

Medication Compliance among Clients with Non-Communicable Diseases in Iriga City

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ABSTRACT

The study aimed to explore medication compliance among clients diagnosed with common NCDs in Iriga City, specifically hypertension and type II diabetes mellitus in Iriga City. It sought to determine the demographic profile of the respondents in terms of age, sex, civil status, educational background, occupation, monthly family income, religion, and geographic location, assess the level of medication compliance along medication adherence, regular monitoring and follow-up, and perception of personal risk of non-compliance, examine the significant relationship between the demographic profile and the level of medication compliance, and propose measures to enhance medication compliance among clients. The researcher employed a descriptive-correlational research design using a structured questionnaire checklist as the primary data-gathering tool and conducted the study among 380 adult clients with hypertension, diabetes, or both, listed in the NCD registry of the 36 barangays of Iriga City.

The findings showed that most of the respondents were older adults and had attained a high school level of education, majority female, married, without formal employment, belonging to low-income households earning below 10,000 monthly, and Roman Catholic. Clients with NCDs in the community generally demonstrated a high level of medication compliance, as reflected by their medication adherence and regular monitoring and follow-up being rated as often, and their perception of personal risk of non-compliance being rated as always. Socioeconomic profile, particularly educational background, monthly family income, and geographic location, were found to be significantly related to the level of medication compliance, while age, sex, civil status, occupation, and religion did not show a significant relationship with compliance behaviors. Based on these results, an educational booklet was developed to enhance medication compliance, emphasizing correct medication use, regular check-ups, and proactive health management through simplified language, visual aids, and daily tracking tools.

Keywords: Non-Communicable Diseases, Medication Compliance, Hypertension, Diabetes Mellitus

INTRODUCTION

Non-communicable diseases (NCDs) are conditions that last for long periods and are not the result of acute infection but rather of the interaction of a person's genetic predisposition, behaviors, and the environment. They include cardiovascular diseases, diabetes, chronic respiratory diseases, and cancers, which typically require sustained management and lifestyle modification over the life course. These chronic conditions substantially affect daily functioning, impose enduring symptoms and treatment burdens, and are closely linked with diminished quality of life, disability, and premature death.

NCDs account for approximately 74% of all deaths worldwide and represent the biggest single cause of death in the world. Each year, it is estimated that 17 million people die from an NCD before age 70, and more than three-quarters of these premature deaths are in low- and middle-income countries. In response, the World Health Organization (WHO) has urged a significant boost in prevention and treatment efforts and has linked NCD control to the Sustainable Development Goal (SDG) target 3.4, which aims to reduce premature mortality from NCDs by one-third by 2030 (WHO, 2025). There is a lack of sufficient medication adherence among people with NCDs, and strong evidence of the benefits of adherence on clinical outcomes. Chronic conditions are

associated with non-adherence; Tolley, A. et al. (2023) found that around half of people with chronic conditions do not take their prescribed medicines as directed, due to multiple medicines, cost, side effects, and poor knowledge of the condition and treatment. But non-compliance is linked to greater complication rates, unnecessary hospitalizations and higher health-care expenses, making it essential to understand and target non-compliance in everyday practice. The Philippines places tackling the escalating NCD burden within a changing legal and policy agenda, which has a strong focus on universal access to quality health services.

The Universal Health Care Act (Republic Act No. 11223) and its implementing rules and regulations provide for comprehensive promotive, preventive, curative, rehabilitative, and palliative care by strengthening primary care and introducing financial risk protection for all Filipinos, including people living with NCDs. In addition, recent national strategies, such as NCD investment and action plans and the Health Promotion Framework Strategy, provide further multisectoral action on key risk factors, including tobacco use, unhealthy diet, physical inactivity, and harmful alcohol use, to reduce premature mortality from NCDs and ensure continuity of care across the health system.

NCDs in the Bicol Region (Camarines Sur) have gone alarmingly high and are now among the leading causes of death and illnesses. DOH Bicol Center for Health Development (CHD) underscores that in 2024, a total of 111,949 adults aged 20 years and above were diagnosed with hypertension, while more than 70% of the regional population (or about 2.4 million Bicolanos) were screened for hypertension and diabetes in 2023 alone. In addition, Type 2 diabetes mellitus and hypertensive heart disease are among the leading causes of death in the region, with diabetes contributing to some 3.1% to 3.6% of all registered deaths per year (Statista, 2024; Philippine Statistics Authority – Region V, 2023). This is a large and ongoing problem, indicative of the national situation, and emphasizes the need for effective primary care and routine follow-up in the community. The statistics indicate that urgent medicine needs are identified and addressed in the point of contact with the client in both Health Stations and Rural Health Units, and that clients can carry the medicine, whilst regular health checks are provided. The study aims to determine the extent of medication adherence of clients with common NCDs (HPN and DM Type 2) in Iriga City.

It aims to find out how adherent the clients are to their medications, how often they monitor their conditions, and how often they attend follow-up consultations, and to assess their perception of personal risk if they do not adhere to the prescribed antihypertensive and antidiabetic drugs. This study aims to produce locally relevant evidence to guide nursing practice, primary care protocols, and barangay-based NCD management programs in Iriga City, emphasizing these three dimensions.

Medication compliance is a fundamental aspect of promoting the health of clients who are suffering from NCDs like hypertension and diabetes from a nursing point of view. The researcher has firsthand experiences of the hardships of medication adherence, lifestyle modification, and follow-up care as a nurse and as a person living with hypertension and in the pre-diabetic stage of diabetes. This two-in-one benefit adds to and reinforces the value of nursing in a teaching, communication, and follow-up role, helping prevent further disease and improve self-management.

