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Lifestyle Disease Risk Assessment of Centro Escolar University Community Outreach Department Beneficiaries from Claro M. Recto High School

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Abstract

Non-communicable diseases remain a major public health concern because many of their risk factors are associated with modifiable lifestyle practices, including diet, physical inactivity, alcohol use, smoking exposure, stress, and poor health monitoring. This study assessed the lifestyle disease risk of teachers from Claro M. Recto High School, Manila, who are beneficiaries of the Centro Escolar University Community Outreach Department. A descriptive quantitative research design was used. Data were gathered from 59 teacher-respondents through the Department of Health Integrated Non-Communicable Disease Risk Assessment Form, supplemented by screening examinations that included anthropometric measurements, blood pressure measurement, and fasting or random capillary blood glucose determination. Descriptive statistics, particularly frequency, percentage, and rank, were used to summarize and interpret the data. Findings showed several risk-related conditions among the respondents, including hypertension, family history of hypertension and diabetes, frequent consumption of oily, sweet, and salty foods, alcohol intake, lack of regular exercise, exposure to cigarette smoke, stress, obesity, prehypertensive blood pressure, and elevated fasting glucose among selected respondents. Overall, 41 respondents, or 69%, were classified as having moderate risk for lifestyle disease, while 10 respondents, or 17%, were classified as high risk, and 8 respondents, or 14%, were classified as low risk. The findings indicate the need for targeted lifestyle modification activities, particularly nutrition education, physical activity promotion, alcohol reduction, secondhand smoke avoidance, and stress management. The study provides practical evidence for community-based health promotion planning among school personnel.

Keywords: *Lifestyle disease; non-communicable disease; risk assessment; teachers' health; lifestyle modification; community health promotion*

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1. Introduction

Non-communicable diseases remain among the most persistent public health concerns globally because they are associated with long-term biological, behavioral, and environmental risk factors. These conditions, commonly referred to in community health contexts as lifestyle diseases, include cardiovascular diseases, diabetes mellitus, chronic respiratory diseases, cancers, hypertension-related complications, and other chronic conditions that may be aggravated by unhealthy diet, physical inactivity, tobacco exposure, excessive alcohol intake, unmanaged stress, and poor preventive health practices (Ahmed et al., 2019; WHO, 2022).

The burden of non-communicable diseases is especially relevant in preventive and community-based health work. Health promotion cannot be effectively planned without first identifying the specific risks present among the target population. Risk assessment therefore serves as a preliminary step in determining health vulnerabilities, classifying risk, and designing interventions that address actual rather than presumed needs. In this context, lifestyle disease risk assessment is useful because it links self-reported health and lifestyle information with measurable screening indicators such as body mass index, waist-hip ratio, blood pressure, and blood glucose concentration.

Teachers constitute an important occupational group for lifestyle disease risk assessment. Their work involves sustained cognitive, emotional, and administrative demands, often accompanied by prolonged sitting, irregular eating patterns, work-related stress, limited time for physical activity, and delayed personal health monitoring. Since teachers perform a critical role in the continuity and quality of education, their health status has implications not only for personal well-being but also for institutional functioning (Burroughs et al., 2019).

Within this concern, the Centro Escolar University Community Outreach Department identified Claro M. Recto High School in Legarda, Manila as a community setting where lifestyle disease risk assessment could serve both health promotion and outreach planning functions. The original study focused on teachers of the school and examined their risk profile using medical history, family history, lifestyle practices, and screening examination results. The study was not designed to establish causation, but to describe the level and pattern of risk among the teacher-respondents. This descriptive orientation is appropriate for community health assessment because its main value lies in identifying risk concentrations and translating findings into feasible health education and lifestyle modification activities.

The study is significant because it offers localized evidence on lifestyle disease risk among teachers in a specific school-community outreach context. Rather than relying on broad national or global data alone, the study provides direct information about the respondents' health-related behaviors and screening outcomes. Such information may assist the CEU Community Outreach Department in designing nutrition education, physical activity promotion, alcohol reduction guidance, secondhand smoke avoidance strategies, stress management activities, and periodic monitoring initiatives. It may also support nursing students, health educators, and future researchers in developing similar community-based assessment and intervention models.

