

Effectiveness of Health Education and Lifestyle Program (HELP) in the Hypertensive Therapeutic Regimens Compliance Among Community-Dwelling Patients: A Quasi-Experimental Study

Paulo Carl G. Mejia^{1,2,3}, Dina Joksimovic^{4*}, Jon-Jon T. Martinez^{5,6}, Charissa Rosamond D. Calayday^{7,8}, Aiko Diana M. Casalan⁹, Lea Cerdana¹⁰, Albert Jerome Y. Jopida¹⁰, Josephine D. Lorica³

¹Department of Nursing, Fatima College of Health Sciences, Abu Dhabi, United Arab Emirates

²Graduate School, Cebu Normal University, Cebu City, Philippines

³Graduate School, St. Paul University Philippines, Tuguegarao City, Philippines

⁴Psychology Department, Fatima College of Health Sciences, Abu Dhabi, United Arab Emirates

⁵College of Nursing, Taif University, Taif, Kingdom of Saudi Arabia

⁶School of Nursing and Allied Health Studies, St. Dominic College of Asia, Cavite, Philippines

⁷St. Lukes College of Nursing, Trinity University of Asia, Quezon City, Philippines

⁸Program for Healthcare Quality and Patient Safety, University of the Philippines Manila, City of Manila, Philippines

⁹College of Nursing, University of the Philippines Manila, City of Manila, Philippines

¹⁰College of Allied Health, National University, City of Manila, Philippines

*Corresponding author: Dina Joksimovic publishingaustralasia@gmail.com; Dina.Joksimovic@actvet.gov.ae

Received: 14th June, 2026; Revised: 20th July 2026; Accepted: 20th August, 2026; Available Online: 05th September 2026

ABSTRACT

No widely implemented, standardized community health program for hypertension in the country. The primary gap in quasi-experimental studies evaluating hypertension program is the disconnect in possessing knowledge and the behavioral ability to maintain long-term medication compliance and lifestyle modification. This study aimed in determining the effectiveness of Health Education and Lifestyle Program (HELP) program in improving compliance to therapeutic regimens among community-dwelling hypertensive patients. The study utilized a two-group, pre- and post-test, quasi-experimental design that included a comparison of the control and experimental groups. The comparison group received their standard treatment for hypertension alone. While those in the experimental group received both HELP and their standard treatment. The study utilized a two-group, pre- and post-test, quasi-experimental design that included a comparison of the control and experimental groups. The comparison group received their standard treatment for hypertension alone. While those in the experimental group received both HELP and their standard treatment. A total of 128 hypertensive patients were selected through homogeneous stratified random sampling. This 12-week community-based health education program intervention program contains 5 modules (disease awareness, medication regimen, dietary regimen, healthy lifestyle, and stress management). The 20-item TMAD compliance checklist, divided into four (4) sections: treatment, medication, activity, and diet. Data analysis will include mean, standard deviation, and paired t-tests. Accordingly, the majority of hypertensive patients in the control group still have moderate compliance ($x = 2.16$, $SD \pm 0.40$) to therapeutic regimens while high compliance ($x = 2.52$, $SD \pm 0.29$) to therapeutic regimens was observed in the experimental group after the implementation of HELP. High compliance to therapeutic regimens was observed in the experimental group after the implementation of HELP, compared with the control group, which showed only moderate compliance. There is a significant difference in the compliance level to therapeutic regimens among hypertensive patients in the experimental group before and after HELP.

Keywords: community health nursing, hypertension, treatment adherence and compliance, patient compliance, health promotion

How to cite this article: Mejia PCG, Joksimovic D, Martinez JT, Calayday CRD, Casalan ADM, Cerdana L, Jopida AJY, Lorica JD, Effectiveness of Health Education and Lifestyle Program (Help) in the Hypertensive Therapeutic Regimens Compliance Among Community-Dwelling Patients: A Quasi-Experimental Study Int J Drug Deliv Technol. 2026;16(7): 1167-1173; DOI: 10.25258/ijddt.16.7.123

Source of support: Nil.