METHODOLOGY

The researcher employed a descriptive-correlational research design using a structured questionnaire checklist as the primary data-gathering tool. The descriptive approach was utilized to collect, organize, and analyze data to describe the current level of medication compliance among clients with NCDs in Iriga City. Specifically, this study used the descriptive-correlational method to determine the respondents' demographic profile and assess their level of medication compliance in terms of medication adherence, regular monitoring and follow-up, and perception of personal risk of non-compliance. The study was conducted in Iriga City, a component city in the province of Camarines Sur located in the Bicol Region of the Philippines, where the thirty-six (36) Barangay Health Centers served as the main settings for data collection, as they cater to clients diagnosed with NCDs, particularly hypertension and diabetes.

The researcher employed the purposive sampling technique to select the respondents for this study, involving adult clients with a medical diagnosis of hypertension, diabetes, or both, who were listed in the NCD registry of the thirty-six (36) barangays of Iriga City and were currently prescribed maintenance medications. From a total population of 7,800 registered clients, the researcher utilized the simple random sampling method and applied Slovin's Formula with a 5% margin of error, yielding a final sample of 380 respondents. The questionnaire underwent expert validation to ensure face and content validity, and its reliability was confirmed using Cronbach's Alpha, yielding a coefficient of 0.95, indicating excellent reliability. To analyze the data, the following statistical tools were employed: frequency count and percentage, weighted mean, and Chi-Square Test of Independence, which was used to determine if a significant relationship existed between the demographic profile of the respondents and their level of medication compliance.

RESULT AND DISCUSSION

Profile of the Respondents

The profile of the respondents in terms of age, sex, civil status, educational background, occupation, monthly family income, religion, and geographic location/barangay. Table 1 presents the age profile of the respondents with NCDs in Iriga City.

Age. Out of 380 respondents, the largest group was aged 65 years old and above with 151 or 39.74%, followed by those aged 55–64 years old with 104 or 27.37%. Smaller proportions were observed among those aged 45–54 years old with 80 or 21.05%, those aged 35–44 years old with 32 or 8.42%, and those aged less than 25 years old with only 13 or 3.42%. This age profile indicates that medication adherence for clients of the NCD in this community is a major concern among older adults who generally experience ageing related factors that affect their adherence to medication, including polypharmacy, cognitive impairment, physical limitations and decreased health literacy.

Older age was strongly associated with multimorbidity and complex long-term drug treatment, and for adults with NCDs in this community, the increasing number of drugs taken, age-related cognitive and physical limitations, and the need for assistance with treatment by others (caregivers) were all associated with non-adherence.

There is an important overlap between older age, multimorbidity and complex long-term treatment regimens for older adults with NCDs. Cardona et al. (2025) conducted a study on older people with chronic diseases (cross-sectional study), which revealed that polypharmacy is a major risk factor for medication nonadherence in older adults, highlighting the need for tailored interventions and careful monitoring by community healthcare providers to ensure effective medication management in this population. Similarly, Kasim et al. (2026), evaluating adherence to medication among older adults with chronic conditions in Colombia, found that although older people require more medicines to manage their chronic diseases, adherence is complex and depends on various factors, including complex drug regimens, physical limitations and administrative inconveniences, suggesting the importance of providing structured community support and continuous pharmacotherapeutic follow-up.

Sex. Of the 380 respondents, the majority were females (246, 64.74%), while males accounted for 134 (35.26%). This distribution indicated that women comprised almost two-thirds of the NCD clients included in the study, suggesting that medication compliance issues in this community were more frequently encountered among female clients, who often assume caregiving roles while simultaneously managing their own chronic conditions and long-term pharmacotherapy.

There was ample evidence from recent studies that women were more likely than men to participate in community health initiatives and that women's adherence to the rules differed from men's. In the study by Venditti et al. (2023), women were more likely to be consistent in their health-seeking behaviors and more inclined to take long-term medication for chronic diseases than men. In the community setting, too, females have been reported as the main respondents in health screening, as they were noted to have better health literacy and to be more aware of their responsibility in managing chronic conditions (Rata Mohan et al., 2025).

Table 1 Profile of the Respondents

		Profile	Frequency	Percentage	Rank
Age					
	65 y/o and above		151	39.74	1
	55 – 64 y/o		104	27.37	2
	45 - 54 y/o		80	21.05	3
	35 - 44 y/o		32	8.42	4
	less than 25y/o		13	3.42	5
		TOTAL	380	100.00	
Sex					
	Female		246	64.74	1
	Male		134	35.26	2
		TOTAL	380	100.00	
Civil Status					
Married			234	61.58	1
Widowed			96	25.26	2
Single			33	8.68	3
Separated			17	4.47	4
		TOTAL	380	100.00	
Educational Attainment					
High school			156	41.05	1
Elementary			89	23.42	2
College Graduate			73	19.21	3
College Level			51	13.42	4
Vocational or Technical			9	2.37	5
No formal education			2	0.53	6
		TOTAL	380	100.00	
Occupation			222	58.42	1



