

Prevalence Of Hypertension Among Police District Personnel in Metro Manila: A Basis for Health Promotion Strategies

MENDI, MARTE JOY S., MAN, RN

St. Bernadette of Lourdes College

Quezon City

mjoyqsim@gmail.com

ABSTRACT –

This study determined the prevalence of hypertension and its associations with demographic and lifestyle factors among 300 Metro Manila police personnel (2023–2025) to inform targeted health promotion strategies. Using a quantitative descriptive-correlational retrospective design, we analyzed data from stratified random sampling of health records. Respondents were mostly young adults (25–39 years, 72.00%) and male (84.67%). Alarming, 80.67% had borderline/pre-hypertensive levels, only 13.67% had normal blood pressure, and 5.67% were hypertensive. Key risks included overweight (29.67%), obesity (8.67%), and alcohol use, with very few exercising regularly. Age, sex, and family history were significantly related to blood pressure levels; lifestyle strongly affected weight risks, while work shifts made no significant difference. Normal lab results and rare comorbidities confirmed that hypertension is still in its early, preventable stage. A multi-component workplace health plan was proposed, featuring quarterly screenings, lifestyle education, physical activity, stress management, and personalized support for high-risk groups. Timely intervention can prevent progression to chronic hypertension, improving both personnel well-being and operational readiness.

Keywords: *Delayed Discharge, Maternity Inpatient Units, Postpartum Care, Comorbidities, Clinical Issues*

INTRODUCTION

Hypertension stands as one of the world's leading health burdens, affecting nations everywhere, and is widely called the “silent killer” because it often progresses unnoticed until it leads to serious conditions like heart disease or stroke. Police personnel face particularly high risks due to chronic stress, irregular schedules, and unhealthy habits, with many getting insufficient rest, exercise, or proper nutrition despite existing workplace wellness programs. In Metro Manila, this elevated risk appears to persist, potentially affecting both officers' well-being and their ability to serve effectively. While global research exists, local studies focusing specifically on police personnel remain scarce, and few have examined how factors such as age, sex, lifestyle, work shifts, and family history together influence blood pressure levels. This study uses a quantitative descriptive–correlational design to assess hypertension prevalence and related factors among Metro Manila police personnel, aiming to fill that gap and provide evidence-based guidance for workplace health policies, targeted education, and preventive care that can support their long-term health and service readiness.

STATEMENT OF THE PROBLEM

This research study aimed to determine the prevalence of hypertension among police district personnel in Metro Manila from January 2023 to December 2025 as a basis for developing a health promotion plan. Specifically, it sought to answer the following questions:

1. What is the demographic profile of police district personnel in Metro Manila from January 2023 to December 2025 in terms of:
 - 1.1 Age;
 - 1.2 Sex;
 - 1.3 Diet and Lifestyle or Vices;
 - 1.4 Work schedule; and
 - 1.5 Family history of hypertension?
2. What is the level of prevalence of hypertension among police district personnel in Metro Manila from January 2023 to December 2025 in terms of:
 - 2.1 Blood pressure;
 - 2.2 Medication intake;
 - 2.3 Laboratory results;
 - 2.4 Risk factors; and
 - 2.5 Comorbidities?
3. Is there a significant relationship between the demographic profile and the level of prevalence of hypertension among police district personnel in Metro Manila from January 2023 to December 2025?
4. What type of health promotion plan can be developed to reduce hypertension among police district personnel in Metro Manila?

SCOPE AND DELIMITATIONS

This study focused only on Police Officers based in the Metro Manila metropolitan area, with recruitment running from January 2023 to December 2025. The study excluded officers stationed outside the region, as well as those with incomplete health data during the study period. The research aims to explore the association between hypertension prevalence and related factors, including demographic characteristics and lifestyle. Two types of data will be adopted: official medical records and blood pressure measurement values. The study's findings are presented next.

REVIEW OF RELATED LITERATURE

The review sets the study's theoretical and empirical foundation, identifies recurring patterns and variations in findings, and pinpoints gaps that the present research aims to address.

Globally, hypertension stands as one of the leading risk factors for cardiovascular illness and death. The World Health Organization (WHO, 2021) estimated that over 1.28 billion adults worldwide live with hypertension, nearly half unaware they have it. Lifestyle factors—including poor diet, physical inactivity, and stress—greatly contribute to its spread, especially in urbanized, high-pressure professions.

