	Total Weighted Mean	3.3470	.89662	Moderate Adherent

Legend: (5) 4.50-5.0=Not Adherent; (4) 3.50 – 4.49=Less Adherent; (3) 2.50 – 3.49=Moderate Adherent; (2) 1.50 – 2.49=Adherent; (1) 1.00 – 1.49=High Adherent

Table 2.3 shows the level of treatment adherence among Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo in terms of Healthcare Support. This table shows that this sub-category has a mean score of 3.3470 with a standard deviation of .89662, indicating that it is Moderately Adherent. These findings show that respondents in this study were moderately adherent to pulmonary tuberculosis therapy in terms of healthcare assistance.

More specifically, respondents in this study expressed moderate adherence to the following items: "Pulmonary Tuberculosis (PTB) clinic too far from home," "Encourage to complete treatment," "Dissatisfied with the care provided," "I Follow doctor's advice.", "I receive health education on Pulmonary Tuberculosis PTB from Health Care Provider.", and "My healthcare provider explains my treatment plan clearly." Having a treatment supporter.", "I feel at ease addressing my issues with my healthcare practitioner. Getting health education at every visit.", "I'm satisfied with the level of communication between me and my healthcare provider regarding my PTB treatment plan? healthcare provider regarding my PTB treatment plan? ", "My healthcare provider adequately informs me about the potential medication side effects of your Pulmonary Tuberculosis (PTB) medications.", " Health care providers' attitudes. Responsive to concerns and questions about my Pulmonary Tuberculosis (PTB) therapy." (at least seven selected items)

3. Is there a significant difference in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile, in terms of: 3.1 Age; 3.2 Gender; 3.3 Civil Status; and 3.4 Educational Attainment?

### 3.1 According to Age

Table 3.1 Differences in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of age

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Disease Awareness	Between Groups	18.163	2	9.081	12.312*	.000	Significant
	Within Groups	71.548	97	.738			
	Total	89.711	99				
Family Support	Between Group	19.839	2	9.920	12.338*	.000	Significant
	Within Groups	77.991	97	.804			
	Total	97.830	99				
Healthcare support	Between Group	13.084	2	6.542	9.542*	.000	Significant
	Within Groups	66.505	97	.686			
	Total	79.589	99				

\*Significant at alpha 0.05

Table 3.1 shows the differences in treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data are classified by age. This table shows that the F-ratios and P-values of all the sub-categories included in the degree of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo are significant at alpha.05. This suggests that, despite the fact that respondents vary in age, they do differ in their appraisal of the amount of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit in Jolo. This finding implies that being older or within 30 years old and above may put a respondent in a better position to assess the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo than those who are 20 years old and under, 21-30 years old, or vice versa. Nonetheless, it is safe to conclude that variable age has a significant role in how respondents estimate the level of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo. As a result, the hypothesis “There is no significant difference in the level of treatment adherence of pulmonary tuberculosis patients at Rural Health Unit-Jolo when data are grouped according to their demographic profile, in terms of age” is rejected.

*Table 3.1.1 Post Hoc Analysis: Differences in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo in terms of Disease Awareness, Family Support, and Healthcare Support when data are categorized according to their demographic profile in terms of age*

Dependent Variables	(I) Grouping by Age	(J) Grouping by Age	Mean Difference (I-J)	Std. Error	Sig
Disease Awareness	20 years old & below	30 years old & above	.96495*	.19709	.000
		21-29 years old	.82129*	.26746	.008
Family Support	20 years old & below	30 years old & above	1.01501*	.20578	.000
		21-29 years old	.80819*	.27924	.013
Healthcare Support	20 years old & below	30 years old & above	.81580*	.19002	.000
		21-29 years old	.71659*	.25786	.018

\* The mean difference is significant at the 0.05 level.

A Post Hoc Analysis using the Tukey Test was performed to determine which of the groups classified by age had different levels of mean in areas subsumed under the level of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo when data were grouped according to their demographic profile. The analytical results, as given in Table 3.1.1, show that the difference in the means of “Disease Awareness, Family Support, and Healthcare Support” is obtained by subtracting the lower group mean from the higher group mean.

On Disease Awareness: It reveals that the group of respondents aged 30 and up obtained a mean difference of .96495\* with a standard error of .19709 and a p-value of .000, which is significant at alpha=.05 over the group of respondents aged 20 and under. So, in this sub-category, no other group of respondents is expected to have superior methods of judging the level of

treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Disease Awareness than those aged 30 and up.

On Family Support: The group of respondents aged 30 and above had a mean difference of 1.01501\* with a standard error of .20578 and a p-value of .000, which is significant at  $\alpha = .05$  compared to the group of respondents aged 20 and under. So, in this sub-category, no other group of respondents is expected to have superior methods of assessing the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Family Support than those aged 30 and up.