None				
Public Service, Safety & Government		44	11.58	2
Skilled Trades & Manual Labor		34	8.95	3
Business, Administration & General Employment		25	6.58	4
Service, Sales & Transportation		21	5.53	5
Healthcare		19	5.00	6
Education		12	3.16	7
Science, Engineering & Technology		2	0.53	8
Agriculture & Natural Resources		1	0.26	9
TOTAL		380	100.00	
Monthly Family Income				
Below ₱10,000.00		283	74.47	1
₱10,001-20,000		71	18.68	2
₱20,001-30,000		24	6.32	3
₱30,001-40,000		1	0.26	4.5
Above ₱40,000		1	0.26	4.5
	TOTAL	380	100.00	
Religion		369	97.11	1
Roman Catholic				
Iglesia ni Cristo		4	1.05	2
The Church of Jesus Christ of Latter-day Saints		2	0.53	4
Members Church of God International		2	0.53	4
United Pentecostal Church International		2	0.53	4
Evangelical Christianity		1	0.26	6
	TOTAL	380	100.00	
Geographic Location				
Mountain Unit		146	38.42	1
River Road Unit		74	19.47	2

Población Unit		72	18.95	3
East Road Unit		54	14.21	4
National Road Unit		34	8.95	5
	TOTAL	380	100.00	

Civil Status. In a total of 380 responses, the largest group, 234 (61.58%), was married, followed by widowed, 96 (25.26%). Smaller percentages were found for single persons (33; 8.68%) and separated (17; 4.47%). This civil status profile indicated that the quality of support from a partner, represented by marital status, is more likely to affect NCD clients' compliance with medications in this community, with most of the patients being married.

For married people suffering from non-communicable diseases, there was the benefit of support from their spouse, which was very important regarding adherence to medication and care. On the other hand, single, widowed and separated patients had no immediate family support or monitoring and were therefore at a high risk of non-adherence to their medication as they were the only ones to deal with them.

Recent literature confirmed the impact of civil status and marital relationships on medication adherence of people suffering from non-communicable diseases. Mei et al. (2026) conducted a population-based study to assess medication adherence in people with chronic comorbidities and found that medication adherence was often low for unmarried, divorced, and widowed individuals compared to married individuals, highlighting the critical importance of spousal support in managing long-term medication regimens. It should be noted, however, that this relationship might differ based on specific local contexts and patient health beliefs; for example, when examining medication adherence of elderly people with chronic diseases, Benitez et al. (2024) determined that marital status had no significant influence on adherence when other factors—such as the perceived effectiveness of the medication or the desire to be treated—were considered.

Educational Attainment. The educational attainment profile of respondents with NCDs in Iriga City is presented in Table 2. Among the 380 who responded, the largest group (156 or 41.05%) was educated up to high school, followed by the elementary level (89 or 23.42%). The number of smokers was smaller among college graduates (73, 19.21%), college-level undergraduate students (51, 13.42%), vocational/technical graduates (9, 2.37%) and those with no formal education (2, 0.53%). This education profile indicated that most NCD clients in this community had low to medium levels of formal education, which could directly affect health literacy, understanding of instructions, and successful adherence to complex long-term medication regimens. Respondents with only an elementary and high school education indicated that many NCD clients may not be able to understand medical information and prescriptions, whereas those with higher education were better able to manage treatment, highlighting the importance of education among NCD clients.

The importance of lower levels of education for medication adherence has been well documented in recent scholarship. Jia et al. (2022) conducted a cross-sectional study to explore the relationship between functional health literacy and medication adherence among people with chronic conditions. They found that patients with low educational attainment (high school or below) often had low functional health literacy, which was a significant factor in unintentional non-adherence and poor disease control compared to those with a college education. Likewise, Lu et al. (2023), in their study on chronic disease management in a community-based setting, reported that patients with basic education levels needed more intensive, location-oriented health education, and the written information on the prescription was not enough to help them to adhere to it, especially when the treatment needed complex medication.

Occupation. Out of 380 respondents, the majority had no occupation, with 222 or 58.42%. That was followed by public service (11.58%), safety (8.95%), government (6.58%), service, sales and transportation (5.53%), healthcare (5.00%) and education (3.16%). The least represented were science, engineering and technology (two, 0.53%) and agriculture and natural resources (one, 0.26%). However, this occupation profile indicated

that among NCD clients in this community, medication adherence was largely a problem for the unemployed, whose lack of income and access to income-related health benefits could make it more difficult for them to afford and keep up with medications.

Occupational status was found to be an important factor in continuous NCD care and adherence; the majority of respondents were either unemployed, homemakers, or sick and dependent on family care.

In the recent study, the significant role of employment status on a person's health and adherence to prescription medications was well established. According to a multicenter cross-sectional study on medication adherence among people with chronic diseases conducted by Moges et al. (2024), the odds of medication non-adherence were significantly higher among unemployed individuals than among employed individuals, with the most common non-adherence reasons being the inability to afford out-of-pocket healthcare costs. Likewise, Noreen et al. (2023), assessing the factors influencing adherence to chronic medications, reported that financial insecurity due to lack of stable job opportunities often led to intentional non-adherence, including unaffordability and rationing, highlighting the need for community health policies that encompass financial assistance programs alongside regular pharmacotherapy to improve adherence.

Monthly Family Income. Of the 380 respondents, the majority earned below ₱10,000.00, accounting for 283 (74.47%). This was followed by those earning ₱10,001–20,000 (71, or 18.68%) and ₱20,001–30,000 (24, or 6.32%). Only 1, or 0.26%, of the respondents who earned between ₱30,001 and ₱40,000, and those earning above ₱40,000 had the lowest proportion. This income profile indicated that poor adherence to medication was mostly among low-income clients of NCDs in this community; often, these households were very poorly resourced and were unable to afford essential maintenance medicines.

Low income emerged as a key factor affecting medication adherence as many NCD clients were likely living at or below the poverty line, with competing basic needs or even with relatively small out-of-pocket health costs potentially causing them to skip doses, delay refills, or stop taking medication.