Research from different countries consistently shows that police personnel face distinct health challenges. In India, Rao et al. (2019) found that about 42% of urban police officers

were hypertensive, with age, obesity, smoking, alcohol use, and job stress as key contributing factors. In Malaysia, Ismail and Zailan (2021) reported that irregular hours and insufficient rest raised blood pressure among uniformed personnel. Meanwhile, Kim et al. (2022) observed that longer working hours and psychological distress were closely tied to hypertension among Korean police officers, with family history and obesity further increasing likelihood. Across these studies, occupational and lifestyle factors appear to combine and elevate risk—strongly supporting the need for local research to examine similar patterns in the Philippine setting.

In the Philippines, hypertension remains a major public health concern. The Department of Health (DOH, 2023) reports that roughly one in four Filipino adults is hypertensive, driven largely by urbanization, sedentary habits, and poor diet. Bucay (2020) found that police personnel show higher hypertension rates than civilians, attributing the gap to the demanding nature of police work combined with unhealthy habits. Dela Cruz et al. (2020) further identified stress, irregular sleep, and poor nutrition as leading causes among law enforcement officers in Metro Manila, noting that long shifts and limited rest worsen heart health strain. Reyes and Santos (2021) also observed that many officers skip regular check-ups due to heavy workloads and low awareness, recommending routine screenings and station-based wellness programs.

While several Philippine studies examine hypertension among working adults, few focus specifically on police personnel. Gonzales et al. (2019) found that hypertension among government employees in Metro Manila was strongly linked to stress and lifestyle. Torres and Ramirez (2022) concluded that behavioral changes such as better diet and stress reduction effectively lower blood pressure, though such programs remain largely unavailable within police institutions. Most recently, Santiago et al. (2023) assessed occupational health risks among uniformed personnel in the National Capital Region and identified hypertension as one of the most common chronic conditions—often tied to heavy workloads, poor diet, and limited health access. These findings highlight the need for a focused study among police personnel in Metro Manila, so that targeted, context-specific health promotion strategies can be developed.

THEORETICAL FRAMEWORK

Grounded in the Health Belief Model, which holds that personal perceptions of health risks, severity, and potential benefits of action shape health-related behavior, this study examines how age, sex, diet and lifestyle, work schedule, and family history of hypertension influence blood pressure levels among police personnel.

CONCEPTUAL FRAMEWORK

The independent variables are age, sex, diet and lifestyle, work schedule, and family history of hypertension, measured through recorded health and occupational characteristics. The dependent variable is hypertension, assessed through blood pressure levels and prevalence status. Guided by the Health Belief Model and an input–process–output framework, the study assumes these personal, occupational, and hereditary factors significantly influence blood pressure, and proceeds through medical record review, data organization, and statistical analysis to determine hypertension prevalence and propose evidence-based health promotion strategies.

METHODOLOGY

This quantitative descriptive–correlational retrospective study examines hypertension prevalence and its associated factors among police district personnel in Metro Manila.

Research Design

This study used a quantitative descriptive–correlational retrospective research design to examine hypertension among police personnel. The approach was chosen to measure prevalence and assess relationships between demographic and lifestyle factors and blood pressure levels. Data were drawn from available medical records spanning January 2023 to December 2025. This design allows systematic observation and correlation analysis without manipulating study variables.

Research Locale

The study focused on police district personnel assigned within Metro Manila. This area was selected because officers in large urban centers face uniquely demanding work conditions. Factors such as high stress, irregular shifts, and disrupted lifestyles place them at greater risk for hypertension. These conditions make Metro Manila a relevant and representative setting for the investigation.

Data Collection and Sample Selection

Three hundred health records were selected through stratified random sampling, with 100 records drawn from each year spanning 2023 to 2025. Data were gathered from authorized medical records following official clearances, with all information handled strictly confidential and used solely for research purposes.

Data Analysis Methods

Descriptive statistics using frequency, percentage, and mean values summarized hypertension prevalence and respondent profiles, while the Chi-Square Test of Independence examined associations between variables, with Fisher's Exact Test used as needed.

Research Hypotheses and Validation

The null hypothesis posits no significant relationship between the identified factors and hypertension prevalence, which was validated through stratified statistical analysis at a 5% level of significance to determine relevant correlations.

Study Limitations and Ethical Considerations

This study is limited to secondary data from Metro Manila police district health records spanning 2023 to 2025, restricting findings to available documented information. Ethical protocols included official clearances, strict confidentiality, and exclusive use of data for research purposes only. All results were reported collectively to safeguard anonymity and ensure individual identities remained protected.