On Healthcare Support: It reveals that the group of respondents aged 30 and up received a mean difference of .81580\* with a standard error of .19002 and a p-value of .000, which is significant at  $\alpha = .05$  over the group of respondents aged 20 and under. So, in this sub-category, no other group of respondents is expected to have superior methods of assessing the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Healthcare Support than those aged 30 and up.

### 3.2 According to Gender

*Table 3.2 Differences in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of gender*

Variables	Grouping	Mean	S.D	Mean Difference	t	Sig.	Description
Disease Awareness	Male	3.2755	.90370	-.11636	-.607	.545	Not Significant
	Female	3.3919	1.01204				
Family support	Male	3.3819	.98531	-.04333	-.216	.829	Not Significant
	Female	3.4253	1.01466				
Healthcare Support	Male	3.2796	.94077	-.14646	-.813	.418	Not Significant
	Female	3.4261	.84523				

\*Significant  $\alpha .05$

Table 3.2 shows the differences in treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data are categorized by gender. This table shows that the Mean Differences and P-values of all the sub-categories included in the degree of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo are not significant at  $\alpha .05$ . This suggests that, despite differences in gender, respondents at the Rural Health Unit-Jolo have similar assessments of the level of treatment adherence of pulmonary tuberculosis patients. This finding shows that being a male responder does not necessarily place him in a better position to estimate the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo than his female counterpart, and vice versa.

Nonetheless, it is safe to conclude that gender is not a significant mediator in how respondents judged the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo. As a result, the hypothesis “There is no significant difference in the level of treatment adherence of pulmonary tuberculosis patients at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of gender” is accepted.

### 3.3 According to Civil Status

*Table 3.3 Differences in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of civil status.*

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Disease Awareness	Between Groups	13.512	3	4.504	5.675*	.001	Significant
	Within Groups	76.198	96	.794			
	Total	89.711	99				
Family Support	Between Group	11.373	3	3.791	4.209*	.008	Significant
	Within Groups	86.457	96	.901			
	Total	97.830	99				
Healthcare support	Between Group	10.134	3	3.378	4.669*	.004	Significant
	Within Groups	69.455	96	.723			
	Total	79.589	99				

\*Significant alpha .05

Table 3.3 shows the disparities in treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data are categorized by civil status. This table shows that the F-ratios and P-values of all the sub-categories included in the degree of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo are significant at alpha.05. This suggests that, despite the fact that respondents vary in civil status, they do differ in their opinion of the amount of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit in Jolo. This finding shows that being married may put a responder in a better position to appraise the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo than those who are single, separated, or widowed, or vice versa.

Nonetheless, it is safe to conclude that fluctuating civil status plays a significant role in how respondents estimate the level of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo. As a result, the hypothesis “There is no significant difference in the level of treatment adherence of pulmonary tuberculosis patients at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of civil status” is rejected.

*Table 3.3.1 Post Hoc Analysis: Differences in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo in terms of Disease Awareness, Family Support, and Healthcare Support when data are categorized according to their demographic profile in terms of civil status*

Dependent Variables	(I) Grouping by civil status	(J) Grouping by civil status	Mean Difference (I-J)	Std. Error	Sig
Disease Awareness	Single	Married	.72619*	.20235	.003
		Separated	.91323*	.28061	.008
		Widowed	.38568	.34823	.686
Family Support	Single	Married	.72495*	.21554	.006
		Separated	.70635	.29891	.091
		Widowed	.43793	.37093	.640

Healthcare Support	Single	Married	.66984*	.19319	.004
		Separated	.70556*	.26791	.048
		Widowed	.35556	.33247	.709

A Post Hoc Analysis using the Tukey Test was performed to determine which of the groups classified according to civil status had different levels of mean in areas subsumed under the level of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo when data were grouped according to their demographic profile. The analytical results, as given in Table 3.3.1, show that the difference in the means of “Disease Awareness, Family Support, and Healthcare Support” is obtained by subtracting the lower group mean from the higher group mean. On disease awareness, the group of respondents with separated status got a mean difference of .91323\* with Standard Error of .28061 and p-value of .008, which is significant at  $\alpha = .05$  over the group of respondents with single status. So, in this sub-category, no other group of respondents is expected to have superior methods of judging the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Disease Awareness than those with Separated civil status.

On Family Support: It reveals that the group of respondents with married status acquired a mean difference of .72495\* with Standard Error of .21554 and p-value of .006, which is significant at  $\alpha = .05$  over the group of respondents with single status. So, in this sub-category, no other group of respondents is expected to have superior methods of assessing the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Family Support than those with Married civil status.

On Healthcare Support: It reveals that the group of respondents with Separated civil status received the mean difference of .70556\* with Standard Error of .26791 and p-value of .048, which is significant at  $\alpha = .05$  over the group of respondents with Single civil status. So, in this sub-category, no other group of respondents is expected to have superior methods of assessing the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo in terms of Healthcare Support than those with Separated civil status.