Conflict of interest: None

1. INTRODUCTION

An estimated 1.28 billion adults worldwide have been diagnosed with hypertension (1). The global burden of

hypertension was projected to rise to 1.56 billion in 2025. The hypertension pandemic is globally rampant (2). Fewer than half of adults (42%) with hypertension are

*Author for Correspondence: publishingaustralasia@gmail.com

assessed and cared for. One (1) in every five (5) adults with hypertension has it under control. Uncontrolled hypertension can lead to diabetes, chronic kidney disease, cardiovascular disease, stroke, and heart attack (1). Poor hypertension control is largely attributed to poor treatment compliance among hypertensive patients (3). According to the WHO, compliance was defined as the extent to which a person's behavior-taking medication, following a diet, and executing lifestyle changes-corresponds with agreed recommendations from a health care provider (2). Failure to follow medical professionals' advice is a public health problem worldwide (4). Non-compliance is a knotty and extensive health care concern. It is defined as the extent to which patients are unable to follow recommendations for the prescribed treatment (5). Poor treatment compliance leads to the worst possible health outcomes and an increase in the hospitalization rate. (4). Present directives have indicated the imperative need to optimize medication compliance as a central concern in the management of hypertension (2).

Subsequently, in the Philippines, the national prevalence of hypertension among Filipino adults has steadily increased and continues to contribute to the nation's leading cause of morbidity and mortality (6). Furthermore, the higher the systolic or diastolic pressure, the greater the probability of developing diseases and death from hypertension (7). Meanwhile, the clinical practice guidelines define hypertension as a blood pressure of 140/90 mmHg or higher, as measured by standard BP measurement. In the recent decade, monotherapy has been the treatment mode in more than 80% of Filipino hypertensive patients, which explains why blood pressure control has been historically low (8).

Lifestyle changes like eating a healthier low-salt diet, quitting tobacco, limiting alcohol, losing weight, keeping a healthy weight, being more physically active, managing stress, regular blood pressure check-ups, and taking medicines can significantly help reduce high blood pressure (1). Controlling blood pressure among hypertensive patients is necessary to live a longer and healthier life. Healthy lifestyle choices can avoid, prevent, and manage high blood pressure (9). Compliance to recommended antihypertensive medications is central to adequate hypertension control (4).

Several interventions may improve treatment compliance. However, most interventions have only a modest effect (5). Subsequently, there is no widely implemented, standardized community health program for hypertension in the country. The primary gap in quasi-experimental studies evaluating hypertension program is the disconnect in possessing knowledge and the behavioral ability to maintain long-term medication compliance and lifestyle modification. This study aimed in determining the effectiveness of Health Education and Lifestyle Program (HELP) in improving compliance to therapeutic regimens among community-dwelling hypertensive patients. Also, to identify the treatment compliance scores among

hypertensive patients before and after the community-based nurse-led hypertension program. Nurses play an important role in improving patients' health-related knowledge and compliance through health education (10). Implementing education-centered interventions can improve treatment compliance and reduce the risk of major cardiovascular events and cardiac mortality (11).

2. MATERIALS AND METHODS

2.1 Research Design

The study utilized a two-group, pre- and post-test, quasi-experimental design that included a comparison of the control and experimental groups. The comparison group received their standard treatment for hypertension alone. While those in the experimental group received both HELP and their standard treatment. The compliance to therapeutic regimens for both the comparison and experimental groups was assessed before and after the start of the program intervention.