The strong influence of socioeconomic status on medication adherence was clearly demonstrated in recent research. Based on a cross-sectional study examining the drivers of non-adherence among people with chronic diseases, Kifle and Stewart (2023) found that those with low incomes were significantly more likely to engage in cost-related non-adherence, such as rationing pills or intentionally delaying refills, than those with higher incomes. Likewise, a study by Khura (2024) on challenges to NCD management in resource-scarce communities found that household incomes below the minimum wage often did not cover out-of-pocket costs for medicines, highlighting the urgent need for embedding economic support and highly subscribed pharmacies into community-based chronic disease management.

Geographic Location. Of the 380 respondents, most resided in the Mountain Unit, with 146 (38.42%). This was followed by the River Road Unit (74 or 19.47%), Población Unit (72 or 18.95%) and the East Road Unit (54 or 14.21%). The least represented was the National Road Unit with 34 or 8.95%. This geographic profile indicated that poor medication compliance would mainly be a concern in the mountainous and geographically elevated communities where NCD clients often encountered logistical problems, had limited access to transport, and were less likely to have access to primary healthcare providers and pharmacies, which could have a significant impact on their ability to access and adhere to their medication regimen. The geographic barrier was a structural factor affecting adherence to and long-term NCD management, as many NCD clients resided in barangays in the Mountain Unit, where access to health facilities, pharmacies, and transportation was limited, as evidenced by the predominance of respondents from the Mountain Unit.

There has been a wealth of literature recently demonstrating the substantial impact of geographic isolation on health outcomes and medication adherence. According to the cross-sectional study conducted by Debbarma et al. (2025), non-adherence among patients with chronic diseases was significantly higher in remote, mountainous rural areas, where frequent access to pharmacies was less likely and transportation was highly costly. In the same vein, a study by Mntungwana et al. (2025) on healthcare access for non-communicable diseases in remote communities found that geographical challenges and the rugged landscape often made it difficult for patients to reach their healthcare facilities despite the need to seek care, leading to unintended non-adherence,

such as missed refills of medications due to travel difficulties. This, in turn, highlighted the need for community health policies that address geographical barriers and incorporate mobile health clinics and decentralized drug distribution systems to support patients in remote areas.

Level of Medication Compliance. The level of medication compliance among clients with common non-communicable diseases in Iriga City in terms of medication adherence, regular monitoring and follow-up, and perception of personal risk of non-compliance.

Medication Adherence. Table 2 presents the level of medication compliance, along with the respondents' medication adherence indicators. The average weighted mean (AWM) is 4.11, interpreted as 'often'. Keeping medicines in a safe and proper place, as instructed, ranked highest with a weighted mean (WM) of 4.59, always.

This was followed by taking medicine as prescribed (WM=4.44, always) and taking it at the same time every day (WM=4.31, always). The lowest-ranked behaviors were not stopping the medicines themselves (WM=3.64, often), not missing any dose of medicines taken while on maintenance (WM=3.87, often), and not changing the dose of medicines without consulting a healthcare worker (WM=3.91, often). The data shows that, even though clients have a strong initial practice of keeping their treatments organized and scheduling them, they are much more likely to have issues with long-term maintenance. In particular, lower scores suggest they are susceptible to unintentional missed doses and to intentional non-adherence, in which patients may modify their dose or stop treatment on their own, not on medical recommendations.

Responses revealed that NCD clients' adherence was not simply remembering doses but was complex decision-making. Patients exhibited relatively stable and consistent behaviors around concrete aspects of the treatment, but showed less consistency in maintaining treatment when they felt better or there were competing demands, underscoring the importance of continuing counselling and motivation, as well as patient-provider relationships to reduce intentional and unintentional non-adherence

Recent literature emphasizes that long-term medication adherence is not merely a passive routine but an active and fluctuating decision-making process. Burleson et al. (2025) noted that patients with non-communicable diseases often conduct a mental cost-benefit analysis of their medicines, deciding not to use them, for instance, when they feel better. Likewise, Aljofan et al. (2023) confirmed that an individual's beliefs about the disease are strongly associated with non-adherence, explaining why patients may diligently adhere to specific guidelines (such as safe storage of medication) but fail to take prescribed medication daily without constant professional monitoring and health education.

Table 2 Level of Medication Compliance along Medication Adherence

Indicators	Weighte Mean	Verbal Interpretation	Rank
1. I keep my medicines in a safe and proper place as instructed.	4.59	Always	1
2. I take my medicines exactly as prescribed by my doctor or health worker.	4.44	Always	2
3. I take my medicines at the same time every day.	4.31	Always	3
4. I avoid taking food, drinks, or other products that can affect how my medicine works, as advised	4.21	Always	4
5. I continue taking my medicines even when I feel better.	4.16	Often	5
6. I refill or buy my medicines before they run out.	4.01	Often	6

7. I use reminders (alarm, list, family member) to help me remember my medicines.	3.98	Often	7
8. I do not change the dose of my medicine without asking my doctor or health worker.	3.91	Often	8
9. I do not miss any dose of my maintenance medicines.	3.87	Often	9
10. I do not stop taking my medicines on my own.	3.64	Often	10
Average Weighted Mean	4.11	Often	

Regular Monitoring and Follow-up. Table 3 presents respondents' medication compliance levels, along with indicators of regular monitoring and follow-up. The AWM is 4.15, which is verbally interpreted as often. The highest-ranked behavior was bringing maintenance medicines when traveling or staying away from home (WM = 4.47, always), followed by asking questions when instructions are unclear (WM = 4.40, always), and consistently following advice on diet, exercise, and lifestyle changes (WM = 4.30, always). In contrast, the lowest-ranked behaviors included having blood pressure, blood sugar, or cholesterol checked as recommended (WM = 4.00, often), and going for regular check-ups as scheduled (WM = 3.96, often), with attending health education or community health activities receiving the lowest mean (WM = 3.34, often). These results suggest that while clients are highly engaged in self-management during clinical encounters and when away from home, there is comparatively less consistency in proactive health-seeking behaviors such as routine monitoring, scheduled follow-ups, and participation in community-based education, indicating an area where additional reinforcement and structured support may be needed.