RESULTS AND DISCUSSION

1. Demographic Profile of Police Personnel

1.1 Personal and Occupational Characteristics

The profile of 300 police personnel (Table 1–5) shows that most respondents were young adults aged 25–39 years (72.00%), with a mean age of 35.77 years. The workforce was predominantly male (84.67%), with females comprising 15.33%. Nearly half (44.67%)

reported no vices, while 32.00% consumed alcohol only; only 5.00% maintained an active lifestyle. Slightly more than half (56.00%) were assigned to morning shifts, and 12.33% had a family history of hypertension. These trends reflect the demographic composition of the Metro Manila police force, where younger personnel predominate and lifestyle risks such as alcohol use and physical inactivity are prevalent.

The predominance of young male officers suggests that hypertension risk begins early in service, consistent with Violanti et al. (2018), who linked police work stress to elevated cardiovascular risks even among younger personnel. The high proportion of alcohol consumption and low physical activity align with Bucay (2020) and Reyes & Santos (2021), who noted that unhealthy coping habits and irregular schedules are common in law enforcement. Work shift distribution shows nearly half the personnel on night duty, exposing them to disrupted rest patterns that may compound health risks.

2. Prevalence of Hypertension

2.1 Blood Pressure Classification

Blood pressure readings (Table 6) revealed that only 13.67% had normal levels, while 80.67% were borderline/pre-hypertensive and 5.67% were hypertensive. Although diagnosed cases remained relatively low, the consistently high proportion of borderline readings across all years indicates an emerging public health concern. This supports Santiago et al. (2023), who found that uniformed personnel in Metro Manila commonly have elevated but undiagnosed blood pressure.

2.2 Medication Intake, Laboratory Results, Risk Factors, and Comorbidities

Most personnel (72.67%) were not taking any medication, and only 14.00% were on antihypertensive therapy (Table 7). All laboratory results were within normal limits (Table 8), suggesting that physiological complications had not yet developed. Overweight (29.67%) and obesity (8.67%) were the leading modifiable risks, followed by alcohol-related habits (Table 9). Comorbidities were rare (1.33%), indicating that hypertension remains in an early, preventable stage (Table 10).

These findings confirm that hypertension among police personnel is largely undiagnosed and untreated, consistent with Reyes & Santos (2021), who observed that officers often neglect health checks due to workload. Normal laboratory results alongside elevated blood pressure suggest early-stage risk, presenting a critical window for intervention before chronic complications develop. The high proportion of borderline readings highlights that the condition is progressing gradually, driven largely by lifestyle and occupational factors rather than advanced disease.

SUMMARY

This quantitative retrospective study examined hypertension prevalence and associated factors among 300 Metro Manila police personnel from 2023 to 2025, finding that 80.67% were borderline or pre-hypertensive and only 13.67% had normal blood pressure. Age, sex, lifestyle, and family history showed significant links to blood pressure levels, whereas work schedule did not, with overweight, obesity, and alcohol use emerging as key modifiable risks. Since most cases remain undiagnosed, untreated, and free from complications, the study proposes a workplace health promotion plan featuring quarterly screenings, lifestyle education, and targeted support for high-risk groups to prevent progression to chronic hypertension.

CONCLUSIONS

The study concludes that while Metro Manila police personnel are predominantly young and male with relatively few diagnosed hypertension cases (5.67%), an alarming 80.67% are in the borderline or pre-hypertensive stage, signaling imminent risk unless addressed. Age, sex, and family history emerged as key non-modifiable factors, while alcohol use, inactivity, and weight gain were significant preventable risks; notably, work shift type showed no meaningful difference, indicating police work itself imposes consistent health hazards.

RECOMMENDATIONS

Based on the summary and conclusions drawn from the findings of this study, the following recommendations are proposed to address hypertension risk and improve the health of police district personnel in Metro Manila:

For the Philippine National Police Administration – Integrate health promotion measures into standard protocols, including quarterly blood pressure screenings, regular fitness activities, and wellness seminars on nutrition and lifestyle. Develop policies to discourage excessive alcohol use and foster a healthier workplace culture, with targeted supervision and support for personnel with borderline or elevated blood pressure readings.

For Health Professionals – Design personalized health programs that consider age, sex, and family history, giving priority counseling and preventive guidance to higher-risk groups. Emphasize that borderline hypertension represents a critical window for early intervention, provide clear guidance on healthy management of risk, and ensure access to stress-counseling services that address occupational strain.