2.2 Locale, Sample and Sampling Technique

The study includes hypertensive patients in a localized community in Plaridel, Bulacan, Philippines. The sample size estimate was computed using G*Power for a priori power analysis (effect size = 0.05; power = 80%; significance level = 0.05). A total of 128 hypertensive patients were selected through homogeneous stratified random sampling. In here, the researchers selected participants that share similar traits (demographics like age group and gender) having a uniform defined group using randomization. However, the researchers initially have 138 respondents, but some participants withdraw due to personal reasons while others have not completed some sessions, and some have missing data which left a 7.25% attrition rate. The participants will then be assigned to either the comparison group (n=64) or the experimental group (n=64). Moreover, the researchers selected the study participants using inclusion and exclusion criteria. Inclusion criteria include (a) individuals with primary hypertension, (b) can read, write, speak, and understand Tagalog language, (c) community dwelling/residents, and (d) those who have completed the 12-week program. However, exclusion criteria included respondents with any of the following: (a) patients suffering from pre-existing medical conditions (disease comorbidities), (b) hypertensive patients suffering from severe complications (kidney diseases, stroke, aneurysm), and (c) those with physical, sensory, and mental impairments, as they might have difficulty in participating actively in the community program.

2.3 Research Instruments

The study used a self-developed validated survey tool which is a 20-item TMAD compliance checklist, divided into four (4) sections: treatment, medication, activity, and diet. The compliance scores of both comparison and experimental groups were measured before (week 1) and after (week 12) the intervention using reliable and valid instruments developed by the authors. The tool underwent face validity and content validity by five (5) experts in the nursing profession. The instrument tool obtained a Cronbach's alpha reliability score of 0.872, indicating that it is internally consistent and reliable.

2.4 Intervention

HELP is a community-based health education program to improve treatment, medication compliance, activity, and diet among hypertension patients. This 12-week intervention program contains 5 modules was conducted on. Each module is discussed for two (2) week sessions. The first and last week were intended to determine the pre (week 1) and post (week 12) compliance scores of both comparison and experimental groups, respectively. The intervention using reliable and valid instruments developed by the authors. Each module contains a specific key health strategy: disease awareness, medication regimen, dietary regimen, healthy lifestyle, and stress management. The researchers provided a consistent session all throughout the program. The authors distributed a structured health booklet containing all modules and provided weekly health screenings. In addition, this intervention program includes didactic lectures, provision of a brochure/pamphlet, health education, community assemblies, demonstrations, and group sharing. Compliance scores were collected on the first and final weeks of the study. This program was conducted once per week (weekend) for four (4) hours for a total of three months from May to October 2017. The program was conducted by the primary researchers who have attended

cardiovascular certificate program and good clinical practice training.

2.5 Ethical Considerations

This study complied with the Declaration of Helsinki and the Nuremberg Code, which provide ethical principles for medical research involving human subjects. Respondents' rights and protection were taken into consideration throughout the study. Furthermore, bioethical principles were strictly observed. Informed consent was obtained from all study participants before the administration of the health intervention program. Ethical clearance was obtained from the Ethics Committee of the College of Health Science at Mindanao State University, with reference code 18-2017.

2.6 Data Analysis

To analyze the gathered data, the Statistical Package for the Social Sciences (SPSS) version 21 was used. To compute the descriptive statistics, the mean and standard deviation were utilized. Meanwhile, paired t-tests were used to compute inferential statistics. Specifically, this will determine whether there was a statistically significant difference in compliance scores among hypertensive patients before and after the intervention program.

3. RESULTS

Table 1 depicts compliance to therapeutic regimens among hypertensive patients before the implementation of HELP. In general, the study findings revealed that the majority of hypertensive patients, both in the control ($x = 1.98$, $SD \pm 0.64$) and experimental groups ($x = 2.19$, $SD \pm 0.52$), have moderate compliance to therapeutic regimens. This implies that hypertensive patients sometimes comply with treatment, medication, activity, and diet before the implementation of the intervention program.