In Iriga City, compliance with medication seemed to be highest for concrete and immediate behaviors, such as bringing medicines, bringing records, and reporting side effects, but lower for behaviors that required continuous effort, such as regular monitoring and attending health education. This revealed motivational, financial, and access barriers, as well as the need to enhance ongoing prevention and follow-up services.

Today's evidence on the management of NCDs is consistent with this study's findings, which reveal that patients are willing to undertake medication-related activities but that adherence to ongoing monitoring and follow-up is inconsistent. Fenta et al. (2024) applied socio-ecologic approach in the public hospitals of North Wollo Zone to identify challenges that hinder long-term adherence to medicines and follow-up in patients with non-communicable diseases and revealed that lack of knowledge about the disease and medicines, financial difficulties (inability to cover drug expenses or get transportation to appointments), limited family support, poor communication with health providers, drug shortage, and the distance from health facilities were major challenges that hinder long-term adherence to medicines and follow-up in patients with non-communicable diseases, sometimes leading to missed appointments, irregular medicine monitoring, and difficulty in maintaining long-term follow-up.

Similarly, in a tertiary hospital in Kathmandu, Sharma et al (2024) found that only 48% of 322 major NCD patients had good uptake with moderate uptake being the most common, with common reasons for non-adherence being forgetfulness, being away from home, and out-of-stock medicines, all of which point to difficulty in planning follow-up visits, refills, and ongoing monitoring rather than a lack of a willingness to take medicines.

Table 3 Level of Medication Compliance along Regular Monitoring and Follow-up

Indicators	Mean	Verbal Interpretation	Rank
1. I bring my maintenance medicines with me when I travel or stay away from home.	4.47	Always	1

2. I ask questions when I do not understand instructions about my medicines or illness.	4.40	Always	2
3. I follow the advice given to me about diet, exercise, and other lifestyle changes.	4.30	Always	3
4. I keep and bring my health records, laboratory results, or prescriptions during visits.	4.30	Always	4
5. I bring my medicines or a list of my medicines during check-ups.	4.28	Always	5.5
6. I tell my doctor or health worker if I experience side effects from my medicines.	4.28	Always	5.5
7. I ask my family or household members to help remind me about my check-ups and medicines.	4.19	Often	7
8. I have my blood pressure, blood sugar, or cholesterol checked as recommended.	4.00	Often	8
9. I go for regular check-ups with my doctor or health center as scheduled.	3.96	Often	9
10. I attend health education sessions or community health activities related to my illness.	3.34	Often	10
Average Weighted Mean	4.15	Often	

Perception of Personal Risk of Non-Compliance. Table 4 shows the extent of medication compliance, as reflected in the personal risks respondents felt were linked to non-compliance. The AWM is verbally interpreted as always, 4.37. The highest-ranked WM was always taking medicines to keep themselves and their family healthy. This was closely followed by the belief that taking medicines helps avoid hospital admission (WM=4.55, always) and by feeling personally responsible for health management (WM=4.51, always). In contrast, perceptions with the lowest rankings, although still fairly high, were that their illness is long-term and needs to be treated all the time (WM: 4.18, often), thinking that skipping medicines can lead to serious complications (WM: 4.24, always) and feeling worried if they miss a dose of medicine (WM: 4.12, often).

Although clients are highly motivated to achieve tangible short-term goals – such as avoiding acute hospitalization and fulfilling their roles as parents or partners – there is still a disconnect in their understanding of the full scope of their condition and the broader, abstract problem of non-adherence. In particular, the need for continuous, uninterrupted treatment may not be fully internalized by patients, resulting in a lower level of urgency to seek treatment when a dose is missed, although they may be aware that this may cause problems later.

This indicated that personal responsibility and awareness of the negative consequences of failing to adhere to medication in Iriga City were high, but some clients also perceived their condition and treatment to be short-term, which could result in complacency when they felt better, emphasizing the need to continuously educate them about the NCDs and the need to continue treatment. A better understanding of these ambivalent attitudes can help nurses and policymakers develop targeted interventions that support medication adherence and challenge misconceptions regarding chronic disease management.

Recent literature also highlights the importance of immediate risk perception and support systems in medication adherence to chronic disease. Patient's understanding of the chronic and progressive nature of their disease can affect compliance; patients who do not fully understand this may have a reduced perception of long-term risks, including abstract future complications, so they may be less concerned about occasionally missing a

dose than they might otherwise be (Katende-Kyenda, 2026). But patients' compliance is greatly increased if they perceive the immediate seriousness of the challenge to their daily functioning, such as the stark prospect of hospitalization. In a similar vein, Debbarma et al. (2025) confirmed that a good family environment and familial responsibility are key factors in adherence to medication.