This study aimed to determine the percentage risk for lifestyle disease of teachers from Claro M. Recto High School, Legarda, Manila, as a basis for lifestyle modification. Specifically, it sought to: (1) assess the respondents' lifestyle disease risk based on medical history, family history of lifestyle diseases, nutrition, alcohol consumption, exercise, smoking, and stress; (2) assess the respondents' lifestyle disease risk based on screening examination results, including anthropometric measurements, blood pressure, and fasting or random capillary blood glucose; (3) determine the respondents' overall percentage risk for lifestyle disease; and (4) identify lifestyle modification activities that may be proposed based on the results of the lifestyle disease risk assessment.

2. Review of Related Literature

2.1 Lifestyle Diseases and Modifiable Risk Factors

Lifestyle diseases are commonly discussed within the broader category of non-communicable diseases, which include cardiovascular diseases, diabetes mellitus, chronic respiratory diseases, cancers, and related chronic health conditions. These diseases develop through the interaction of genetic, physiological, environmental, and behavioral factors, but many of their risks are strongly connected to modifiable lifestyle practices such as poor diet, physical inactivity, smoking, excessive alcohol intake, and obesity (Ahmed et al., 2019; WHO, 2022). The global and local relevance of non-communicable diseases makes lifestyle assessment important in preventive health work, particularly when community-based interventions are being planned.

The literature indicates that unhealthy lifestyle patterns increase vulnerability to chronic disease. Patel et al. (2018), for example, associated adherence to healthy lifestyle factors with lower mortality risk among men with diabetes mellitus. Similarly, Li et al. (2020) found that healthier lifestyle patterns were associated with longer life

expectancy free from cancer, cardiovascular disease, and type 2 diabetes. These findings support the assumption that behavioral risks are not merely peripheral concerns but central elements in chronic disease prevention. In the Philippine context, dietary patterns, smoking, alcohol use, obesity, and physical inactivity remain relevant because these behaviors contribute to the continuing public health burden of non-communicable diseases (Angeles-Agdeppa & Custodio, 2020; Angeles-Agdeppa et al., 2020). Comparable lifestyle-risk patterns have been observed in academic health contexts, where BMI, alcohol intake, sleep, activity, screen exposure, and snacking were associated with distress and burnout-related indicators, suggesting that behavioral routines may cluster with psychosocial strain in education-linked settings (Quinto et al., 2025).

2.2 Lifestyle Risk Assessment and Screening Indicators

Risk assessment is central to preventive health practice because it identifies individuals or groups who may require early intervention, health education, monitoring, or referral. In lifestyle disease prevention, assessment commonly combines self-reported information with measurable health indicators. The present study follows this logic by using the Department of Health Integrated Non-Communicable Disease Risk Assessment Form together with screening indicators such as body mass index, waist-hip ratio, blood pressure, and fasting or random blood glucose concentration (Department of Health, 2012).

Several studies support the relevance of these indicators. Body measurements are widely used in the evaluation of nutritional status, obesity, and possible disease risk (Casadei & Kiel, 2023; Mohajan & Mohajan, 2023). Blood pressure assessment is also important because hypertension is closely associated with cardiovascular disease risk and other chronic health complications (Lloyd-Jones et al., 2019). Blood glucose monitoring is likewise important in identifying possible diabetes-related risk, particularly when combined with other indicators such as obesity, family history, diet, and inactivity (Mathew et al., 2023). These screening measures are especially useful in community health contexts because they are relatively accessible, interpretable, and actionable. From a health-analytics perspective, localized screening data become more useful when they are translated into decision quality and coordinated program responses rather than remaining as isolated descriptive findings (Atento et al., 2025).

2.3 Teachers as an Occupational Group for Lifestyle Disease Risk Assessment

Teachers represent an important population for lifestyle disease risk assessment because their work involves sustained intellectual, emotional, and administrative labor. Their role in student learning is well established, with teachers recognized as a major school-based factor influencing educational outcomes (Burroughs et al., 2019). However, teaching work can also involve prolonged sitting, high workload, limited time for exercise, irregular health monitoring, and stress. These conditions may increase vulnerability to lifestyle-related risk factors when health-promoting routines are not sustained.