Table 1. Compliance level to therapeutic regimens for hypertension before HELP

Key Health Strategies	Control Group			Experimental Group		
	Mean	SD	Compliance Level	Mean	SD	Compliance Level
1. Treatment compliance	2.03	0.73	Moderate	2.44	0.54	Moderate
2. Medication compliance	2.13	0.73	Moderate	2.25	0.54	Moderate
4. Activity compliance	2.00	0.53	Moderate	2.13	0.46	Moderate
3. Diet compliance	1.76	0.55	Moderate	1.95	0.53	Moderate
Average	1.98	0.64	Moderate Compliance	2.19	0.52	Moderate Compliance

Legend: 1.00-1.66 implies Low Compliance; 1.67-2.33 means Moderate Compliance; and lastly 2.34-3.00 signifies High Compliance

Table 2 shows compliance to therapeutic regimens among hypertensive patients after the implementation of HELP. Accordingly, the majority of hypertensive patients in the control group still have moderate compliance ($x = 2.16$, $SD \pm 0.40$) to therapeutic regimens. This implies that hypertensive patients sometimes comply with treatment,

medication, activity, and diet even after the program. Meanwhile, high compliance ($x = 2.52$, $SD \pm 0.29$) to therapeutic regimens was observed in the experimental group after the implementation of HELP. Hypertensive patients in the experimental group showed significant improvement and greater compliance with treatment ($x = 2.68$, $SD \pm 0.28$), medication ($x = 2.43$, $SD \pm 0.29$), activity ($x = 2.53$, $SD \pm 0.29$), and diet regimens ($x = 2.43$, $SD \pm 0.29$) after the intervention program.

Table 2. Compliance level to therapeutic regimens for hypertension after HELP

Key Health Strategies	Control Group			Experimental Group		
	Mean	SD	Compliance Level	Mean	SD	Compliance Level
1. Treatment compliance	2.25	0.39	Moderate	2.68	0.28	High
2. Medication compliance	2.19	0.40	Moderate	2.43	0.29	High
4. Activity compliance	2.19	0.41	Moderate	2.53	0.29	High
3. Diet compliance	1.99	0.40	Moderate	2.43	0.29	High
Average	2.16	0.40	Moderate Compliance	2.52	0.29	High Compliance

Legend: 1.00-1.66 implies Low Compliance; 1.67-2.33 means Moderate Compliance; and lastly 2.34-3.00 signifies High Compliance

Table 3 presents the test of significance for differences in compliance to therapeutic regimens among hypertensive patients before and after the implementation of the hypertension program. Paired t-test revealed a significant difference in the compliance level to treatment ($t = -2.402$, $p = 0.031$), medication ($t = -3.944$, $p = 0.001$), activity ($t = -2.414$, $p = 0.030$), and diet ($t = -3.742$, $p = 0.002$) among

hypertensive patients in the experimental group before and after the program. Thus, HELP is significantly effective in improving compliance and achieving better compliance with different therapeutic regimens for hypertension. However, findings revealed no significant difference in the compliance level to treatment ($t = -1.293$, $p = 0.217$), medication ($t = -0.758$, $p = 0.461$), activity ($t = -1.582$, $p = 0.136$), and diet ($t = -1.403$, $p = 0.182$) among hypertensive patients in the control group before and after the program.

Table 3: Compliance level to therapeutic regimens for hypertension before and after HELP

Therapeutic Regimens	Group	Mean	Mean Diff.	T-value	p-value*	Decision
Treatment Compliance	Pre-Control	2.03	-0.22	-1.293	0.217	Accept Ho
	Post-Control	2.25				
	Pre Experimental	2.44	-0.24	-2.402	0.031	Reject Ho
	Post-Experimental	2.68				
Medication Compliance	Pre-Control	2.13	-0.06	-0.758	0.461	Accept Ho
	Post-Control	2.19				
	Pre Experimental	2.25	-0.18	-3.944	0.001	Reject Ho
	Post-Experimental	2.43				
Activity Compliance	Pre-Control	2.00	-0.19	-1.582	0.136	Accept Ho
	Post-Control	2.19				
	Pre Experimental	2.13	-0.40	-2.414	0.030	Reject Ho
	Post-Experimental	2.53				
Diet Compliance	Pre-Control	1.76	-0.23	-1.403	0.182	Accept Ho
	Post-Control	1.99				
	Pre Experimental	1.95	-0.48	-3.742	0.002	Reject Ho
	Post-Experimental	2.43				

*Significant if p -value is less than 0.05.