Table 4 Level of Medication Compliance along with Perception of Personal Risk of Non-Compliance

Indicators	Mean	Verbal Interpretation	Rank
1. I take my medicines because I want to stay healthy for my family and myself.	4.62	Always	1
2. I believe that following my medicines can help prevent hospital admission.	4.55	Always	2
3. I feel responsible for managing my medicines to protect my health.	4.51	Always	3
4. I think that not following my medicines may increase my medical expenses.	4.44	Always	4
5. I understand that stopping my medicines without medical advice is dangerous.	4.36	Always	5
6. I believe that not taking my medicines correctly can make my illness worse.	4.34	Always	6
7. I feel at risk of having a stroke, heart attack, or other serious problems if I do not follow my medicines.	4.32	Always	7
8. I think that skipping medicines can lead to serious complications.	4.24	Always	8
9. I believe that my illness is long-term and needs continuous treatment.	4.18	Often	9
10. I feel worried when I miss a dose of my medicine.	4.12	Often	10
Average Weighted Mean	4.37	Always	

Relationship Between Profile and the level of Medication Compliance. Table 5 presents the relationship between respondents' profiles and their level of medication compliance. Significant relationships were found with educational background ($\chi^2 = 67.55, 53.31, 43.54$; $df = 20$; tabular value= 31.41), monthly family income ($\chi^2 = 52.87, 103.7, 49.61$; $df = 16$; tabular value= 26.30), and geographic location ($\chi^2 = 32.7, 29.98, 30.92$; $df = 12$; tabular value= 21.03). In contrast, no significant relationships emerged for Civil Status ($\chi^2 = 25.76, 25.76, 22.11$; $df = 16$; Critical = 26.30), age ($\chi^2 = 20.07, 24.61, 20.19$; $df = 16$; tabular value= 26.30), and religion ($\chi^2 = 23.49, 11.72, 5.06$; $df = 20$; tabular value= 31.41). Similarly, occupation ($\chi^2 = 11.72, 37.06, 36.00$; $df = 32$; tabular value= 49.76) and sex ($\chi^2 = 1.36, 3.04, 2.98$; $df = 4$; tabular value= 9.49).

The results suggest that sociodemographic factors (age, sex, and civil status) do not significantly affect compliance behaviors, whereas economic and social factors (education, income, and place of residence) are crucial, probably due to factors such as information, treatment costs, and distance from care.

The statistical data show that health compliance is primarily influenced by socioeconomic and environmental

factors. Most of the profile variables (educational background, occupation, location, age, income) had no significant effect on behaviors, although there were some interesting trends. This shows that access to resources and health literacy are more important to medication adherence and risk perception than people's personal details, such as sex or religion.

This conclusion is echoed in recent literature, which shows that, in the case of non-communicable diseases, socio-structural enablers play a major role in determining long-term medication adherence. Islam et al. (2026) conducted a comprehensive, systematic review, revealing that financial constraints, education, and geographic location (proximity to healthcare centers) are the primary determinants of continuous health care utilization and medication adherence among NCD patients. Likewise, Wong et al. (2026) noted in the NCD review that both patient socioeconomic status and geographic rurality were the most important factors affecting medication adherence across all areas of health care access. It brings to attention that for those with less education and financial means, it is difficult to maintain their medication regimens in the face of severe economic hardship, coupled with added logistical challenges.

Table 6 Relationship between Profile and Level of Medication Compliance

Profile	Medication Adherence				
	df	Computed χ^2	Critical Value	Decision	Interpretation
Age	16	20.07	26.30	Accepted	Not Significant
Sex	4	1.36	9.49	Accepted	Not Significant
Civil Status	16	25.76	26.30	Accepted	Not Significant
Educational Background	20	67.55	31.41	Rejected	Significant
Occupation	32	11.72	49.76	Accepted	Not Significant
Monthly Family Income	16	52.87	26.30	Rejected	Significant
Religion	20	23.49	31.41		
Geographic Location	12	32.7	21.03		
Profile	Regular Monitoring and Follow-up				
	df	Computed χ^2	Critical Value	Decision	Conclusion
Age	16	24.61	26.30	Accepted	Not Significant
Sex	4	3.04	9.49	Accepted	Not Significant
Civil Status	16	25.76	26.30	Accepted	Not Significant
Educational Background	20	53.31	31.41	Rejected	Significant
Occupation	32	37.06	49.76	Accepted	Not Significant
Monthly Family Income	16	103.7	26.30	Rejected	Significant

Religion	20	11.72	31.41		Not Significant
Geographic Location	12	29.98	21.03		Significant
Profile	Perception of Personal Risk of Non-Compliance				
	df	Computed x ²	Critical Value x ²	Decision	Conclusion
Age	16	20.19	26.30	Accepted	Not Significant
Sex	4	2.98	9.49	Accepted	Not Significant
Civil Status	16	22.11	26.30	Accepted	Not Significant
Educational Background	20	43.54	31.41	Rejected	Significant
Occupation	32	36.00	49.76	Accepted	Not Significant
Monthly Family Income	16	49.61	26.30	Rejected	Significant
Religion	20	5.06	31.41	Accepted	Not Significant
Geographic Location	12	30.92	21.03	Rejected	Significant

Proposed Measures to Address the Medication Compliance Among Clients with NCD in Iriga City.

The proposed educational booklet aims to enhance adherence to medications and proactive health management among clients living in the community with a diagnosis of non-communicable diseases (NCDs), namely hypertension and diabetes. The booklet provides accessible, easy-to-follow information based on the study's results in the lowest areas identified: maintenance medications being missed or stopped too early, irregular routine monitoring, and low participation in community health programs. The intervention is translated into different language levels, includes visual supports, and provides daily tracking tools to help patients stay on track, adhere to their medication plans, understand the repercussions of non-adherence, and take advantage of resources within their local health center, regardless of educational, economic, or geographical background.