Existing studies cited in the original manuscript indicate that teachers and school personnel may experience health risks related to blood pressure, diabetes, obesity, and occupational stress. Baklouti et al. (2021) reported a burden of high blood pressure among school teachers and emphasized the value of periodic screening. Rivera (2018), in the Philippine setting, identified hypertension, hypercholesterolemia, diabetes, obesity, and other lifestyle diseases as conditions affecting teaching and non-teaching personnel, with stress, poor diet, lack of physical activity, infrequent check-ups, and substance use identified as contributing factors. These findings justify the present study's focus on teachers as a relevant group for community-based lifestyle disease risk assessment. Related work in Philippine health professions education suggests that academic environments may generate interconnected pressures involving workload, burnout, resource constraints, and psychosocial well-being, making occupational context relevant in interpreting health-risk patterns among education personnel (Bermido et al., 2025).

2.4 Lifestyle Modification and Health Promotion Interventions

Lifestyle modification is a key strategy in reducing non-communicable disease risk because many risk factors are behavioral and therefore potentially modifiable. The reviewed literature supports interventions that address diet, physical activity, alcohol intake, smoking exposure, stress management, and preventive health monitoring. Lifestyle

modification programs may be implemented in clinical, community, and workplace settings, depending on the needs of the population and the available institutional resources (Halcomb et al., 2021; Yap et al., 2021).

Nutrition education is particularly important because dietary practices influence obesity, blood pressure, glucose regulation, and cardiometabolic risk. Begley et al. (2019) emphasized the value of food literacy programs in improving food-related knowledge and practices. Physical activity is also consistently associated with chronic disease prevention, while inactivity increases the likelihood of adverse health outcomes (Santos et al., 2022). Smoking and secondhand smoke exposure require attention because of their association with cardiovascular, respiratory, and cancer-related risks (Khoramdad et al., 2019; Kress et al., 2023). Stress management is also relevant to teacher health because work-related stress may affect well-being and health behavior. Cognitive-behavioral approaches and related stress management strategies have been used to improve coping and mental health outcomes (Nakao et al., 2021). Collectively, these studies support the use of targeted lifestyle modification activities after a risk assessment has identified the major risk areas. Community health studies similarly show that preventive behavior depends not only on awareness but also on attitude formation and enabling supports, reinforcing the need for localized and practical health-promotion strategies (Temporada et al., 2025). Low-cost self-monitoring tools, including digital sleep diaries, may also support wellness awareness when paired with workload-sensitive interventions and broader behavioral supports (San Juan et al., 2026).

2.5 Synthesis and Literature Gaps

The reviewed literature shows that non-communicable diseases are strongly associated with modifiable lifestyle factors, including unhealthy diet, physical inactivity, alcohol intake, smoking exposure, obesity, hypertension, and poor glucose regulation (Li et al., 2020; Ng et al., 2019; WHO, 2022). It also establishes the value of risk assessment as a practical preventive health tool because screening indicators can identify individuals who may benefit from early intervention, counseling, referral, or structured lifestyle modification (Casadei & Kiel, 2023; Lloyd-Jones et al., 2019; Mathew et al., 2023). At a broader policy level, nutrition and health outcomes may also reflect the interaction of labor conditions, household support systems, and socioeconomic structures, indicating that lifestyle modification should be read alongside institutional and social contexts (Quinto & Atento, 2025).

However, the literature remains relatively limited when narrowed to school-based teacher populations in localized Philippine community outreach settings. Existing studies discuss teacher health, occupational stress, and lifestyle disease risks, but fewer studies directly connect these risks with an institutional outreach mechanism that can translate findings into community-based lifestyle modification activities. The present study responds to this gap by assessing the lifestyle disease risk profile of teachers from Claro M. Recto High School using a Department of Health risk assessment form and screening measures. Its contribution lies not in causal testing but in generating localized descriptive evidence that can guide health promotion planning for a specific school-community beneficiary group.

3. Methodology

3.1 Research Design

This study employed a descriptive quantitative research design to assess the lifestyle disease risk of teachers from Claro M. Recto High School, Legarda, Manila. The design was appropriate because the study aimed to describe the respondents' risk profile based on medical history, family history, lifestyle-related behaviors, and selected screening examination results rather than test causal relationships or intervention effects.