4. DISCUSSION

The majority of the hypertensive patients, both in the control and experimental groups, had moderate compliance to therapeutic regimens before the implementation of HELP. Moderate compliance to the treatment regimen for hypertension indicates that a patient is partially compliant with their prescribed medications, treatment plan, and lifestyle recommendations. Suboptimal compliance is characterized by failure to begin pharmacotherapy, to persist on long-term therapy, and to take medications as frequently as ordered (2). Such compliance levels fall between, but they are not completely non-compliant, though not to the extent deemed optimal (12). Albeit better than low compliance, moderate compliance still falls short of optimal. Thus, suboptimal compliance

among cardiac patients poses multiple challenges. This can affect blood pressure control and overall clinical outcomes among hypertensive patients (13). Specifically, suboptimal compliance to antihypertensive medication is a major contributor to poor blood pressure control (14). Existing evidence suggests that poorer treatment compliance predicts a poorer prognosis for cardiovascular diseases (15). Also, inconsistent compliance can lead to less effective blood pressure reduction, significantly increasing the risk of cardiovascular events, increasing the risk of complications, and still representing a notable risk factor for adverse cardiovascular outcomes (13). Incomplete compliance is associated with poor clinical outcomes and can negatively impact healthcare resources by increasing hospitalization costs and unnecessary healthcare visits

(16). This necessitates the need for an intervention program to improve treatment compliance among hypertensive patients. Cardiac patients require behavioral interventions to control disease symptoms and prevent disease progression (15). Further extraordinary efforts to improve compliance to antihypertensive therapy are urgently needed (17).

High compliance to therapeutic regimens was observed in the experimental group after the implementation of HELP program, compared with the control group, which showed only moderate adherence. Compliance is an active choice of patients to follow through and take responsibility for the prescribed treatment. It is a more proactive, positive behavior resulting from a patient's lifestyle change. Compliance is when a person's behavior aligns with agreed-upon health recommendations from a provider, such as taking medication or following a diet (18). Compliance to long-term pharmacotherapy in chronic disease management is considered crucial for treatment success (4). Compliance to a medication regimen is key to managing cardiovascular diseases. Moreover, compliance to medication leads to better disease control, reduced patient visits to healthcare facilities, and ultimately improved disease prognosis. Improving compliance to treatment regimens among cardiac patients is essential. Medication regimens and lifestyle modifications are important components of the treatment protocol for cardiac patients (15).

There is a significant difference in the compliance level to treatment, medication, activity, and dietary regimens among hypertensive patients in the experimental group before and after HELP. A variety of community-based health programs and cognitive-behavioral interventions were proposed to improve treatment compliance and outcomes among hypertensive patients. Nurses can improve medical compliance by providing knowledge, explaining the benefits, providing patient education, and using treatment reminders (17). Nurses are in critical positions and must coordinate and integrate care to effectively deliver healthcare services (19; 20,21). The critical roles of nurses include awareness-raising, public advocacy, public campaigns, health literacy, and health education (22). Comprehensive lifestyle modifications are important non-pharmacological interventions and are recommended as primary and complementary treatments for chronic diseases in clinical practice (10). Such needs are important in the management of physical and medical care aspects (23). The adoption of structured and well-defined health protocols to meet educational opportunities and learning needs is vital (24, 25). Taking responsibility for oneself is the cornerstone of improving one's health. A high level of wellness among individuals can be attained through health-protecting behaviors, such as people's efforts to maintain their health, patients' compliance with medical treatments, and increased compliance to therapeutic regimens.