### 3.4 According to Educational Attainment

*Table 3.4 Differences in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of educational attainment*

SOURCES OF VARIATION		Sum of Squares	df	Mean Square	F	Sig.	Description
Disease Awareness	Between Groups	12.233	3	4.078	5.053*	.003	Significant
	Within Groups	77.477	96	.807			
	Total	89.711	99				
Family Support	Between Group	6.871	3	2.290	2.417	.071	Not Significant
	Within Groups	90.959	96	.947			
	Total	97.830	99				
Healthcare support	Between Group	5.130	3	1.710	2.205	.092	Not Significant
	Within Groups	74.459	96	.776			
	Total	79.589	99				

\*Significant  $\alpha .05$

Table 3.4 shows the differences in treatment adherence among Pulmonary Tuberculosis patients at Rural Health Unit-Jolo when data are categorized by educational attainment. This table shows that, with the exception of “Disease Awareness,” the F-ratios and P-values for all other sub-categories contained under the degree of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo are not significant at alpha.05. This suggests that, despite differences in educational attainment, respondents have similar assessments of the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo. This finding implies that having a postgraduate degree (Master’s/Doctorate) does not necessarily put a respondent in a better position to assess the level of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo than those with elementary, high school, college, and no formal education, or vice versa. Nonetheless, it is safe to conclude that variable educational attainment had no significant mediation effect on how respondents evaluated the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo. As a result, the hypothesis that “There is no significant difference in the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo when data are grouped according to their demographic profile in terms of educational attainment” is accepted as true.

4. 4. *Is there a significant correlation among the sub-categories subsumed under the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo, in the context of disease awareness, health care support, and family support?*

*Table 4. Correlation among the sub-categories subsumed under the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo, in the context of disease awareness, health care support, and family support*

Variables					
Dependent	Independent	Person <i>r</i>	Sig	N	Description
Disease Awareness	Family Support	.886**	.000	100	Very High
	Healthcare Support	.896**	.000	100	Very High

\*Correlation Coefficient is significant at alpha .05

Correlation Coefficient Scales Adopted from Hopkins, Will (2002):

0.0-0.1=Nearly Zero; 0.1-0.30=Low; .3-0.5 0=Moderate; .5-0.7-0=High; .7-0.9= Very High; 0.9-1=Nearly Perfect

Table 4 shows the relationship between the sub-categories that comprise the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in terms of disease awareness, health care support, and family support. This table shows that the estimated Pearson Correlation Coefficients (Pearson *r*) between these variables are significant at alpha =.05.

The association between health-related quality of life and knowledge of young women in Jolo with PCOS is as follows:

- 1) There is a very strong positive association between disease awareness and family support.
- 2) There is a very strong positive association between disease awareness and healthcare support.

These results indicate that the group of respondents who assessed the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the context of disease awareness as Moderate Adherent is most likely the same group of respondents who assessed the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the

context of disease awareness in the contexts of Family Support and Healthcare Support as Moderate A

In the meantime, it is possible to say that the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo is strongly connected with disease awareness, family support, and healthcare assistance.

In such a case, the hypothesis that “There is no significant correlation among the sub-categories subsumed under the level of treatment adherence of Pulmonary Tuberculosis patient at Rural Health Unit-Jolo, in the context of disease awareness, health care support, and family support” is not supported.

### **Conclusion**

The respondents of this study are appropriately represented in terms of age, gender, civil status, and educational attainment. Patients at Rural Health Unit-Jolo are perceived to adhere moderately to Pulmonary Tuberculosis treatment. Unlike age and civil status, characteristics such as gender and educational attainment do not significantly influence how respondents rate the levels of treatment adherence of Pulmonary Tuberculosis patients at the Rural Health Unit-Jolo. Generally, the group of respondents who assessed the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the context of disease awareness as Moderate Adherent is most likely the same group of respondents who assessed the level of treatment adherence of Pulmonary Tuberculosis patients at Rural Health Unit-Jolo, in the context of disease awareness in the contexts of Family Support and Healthcare Support as Moderate Adherent, respectively. This study appears to validate Edward C. Green and Elaine Murphy’s (2020) Health Belief Model (HBM), which explains the cognitive processes that influence nurses’ activities in the context of infection control. The HBM examines nurses’ compliance through the lenses of perceived vulnerability to infections, noting the hazards they confront in healthcare settings, and perceived severity, stressing the implications of noncompliance on both personal and patient health. The methodology also includes an assessment of perceived advantages, which investigates nurses’ opinions about the effectiveness of infection control procedures, as well as perceived barriers, which identifies impediments to compliance such as time limits or resource limitations. Furthermore, the presence of cues to action, both internal and external, acts as a trigger.

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