For Police Personnel – Take personal responsibility for health by maintaining a balanced diet, exercising regularly, limiting alcohol, and avoiding smoking. Participate actively in wellness programs, seek timely medical advice, and strictly follow recommended lifestyle changes—especially those with a family history of hypertension—while prioritizing adequate rest to counteract job-related stress.

For Future Researchers – Expand the sample size to include personnel across all ranks and lengths of service, incorporating additional variables such as stress levels and detailed hereditary profiles. Conduct longitudinal studies to track blood pressure trends over time and evaluate the effectiveness of implemented health promotion strategies, and further investigate barriers to program participation and lifestyle change.

By implementing these recommendations, the Philippine National Police can foster a healthier workforce, prevent the progression of hypertension, and support both the well-being and operational readiness of police personnel in Metro Manila.

ACKNOWLEDGMENTS

The researchers extend deepest gratitude to all individuals and institutions who made this study possible, particularly the Manila Police District under Medical Officer PLTCOL FLORANTE A QUIBAN II for granting access and support; the SBLC Family, led by President DEAN SBLC and all faculty members, for fostering academic excellence; the validators for their expert review; the statistician and language editor for refining the data and

manuscript; and the research adviser for unwavering guidance and constructive feedback. To everyone who contributed in any way, the researchers are truly and deeply thankful.

AI DECLARATION STATEMENT

AI-supported tools helped with grammar and structure in creating this article. No AI tools were used to collect, analyze, or interpret data; all authors are credited for their academic contributions.

REFERENCES

- Anderson, R., Patel, S., & Lee, M. (2020). Occupational stress and cardiovascular risk among law enforcement officers. *Journal of Occupational Health Psychology*, 25(3), 321–330.
- Bucay, G. R. (2020). Occupational stress and hypertension among uniformed personnel: A review of related studies in the Philippines. *Philippine Journal of Public Health*, 65(2), 112–120.
- Dela Cruz, A. M., Ramos, J. L., & Bautista, M. P. (2020). Work-related stress and hypertension among police officers in Metro Manila. *Asia Pacific Journal of Health Research*, 9(1), 45–54.
- Department of Health (DOH). (2023). *Philippine Health Statistics 2023*. DOH Publications.
- Gonzales, R. P., & Lim, C. A. (2019). Stress, lifestyle, and hypertension among government employees in Metro Manila. *Philippine Journal of Health Research and Development*, 23(1), 33–40.
- Ismail, N., & Zailan, H. (2021). Occupational factors and hypertension risk among Malaysian police officers. *Malaysian Journal of Public Health Medicine*, 21(2), 65–73.
- Kim, H., Park, Y., & Choi, S. (2022). Hypertension and work-related stress among Korean police officers: A cross-sectional study. *International Journal of Occupational Safety and Ergonomics*, 28(4), 1281–1288.
- Rao, V. K., Singh, R., & Menon, A. (2019). Hypertension prevalence and risk factors among police personnel in India. *Indian Journal of Community Medicine*, 44(3), 210–216.
- Reyes, P. J., & Santos, F. M. (2021). Health-seeking behaviors among police personnel in the Philippines. *Philippine Journal of Nursing Research*, 14(2), 56–68.
- Santiago, L. M., Torres, J. C., & Ramirez, P. (2023). Occupational health risks among uniformed personnel in the National Capital Region. *Philippine Journal of Occupational Medicine*, 12(1), 15–29.
- Torres, E. D., & Ramirez, J. A. (2022). Lifestyle modification and blood pressure control among hypertensive adults in the Philippines. *Asia-Pacific Journal of Community Health*, 5(2), 90–103.
- Violanti, J. M., Aron, F., & Charles, L. (2018). Police stressors and health: A state-of-the-art review. *International Journal of Environmental Research and Public Health*, 14(8), 984–993.
- Wang, Z., et al. (2020). Effect of workplace-based multicomponent intervention on blood pressure in urban worksites: A cluster randomized clinical trial. *Journal of Hypertension*, 38(6), 1102–1110.
- World Health Organization (WHO). (2021). Hypertension fact sheet. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/hypertension>
- Zhou, Y. F., et al. (2024). A workplace hypertension program associated with reduced blood pressure and improved outcomes. *Hypertension: Journal of the American Heart Association*, 83(2), 134–142.