Goal

To improve medication adherence and consistent health monitoring behaviors among clients with hypertension and diabetes by providing a home-based, visually stimulating and location-based resource to promote dispelling myths linked to maintenance medications, reinforce the importance of being on maintenance medications, and increase proactive health care seeking behavior in primary health care.

Specific Objectives

1. Teach patients the critical importance of adhering to maintenance therapy without ceasing treatment, changing doses or skipping their medication.
2. Promote regular health surveillance; clearly state the need for people to follow up the recommended health examinations at the clinic, check blood pressure or blood sugar at home, and participate in health education classes held in communities.
3. Now that the patients understand the nature of the risks, make them more real to them by describing the major long-term consequences (stroke, kidney failure, etc.) that may occur if they don't take their medications.

4. Offer practical and cost-effective approaches to maintaining long-term treatment, such as using free services at local Rural Health Units (RHUs) and using simple reminders to take medication daily.
5. Encourage personal responsibility and habit formation with an integrated 'Health Tracker' where patients can see when they need to get their next check-up, community health sessions and daily medication reminders.

CONCLUSIONS

Most of the respondents were older adults, mostly female, married and with high school level of educational attainment. In addition, the vast majority were not formally employed, were living in low-income families (earning below ₱10,000 per month), and were Roman Catholics. The medication adherence and regular monitoring/follow-up were rated often, and the personal risk of non-compliance was rated as always, indicating a high level of medication compliance among clients with non-communicable diseases in the community.

Regarding the relationship between socio-economic variables and the extent to which the patient adhered to the medication, educational status, monthly family income and geographic location were found to be significant; however, age, sex, civil status, occupation and religion did not show a significant relationship with the compliance behaviors. It was therefore necessary to develop an educational booklet on hypertension and diabetes to address gaps in long-term maintenance, regular check-ups, and participation in health programs, providing clear, practical, and user-friendly guidance to help people adhere to medication and manage their health proactively in the community.

RECOMMENDATIONS

1. Considering that the majority of the clients are older adults belonging to low-income households with a high school level of education, local government units and community health centers may initiate specialized assistance programs. These initiatives may include providing free or subsidized maintenance medications and establishing accessible community health drives to alleviate the financial constraints associated with long-term treatment.
2. Healthcare providers can have focused counselling sessions with the clients to tackle specific non-compliance issues, like the occasional dose omission or infrequent clinic attendance, which was generally noted as commendable. Daily reminder systems with alarms, pillbox organizers, and the help of family members can be implemented to help reinforce their daily compliance.
3. Economically disadvantaged and remote barangays may have different health care strategies as geographic location, monthly family income and educational background were found to significantly affect medication compliance. To address the accessibility issues of distance and financial constraints, mobile health clinics or barangay health workers can be provided to ensure that regular medical guidance and monitoring can still be provided to clients.
4. The recommended targeted educational booklet can be formally used and disseminated at consultations to address the gaps in disease management. The material may be translated into Tagalog, if applicable, and presented in a clear manner, using simple visual aids, progress trackers, and instructions so that patients with different educational backgrounds can easily use it to proactively self-care at home.

REFERENCES

1. Aljofan, M., Oshibayeva, A., Moldaliyev, I., Saruarov, Y., Maulenkul, T., & Gaipov, A. (2023). The rate of medication nonadherence and influencing factors: A systematic Review. *Electronic Journal of General Medicine*, 20(3), em471. <https://doi.org/10.29333/ejgm/12946>
2. Benitez, S. Q., Cenizan, F. Y., Torrion, M. B., Almonguera, J. E., & Ederio, N. T. (2024). Factors affecting medication adherence among elderly people with chronic illness in Surigao City. *International Journal of Current Science Research and Review*, 7(5), 3378–3392. <https://doi.org/10.47191/ijcsrr/V7-i5-94>