3.2 Research Setting

The study was conducted at Claro M. Recto High School, located in Legarda, Sampaloc, Manila. The school is one of the adopted communities of the Centro Escolar University Community Outreach Department. The assessment was implemented as part of a community health-related outreach activity involving the School of Nursing.

3.3 Respondents of the Study

The target population consisted of 83 teachers of Claro M. Recto High School during the academic year 2023-2024. The respondents were high school teachers with teaching loads who were willing to participate and who signed the informed consent form. Teachers who were on leave, had no teaching load, declined participation, withdrew from the study, refused any part of the procedure, or failed to complete the required information were excluded or withdrawn from the study. A total of 59 teachers participated in the final assessment. The original sample size target was 66 teachers based on a 95% confidence level and 5% margin of error. The final number of 59 respondents represented approximately 89% of the target sample and yielded a 95% confidence level with an estimated 7% margin of error.

3.4 Sampling Technique

The study used convenience sampling. This was appropriate because participation depended on the willingness and availability of teachers during the scheduled data collection period. Some teachers did not participate because they had recently undergone annual medical examination or did not wish to undergo capillary blood glucose testing.

3.5 Research Instrument and Measures

The primary data-gathering instrument was the Department of Health Integrated Non-Communicable Disease Risk Assessment Form. The instrument collected information on demographic profile, medical history, chest pain symptoms, family history of lifestyle diseases, nutrition, alcohol consumption, physical activity, smoking status, secondhand smoke exposure, stress experience, and related lifestyle risk factors. The risk assessment was supplemented by screening examinations, including anthropometric measurement, blood pressure measurement, and capillary blood glucose determination. Anthropometric measures included weight, height, body mass index, waist circumference, hip circumference, and waist-hip ratio. Blood pressure was classified using categories reflected in the DOH risk assessment form. Blood glucose was assessed using either fasting or random capillary blood glucose measurement, depending on the respondents' availability and fasting status. The overall percentage risk for lifestyle disease was categorized as low risk, moderate risk, or high risk based on the risk interpretation adopted from the Philippine Package of Essential Non-Communicable Disease Interventions (WHO, 2020).

3.6 Data Gathering Procedure

Before data collection, the researchers secured permission from the school principal of Claro M. Recto High School and coordinated with the CEU Community Outreach Department. The researchers then met with potential respondents, explained the purpose and procedures of the study, obtained informed consent, and scheduled data collection at times convenient to the teachers. Data collection was conducted on November 22, November 29, and December 12, 2023. The respondents first provided demographic and lifestyle-related information through the DOH Integrated NCD Risk Assessment Form. The researchers then obtained anthropometric measurements and blood pressure readings. Capillary blood glucose testing was conducted using either fasting or random blood glucose procedures, depending on whether the respondent had fasted. The procedures were supervised by a clinical instructor to reduce procedural risk and ensure proper conduct of the screening activity.

3.7 Data Analysis

The data were organized, tallied, tabulated, and interpreted using descriptive statistics. Frequency, percentage, and rank were used to summarize the respondents' demographic characteristics, medical and family history, lifestyle risk factors, screening results, and overall percentage risk classification for lifestyle disease. No inferential statistical analysis was conducted.

3.8 Ethical Considerations

The study observed informed consent, voluntary participation, confidentiality, and risk minimization procedures. Respondents were informed about the purpose of the study, the procedures involved, the expected duration of participation, and their right to withdraw. Identifying information was kept confidential and was not used in the reporting of results. The researchers also identified possible procedural risks associated with capillary blood glucose testing, blood pressure measurement, and anthropometric assessment, and implemented precautions such as the use

of sterile materials, supervision by a clinical instructor, availability of first-aid support, and referral measures in case of untoward incidents.

4. Results and Discussion

This section presents the findings from the lifestyle disease risk assessment conducted among 59 teachers of Claro M. Recto High School. The original thesis results were compressed into journal-style tables, with redundant and overly detailed descriptive tables consolidated while retaining the actual findings.

4.1 Profile of the Respondents

The study included 59 teacher-respondents. Most were female, comprising 40 respondents or 68%, while 19 respondents or 32% were male. In terms of age, 27 respondents were between 26 and 40 years old, 26 were between 41 and 55 years old, and 6 were 56 years old and above. Most respondents were married, with 36 respondents or 61%, while 22 or 37% were single and 1 or 2% was widowed. The profile suggests that the respondents were largely working-age adults, making the assessment relevant for identifying modifiable lifestyle and metabolic risk factors before more severe chronic disease outcomes develop.