There is no significant difference in the compliance level to treatment, medication, activity, and dietary regimens

among hypertensive patients in the control group before and after HELP. A similar study in the Middle East has cited that the overall compliance to antihypertensive treatment was 42% among 189 hypertensive patients, which is characterized as suboptimal (17). Cardiac patients have a moderate and suboptimal level of treatment compliance. This means that a large proportion of patients derive only suboptimal benefit from their therapy (15). The suboptimal compliance is characterized by failure to begin pharmacotherapy, to persist on long-term therapy, and to take medications as frequently as ordered (2). This type of compliance is acknowledged as one of the key obstacles to enjoying the full impact of prescribed drugs. Patients' failure to adhere to the prescribed treatment regimen substantially reduces the effectiveness of many prescription medications and treatments (15). On the other hand, moderate compliance means possibly missing some doses, taking them at irregular intervals, some compliance to healthy lifestyle recommendations (physical activity, medication, and diet), and inconsistent effort to modify habits (26). The study shows a high prevalence of resistance among newly treated hypertensive patients (17). Not taking medication as prescribed is identified as an underlying factor in uncontrolled hypertension (2). This results in worse health outcomes with increased mortality and morbidity due to the relatively widespread problem of inadequate compliance to prescribed medications (15). There is no best-case scenario commonly used in clinical practice to precisely gauge the various aspects of compliance. Compliance to treatment is a complex phenomenon, and several barriers to compliance must be addressed at the healthcare system level (14). Detection of suboptimal compliance remains a major challenge for physicians and healthcare partners alike. Immediate attention to hypertension management has been noted in the latest policies as an urgent matter in addressing treatment compliance (2).

There are several limitations to this study. The selection of a single local community is the greatest limitation of the study which can limit the generalizability of these findings to populations with limited access to care and to other physicians. Also, the hypertensive patient population represented in our sample does not represent the entire population in general. Lastly, the study was taken over 12 weeks period which might not be too long enough to cause an effect in treatment compliance of the hypertensive patients as respondents of the study.

5. CONCLUSION

This Health Education and Lifestyle Program (HELP) was effective in improving compliance to therapeutic regimens among community-dwelling hypertensive patients. Thus, treatment compliance scores were statistically significant after the community-based nurse-led hypertension program. In general, the findings of the study have answered and supported the research objectives. The study can be done to multiple sites, different location, specific age groups and longitudinal

studies to promote generalizability of the study results. Also, using independent t-test, Wilcoxon signed rank test and Mann-Whitney U test may also be beneficial in determining significant difference in between control and experimental groups.

Acknowledgement

The authors would like to acknowledge the hypertensive patients from selected communities in Plaridel, Bulacan, who volunteered for this study. The authors would also like to express their gratitude to the translators and validators of the instruments used in the study. We are also grateful to the ethics review board of the College of Health Sciences of Mindanao State University for approving the study protocol.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could