3. Burleson, J., Stephens, D. E., & Rimal, R. N. (2025). Adherence Definitions, Measurement Modalities, and Psychometric Properties in HIV, Diabetes, and Nutritional Supplementation Studies: A Scoping Review. *Patient preference and adherence*, 19, 319–344. <https://doi.org/10.2147/PPA.S498537>
4. Cardona, D., Santacruz-Restrepo, V., Rendón-Montoya, A., Madrigal-Cadavid, J., Segura-Cardona, A., & Estrada-Acevedo, J. I. (2025). Medication adherence in the elderly population with chronic diseases: A factor analysis. *Frontiers in Pharmacology*, 16, Article 1699999. <https://doi.org/10.3389/fphar.2025.1699999>
5. Debbarma, S., Yadav, A., Naik, B. N., Pandey, S., Bhardwaj, M., Kumari, S., Singh, R., & Biswas, R. (2025). Medication adherence and its determinants among non-communicable disease patients in rural area of Bihar, India: Insights for improving treatment outcomes. *Journal of family medicine and primary care*, 14(8), 3338–3344. https://doi.org/10.4103/jfmprc.jfmprc_222_25
6. Fenta, E. T., Ayal, B. G., Kidie, A. A., Anagaw, T. F., Mekonnen, T. S., Ketema Bogale, E., Berihun, S., Tsega, T. D., Mengistie Munie, C., Talie Fenta, T., Kassie Worku, N., Shiferaw Gelaw, S., & Tiruneh, M. G. (2024). Barriers to Medication Adherence Among Patients with Non-Communicable Disease in North Wollo Zone Public Hospitals: Socio-Ecologic Perspective, 2023. *Patient preference and adherence*, 18, 733–744. <https://doi.org/10.2147/PPA.S452196>
8. Islam, MT., Odunyemi, A., Bruce, M., Alam, K. (2026). The Utilization of Health Service Provisions for Noncommunicable Diseases in South Asian Countries: A Systematic Review, *Health & Social Care in the Community*, 2026, 8871771, 39 pages. <https://doi.org/10.1155/hsc/8871771>
9. Jia, Q., Wang, H., Wang, L., & Wang, Y. (2022). Association of Health Literacy With Medication Adherence Mediated by Cognitive Function Among the Community-Based Elders With Chronic Disease in Beijing of China. *Frontiers in public health*, 10, 824778. <https://doi.org/10.3389/fpubh.2022.824778>
10. Kasim, N. A. M., Izuan, U. S. S., & Karuppannan, M. (2026). Medication reminder use and medication adherence among patients with chronic conditions in a Malaysian teaching hospital. *BMC Health Services Research*. <https://doi.org/10.1186/s12913-026-14457-7>
11. Katende-Kyenda, L. N. (2026). The Critical Role of Medicine Adherence in Management of Chronic Conditions: A Review Article. *Journal of Mind and Medical Sciences*, 13(1), 2. <https://doi.org/10.3390/jmms13010002>
12. Khura, B., Mohanty, P., Patnaik, L., Pradhan, K. B., Khubchandani, J., & Padhi, B. K. (2022). Socioeconomic Inequalities in the Prevalence of Non-Communicable Diseases among Older Adults in India. *Geriatrics (Basel, Switzerland)*, 7(6), 137. <https://doi.org/10.3390/geriatrics7060137>
13. Lu, T., Yang, Z., Chen, P., Li, J., Zheng, C., Kong, L., & Zhang, H. (2023). Influencing factors of medication literacy among community-dwelling older adult patients with hypertension: a study based on social learning theory. *Frontiers in pharmacology*, 14, 1184701. <https://doi.org/10.3389/fphar.2023.1184701>
14. Mei, Y., Zhang, H., Miao, J., Liu, X., Chen, D., Jiang, M., & Ding, L. (2026). Medication adherence in hypertension and diabetes comorbidity: implications for disease control in a population-based study. *Frontiers in public health*, 14, 1708587. <https://doi.org/10.3389/fpubh.2026.1708587>
15. Mntungwana, S., Khosa, N. V., Buso, A. E., & Sithole, N. (2025). Barriers to Chronic Disease Healthcare Access in Rural Eastern Cape Province, South Africa. *International Journal of Environmental Research and Public Health*, 22(12), 1881. <https://doi.org/10.3390/ijerph22121881>
16. Moges, T. A., Dagne, S. B., Wondm, S. A., Ferede, Y. A., Yiblet, T. G., Almaw, A., Shumet Yimer, Y., Tesfaw Addis, G., Zewdu, W. S., & Dagne, F. N. (2024). Determinants of medication non-adherence among patients with chronic diseases at community pharmacy settings in South Gondar Zone, Northwest Ethiopia: a multicenter cross-sectional study. *Frontiers in public health*, 12, 1409153. <https://doi.org/10.3389/fpubh.2024.1409153>
17. Noreen, N., Bashir, F., Khan, A. W., Safi, M. M., Lashari, W. A., & Hering, D. (2023). Determinants of Adherence to Antihypertension Medications Among Patients at a Tertiary Care Hospital in Islamabad, Pakistan, 2019. *Preventing chronic disease*, 20, E42. <https://doi.org/10.5888/pcd20.220231>
18. Rata Mohan, D. S., Jawahir, S., Manual, A., Abdul Mutalib, N. E., Mohd Noh, S. N., Ab Rahim, I., Ab Hamid, J., & Amer Nordin, A. (2025). Gender differences in health-seeking behaviour: insights from the National Health and Morbidity Survey 2019. *BMC health services research*, 25(1), 900.

<https://doi.org/10.1186/s12913-025-13020-0>

19. Sharma, B., Karki, S., Bhetwal, J., & Dahal, A. S. (2024). Medication Adherence among Patients with Non-Communicable Diseases in a Tertiary Hospital: A Descriptive Cross-sectional Study. *JNMA; journal of the Nepal Medical Association*, 62(275), 433–438. <https://doi.org/10.31729/jnma.8650>
20. Stewart, S. J. F., Moon, Z., & Horne, R. (2023). Medication nonadherence: health impact, prevalence, correlates and interventions. *Psychology & Health*, 38(6), 726–765. <https://doi.org/10.1080/08870446.2022.2144923>
21. Tolley A, Grewal K, Weiler A, Papameletiou AM, Hassan R, Basu S. (2023). Factors influencing adherence to non-communicable disease medication in India: secondary analysis of cross-sectional data from WHO - SAGE2. *Front Pharmacol*. 14:1183818. doi: 10.3389/fphar.2023.1183818. PMID: 37900158; PMCID: PMC10603298.
22. Venditti, V., Bleve, E., Morano, S., & Filardi, T. (2023). Gender-Related Factors in Medication Adherence for Metabolic and Cardiovascular Health. *Metabolites*, 13(10), 1087. <https://doi.org/10.3390/metabo13101087>
23. Wong, B., Wight, L., Gauvreau, C., Nguyen, G. T., Mansuri, N., Petricca, K., Neposlan, J., & Denburg, A.
24. E. (2026). Exploring factors affecting access to non-communicable disease medicines in low- and middle-income countries: a systematic review. *BMJ public health*, 4(1), e002497. <https://doi.org/10.1136/bmjph-2024-002497>
25. World Health Organization. (2025). Noncommunicable diseases. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>