4.2 Medical, Family, and Lifestyle-Related Risk Factors

Table 1 summarizes the major medical, family, and lifestyle-related risk factors identified among the respondents. The findings show that lifestyle disease risk was not concentrated in only one area. Instead, risks appeared across multiple domains, particularly family history, diet, exercise, stress, and body-related screening indicators.

Table 1. Key Medical, Family, and Lifestyle-Related Risk Factors among Respondents

Risk Factor Category	Key Finding	Frequency	Percentage
Medical history	Hypertension	7	12%
Medical history	Reported chest pain	7	12%
Medical history	Diabetes mellitus	3	5%
Family history	Hypertension	35	59%
Family history	Diabetes	19	32%
Family history	Heart disease	11	19%
Daily diet	Meat consumption	42	71%
Daily diet	Vegetable consumption	42	71%
Daily diet	Fruit consumption	39	66%
Daily diet	Fish consumption	38	64%
Daily diet	Processed food consumption	16	27%
Food consumed more than twice weekly	Oily foods	40	68%
Food consumed more than twice weekly	Sweet foods	35	59%
Food consumed more than twice weekly	Salty foods	31	52%
Alcohol consumption	Alcohol drinkers	22	37%
Exercise	No regular exercise	33	56%
Smoking exposure	Exposed to cigarette smoke despite not smoking	13	22%
Stress	Often or always stressed	33	56%
Stress source	Work-related stress among stressed respondents	27 of 33	82%

The findings indicate that the most prominent non-modifiable risk factor was family history of hypertension, reported by 35 respondents or 59%. Family history of diabetes and heart disease also appeared among a notable proportion of the respondents. These results suggest that several teachers may already have inherited or familial predispositions that require closer lifestyle monitoring.

The most visible modifiable risks were dietary pattern, lack of exercise, and stress. Although many respondents reported consuming vegetables, fruits, and fish, more than half also consumed oily, sweet, and salty foods more than twice weekly. This pattern indicates a mixed dietary profile, where the presence of healthy food items does not necessarily eliminate risk if high-risk food consumption remains frequent.

Physical inactivity was also a major concern, with 33 respondents or 56% reporting no regular exercise. This is particularly important because physical inactivity, excess weight, and poor dietary habits often interact in increasing the risk of hypertension, diabetes, cardiovascular disease, and other non-communicable diseases. Stress was similarly prominent, with 33 respondents or 56% reporting that they were often or always stressed. Among them, 27 respondents or 82% identified work as the main source of stress, indicating the importance of considering occupational conditions in designing lifestyle modification activities for teachers.

4.3 Screening Examination Results

Table 2 presents the major screening results based on anthropometric measurements, waist-hip ratio, blood pressure, and capillary blood glucose determination. These findings provide measurable confirmation of several lifestyle disease risk indicators.

Table 2. Risk Screening Examination Results among Respondents

Screening Indicator	Classification / Result	Frequency	Percentage
Body Mass Index	Underweight	3	5%
Body Mass Index	Normal	16	27%
Body Mass Index	Overweight	9	15%
Body Mass Index	Obese	31	53%
Waist-Hip Ratio, male respondents	At risk	4 of 19	21%
Waist-Hip Ratio, female respondents	At risk	22 of 40	55%
Blood pressure	Normal	37	63%
Blood pressure	Prehypertension	21	36%
Blood pressure	Stage 1 hypertension	1	1%
Blood glucose	Normal fasting blood glucose	9	15%
Blood glucose	Elevated fasting glucose	3	5%
Blood glucose	Normal random blood glucose	47	80%
Blood glucose	Abnormal random blood glucose	0	0%

The BMI results show that 31 respondents or 53% were classified as obese, while another 9 respondents or 15% were overweight. This means that 40 respondents or 68% exceeded the normal BMI range. This is one of the strongest findings of the study because obesity and overweight status are widely recognized as important metabolic and cardiometabolic risk indicators.

The waist-hip ratio results further reinforce this concern, especially among female respondents. Twenty-two of 40 female respondents, or 55%, were classified as at risk based on waist-hip ratio. Among male respondents, 4 of 19 or 21% were classified as at risk. This suggests that central adiposity may be a relevant concern, particularly among female teachers.