REFERENCES

1. **World Health Organization.** First WHO Report Details Devastating Impact of Hypertension and Ways to Stop it. 2023. Available from: <https://www.who.int/news/item/19-09-2023-first-who-report-details-devastating-impact-of-hypertension-and-ways-to-stop-it>
2. **Burnier M, Egan BM.** Adherence in Hypertension. *Circulation Research – American Heart Association Journals.* 2019;124(7):1124-1140. DOI: 10.1161/CIRCRESAHA.118.313220.
3. **Alsifyani MA, Aloufi AO, Al-Qhtani NS, Bamansour SO, Almathkori RS.** Factors Related to Treatment Adherence among Hypertensive Patients: A Cross-Sectional Study in Primary Healthcare Centers in Taif City. *Journal of Family and Community Medicine.* 2022;29(3):181-188. DOI: 10.4103/2230-8229.374047.
4. **Al-Tarawneh F, Ali T, Al-Tarawneh A, Altwalbeh D, Gogazeh E, Bdair O, Algaralleh A.** Study of Adherence Level and the Relationship between Treatment Adherence, and Superstitious Thinking Related to Health Issues among Chronic Disease Patients in Southern Jordan: Cross-Sectional Study. *Patient Preference and Adherence.* 2023;17:605-614. DOI: 10.2147/PPA.S390997.
5. **Hugtenburg JG, Timmers L, Elders PJ, Vervloet M, van Dijk L.** Definitions, Variants, and Causes of Nonadherence with Medication: A Challenge for Tailored Interventions Patient Preference and Adherence. 2013;7:675-82. DOI: 10.2147/PPA.S29549.
6. **Dela Rosa JGL, Catral CDM, Reyes NA, Opiso DMS, Ong EP, Ornos EDB, Santos JR, Quebral EPB, Callanta MLJ, Oliva RV, Tantengco OAG.** Current Status of Hypertension Care and Management in the Philippines. *Diabetes & Metabolic Syndrome.* 2024;18(4):103008. DOI: 10.1016/j.dsx.2024.103008.
7. **Flint AC, Conell C, Ren X, Banki NM, Chan SL, Rao VA, Melles RB, Bhatt DL.** Effect of Systolic and Diastolic Blood Pressure on Cardiovascular Outcomes. *New England Journal of Medicine.* 2019;381(3):243-251. DOI: 10.1056/NEJMoa1803180.
8. **Ona DID, Jimeno CA, Jasul GV Jr, Bunyi MLE, Oliva R, Gonzalez-Santos LE.** Executive Summary of the 2020 Clinical Practice Guidelines for the Management of Hypertension in the Philippines. *Journal of Clinical Hypertension.* 2021;23(9):1637-1650. DOI: 10.1111/jch.14335.
9. **Charchar FJ, Prestes PR, Mills C, Ching SM, Neupane D, Marques FZ.** Lifestyle Management of Hypertension: International Society of Hypertension Position Paper Endorsed by the World Hypertension League and European Society of Hypertension. *Journal of Clinical Hypertension.* 2024;42(1):23-49. DOI: 10.1097/HJH.0000000000003563.
10. **Mejia PCG, Feliciano EE, Feliciano AZ, Sadang JM, Pangandaman HK, Garcia LL, Al-Noaemi MC, Abdelhafiz IM, Breboneria BL, ElRazkey JY, Albougami A, Lorica JD.** The Effectiveness of Health Education and Lifestyle Program in Improving the Blood Pressure of Hypertensive Patients. *International Journal of Advanced and Applied Sciences.* 2019;7(2):113-120. DOI: 10.21833/ijaas.2019.11.004
11. **Azizi Sani Dopolani SF, Shahbazi H, Lotfizadeh M, Naderimagham S.** The impact of educational intervention on enhancing the health literacy among middle-aged individuals at risk for cardiovascular diseases: a randomized controlled trial. *BMC Public Health.* 2025 Jul 3;25(1):2291. doi: 10.1186/s12889-025-23516-3. pmid: 40611120.
12. **Jo S, Um T, Shin J, Lee D, Park K, Son M.** Factors associated with suboptimal adherence to antihypertensive medication: Cross-sectional study using nationally representative databases. *Heliyon.* 2024 Sep 26;10(19):e38531. doi: 10.1016/j.heliyon.2024.e38531. PMID: 39391484
13. **Kim HJ, Kim BS, Kim H, Lee J, Shin JH, Sung KC.** Impact of blood pressure and medication adherence on clinical outcomes in patients with hypertension. *Frontiers in Medicine (Lausanne).* 2025 Apr 28;12:1564791. doi: 10.3389/fmed.2025.1564791. pmid: 40357275
14. **Poulter NR, Borghi C, Parati G, Pathak A, Toli D, Williams B, et al.** Medication adherence in hypertension. *Journal of Hypertension.* 2020 Apr;38(4):579-587. doi: 10.1097/HJH.0000000000002294. pmid: 31834123.