Blood pressure results showed that 37 respondents or 63% had normal blood pressure, while 21 respondents or 36% were classified as prehypertensive. One respondent or 1% was classified as having Stage 1 hypertension based on the recorded blood pressure reading. Although the majority had normal readings, the proportion of prehypertensive respondents remains important because prehypertension may indicate elevated future cardiovascular risk if lifestyle practices remain unchanged.

For blood glucose, 12 respondents underwent fasting blood glucose testing, while 47 underwent random blood glucose testing. Three respondents were reported to have elevated fasting glucose, while all respondents assessed through random blood glucose had normal results. This finding indicates that glucose-related risk was less widespread than obesity and prehypertension, but still present among a small subset of respondents.

4.4 Overall Percentage Risk for Lifestyle Disease

Table 3 presents the respondents' overall percentage risk classification for lifestyle disease. The classification was based on the risk interpretation adopted from the Philippine Package of Essential Non-Communicable Disease Interventions and the DOH Integrated NCD Risk Assessment Form.

Table 3. Overall Percentage Risk for Lifestyle Disease among Respondents

Risk Classification	Frequency	Percentage
Low risk	8	14%
Moderate risk	41	69%
High risk	10	17%
Total	59	100%

The results show that most respondents were classified as having moderate risk for lifestyle disease. Specifically, 41 respondents or 69% were at moderate risk, while 10 respondents or 17% were at high risk. Only 8 respondents or 14% were classified as low risk. This finding indicates that although not all respondents had diagnosed lifestyle diseases, most already had identifiable risk factors that may require lifestyle modification, monitoring, or preventive intervention.

The overall risk classification is consistent with the pattern observed in the preceding results. Family history of hypertension, frequent consumption of oily, sweet, and salty foods, lack of regular exercise, obesity, prehypertension, alcohol consumption, stress, and secondhand smoke exposure collectively explain why the moderate-risk category was dominant. The high-risk group, though smaller, remains important because it represents respondents who may already require more active health monitoring or referral.

4.5 Proposed Lifestyle Modification Activities Based on the Findings

Based on the risk assessment results, the original study proposed five lifestyle modification areas: nutrition education, alcohol reduction, exercise promotion, secondhand smoke exposure reduction, and stress management. These proposed activities are aligned with the dominant risk areas identified in the study.

Nutrition education is justified by the high proportion of respondents consuming oily, sweet, and salty foods more than twice weekly. Exercise promotion is supported by the finding that 56% of respondents had no regular exercise and that 68% were either overweight or obese. Alcohol reduction is relevant because 37% of respondents consumed alcoholic beverages. Secondhand smoke exposure reduction is justified by the 22% of non-smoking respondents who were still exposed to cigarette smoke. Stress management is also necessary because 56% reported being often or always stressed, with work identified as the main source by most stressed respondents.

4.6 Discussion

The findings suggest that lifestyle disease risk among the teacher-respondents was multi-factorial rather than isolated. The most important pattern is the convergence of behavioral, familial, and screening-based risk indicators. Family history of hypertension, obesity, prehypertension, unhealthy food consumption, lack of regular exercise, and work-related stress jointly explain why most respondents were classified as being at moderate risk for lifestyle disease.

The dietary results are particularly important because they reveal a dual pattern. Many respondents consumed vegetables, fruits, and fish, but many also consumed oily, sweet, and salty foods more than twice weekly. This suggests that health promotion should not merely encourage the addition of healthy food items but should also address the frequency and quantity of high-risk food consumption. This aligns with literature emphasizing diet as a modifiable determinant of cardiometabolic and non-communicable disease risk (Angeles-Agdeppa & Custodio, 2020; Schwingshackl et al., 2018; Yu et al., 2018).

The physical activity and BMI findings are also strongly connected. More than half of the respondents had no regular exercise, while more than half were classified as obese. This relationship should not be interpreted causally because the study used a descriptive design, but the co-occurrence of inactivity and excess body weight is consistent with existing literature on lifestyle-related chronic disease risk (Li et al., 2020; Ng et al., 2019; Santos et al., 2022). For a teacher population, this may reflect occupational routines involving prolonged sitting, time constraints, workload, and limited structured wellness opportunities.