15. Mamaghani EA, Soleimani A, Zirak M. Trust in nurses and its association with medication adherence of cardiovascular patients: A descriptive correlational study. *International Journal of Nursing Studies Advances*. 2024;8:100278. doi: 10.1016/j.ijnsa.2024.100278.
16. **Hamrahian SM, Maarouf OH, Fülöp T.** A Critical Review of Medication Adherence in Hypertension: Barriers and Facilitators Clinicians Should Consider. *Patient Preference and Adherence*. 2022;16:2749-2757. DOI:10.2147/PPA.S368784
17. **Bhagavathula AS, Shah SM, Aburawi EH.** Medication Adherence and Treatment-Resistant Hypertension in Newly Treated Hypertensive Patients in the United Arab Emirates. *J Journal of Clinical Medicine*. 2021;10(21):5036. DOI: 10.3390/jcm10215036.
18. **Mir TH.** Adherence Versus Compliance. *HCA Healthcare Journal of Medicine*. 2023;4(2):219-220. DOI: 10.36518/2689-0216.1513.
19. **Sadang, JM, Mala ND, Mejia PCG, Othman A, Feliciano EE, ElRazkey JY, Gonzales FM, Tachavijitjaru C.** Preparedness of Rural Health Unit Nurses in Responding to Patients of Suspected Sexually Transmitted Infections in Lanao del Sur Province, Philippines. *International Journal of Advanced and Applied Sciences*. 2019;6(9):31-37. DOI: 10.21833/ijaas.2019.09.005
20. **Feliciano AZ, Feliciano EE, Feliciano JRD, Fernandez ZS, Mejia PCG, Diamla MRL, Devkota S, Boshra AY, Cabanayan MTS, Mallari MFM, Pelayo SRP, Si MC, Viray AB.** Philippine Professional Core Competencies' Impact on Nurses' Key Performance Indicators for Patient Safety Outcomes. *International Journal of Advanced and Applied Sciences*. 2019;7(1):1-5. DOI: 10.21833/ijaas.2020.01.001
21. **Mejia PCG, Breboneria, B JL, Pangandaman HK, Sadang JS, Hengnalen B, Calaycay JM, Mala ND, Estanislao AM, Diamla RL, Estanislao AM, Diamla RL, Penullar WS, Phumchasai P, Dijamco ME, Acedera LVC.** Student Nurses' Leadership and Management Competencies and Key Performance Indicators (KPIs) for Patient Safety Outcomes in Nakhon Pathom, Thailand. *International Journal of Advanced and Applied Sciences*. 2020;6(11):21-29. DOI: 10.21833/ijaas.2020.02.015
22. **Diamla MR, Mejia PCG, Breboneria B JL, Rajan JK, Lawi AJB, Mala ND, Isra SB, Manalundong JQ, Mukattil NP, Hayudini MAA.** Public Health Nurses' Demographic Factors and Level of Awareness as Determinants to Safe Vaccine Administration. *International Journal of Advanced and Applied Sciences*. 2020;7(6):103-109. DOI: 10.21833/ijaas.2020.06.013
23. **Macabago AM, Rajan JK, Breboneria B JL, Alsharyah HM, Mejia PCG, Belal S, Basher S, Calaycay JM, Macabago SAL, Estanislao AM, Macarambon RD, Feliciano EE.** The Socio-Demographic Profile and Coping Mechanisms of Inmates in Lanao Del Sur Province, Philippines. *International Journal of Advanced and Applied Sciences*. 2020;7(3):17-23. DOI: 10.21833/ijaas.2020.03.003
24. **Dahbi A, Breboneria B JL, Ali SHA, Mejia PCG, Cordero RP, Rosita A.** Effectiveness of Basic Trauma Nursing Management Course (BTNMC) in the Level of Knowledge Among Staff Nurses. *International Journal of Africa Nursing Sciences*. 2025;22:100839. DOI: 10.1016/j.ijans.2025.100839
25. **Cordero RP, Breboneria B JL, Sayson EJH, Martinez JT, Joksimovic D, Aslam M, Mejia PCG, Al Hmaimat N.** Perceived Implementation of Prehospital Emergency Care of Emergency Medical Services Personnel in the Philippines: A Sequential Explanatory Mixed-Method Design. *Open Access Emergency Medicine*. 2026;18:612905. DOI: 10.2147/OAEM.S2612905.
26. **Patel S, Huang M, Miliara S.** Understanding Treatment Adherence in Chronic Diseases: Challenges, Consequences, and Strategies for Improvement. *Journal of Clinical Medicine*. 2025;14(17):6034. DOI: 10.3390/jcm14176034.