The blood pressure findings indicate that a substantial proportion of respondents were already in the prehypertensive range. Although only one respondent was classified under Stage 1 hypertension based on screening, the presence of 21 prehypertensive respondents suggests a need for early preventive action. Blood pressure screening is therefore important not only for identifying diagnosed hypertension but also for detecting respondents who may benefit from lifestyle modification before disease progression occurs (Lloyd-Jones et al., 2019).

The stress findings also have occupational significance. Work-related stress was the leading source of stress among respondents who reported being often or always stressed. While stress alone does not determine lifestyle disease risk, it can influence health behavior, including eating patterns, sleep quality, exercise consistency, alcohol use, and adherence to health monitoring. This makes stress management a necessary component of any lifestyle modification plan for teachers.

Overall, the study's main contribution is its localized community health evidence. It does not claim causal relationships or generalize to all teachers. Its value lies in showing that a school-based teacher population within a community outreach setting may already carry several modifiable and measurable risk factors. For the CEU Community Outreach Department, the findings provide a practical basis for designing targeted health promotion activities rather than generic wellness programs.

5. Conclusions, Recommendations, and Implications

5.1 Conclusions

Based on the findings of the lifestyle disease risk assessment, the teachers of Claro M. Recto High School showed multiple indicators of vulnerability to lifestyle-related non-communicable diseases. Although not all respondents had diagnosed medical conditions, several risk factors were present across medical history, family history, dietary practices, physical activity, smoking exposure, stress, anthropometric measures, blood pressure, and blood glucose screening.

The most prominent familial risk factor was hypertension, reported among first-degree relatives by 35 respondents or 59%. Other relevant family-history risks included diabetes and heart disease. These findings indicate that several respondents may already have inherited or familial predispositions that require preventive health monitoring.

The most prominent modifiable lifestyle risks were frequent consumption of oily, sweet, and salty foods, lack of regular exercise, alcohol consumption, secondhand smoke exposure, and stress. More than half of the respondents consumed oily foods, sweet foods, and salty foods more than twice weekly. Similarly, 33 respondents or 56% reported having no regular exercise, while another 33 respondents or 56% reported being often or always stressed, with work identified as the leading source of stress among those who experienced stress.

The screening results further supported the presence of lifestyle disease risk. Most notably, 31 respondents or 53% were classified as obese, and 9 respondents or 15% were overweight. Blood pressure screening showed that 21 respondents or 36% were prehypertensive, while capillary blood glucose screening identified 3 respondents with elevated fasting glucose. These results suggest that metabolic and cardiometabolic risks were already observable among a considerable portion of the teacher-respondents.

Overall, the majority of respondents were classified as having moderate risk for lifestyle disease. Specifically, 41 respondents or 69% were classified as moderate risk, 10 respondents or 17% as high risk, and 8 respondents or 14% as low risk. This indicates that the respondents would benefit from preventive health promotion activities, particularly those aimed at modifying diet, increasing physical activity, reducing alcohol intake, preventing exposure to cigarette smoke, and managing stress.

5.2 Recommendations

The CEU Community Outreach Department may use the findings as a basis for developing a structured lifestyle modification program for the teachers of Claro M. Recto High School. The program should prioritize the risk factors most clearly identified in the study rather than adopting a broad and generic wellness approach.

First, a nutrition education program should be implemented to address the frequent consumption of oily, sweet, and salty foods. The program may include practical sessions on meal planning, food label reading, healthier preparation methods, portion control, and affordable alternatives to high-fat, high-sugar, and high-sodium food choices. Since many respondents also reported consuming vegetables, fruits, and fish, the program should not merely introduce healthy food categories but should help teachers balance their actual food patterns.

Second, a physical activity program should be developed for teachers who do not regularly exercise. This may include short school-based movement breaks, guided stretching, walking groups, low-impact aerobic activities, or wellness challenges that are realistic within the teachers' work schedule. The program should be designed as a sustainable routine rather than a one-time activity.

Third, respondents with elevated blood pressure, elevated fasting glucose, obesity, or existing medical conditions should be encouraged to seek appropriate medical consultation and periodic monitoring. The outreach department may coordinate follow-up screening activities, but medical diagnosis and treatment should remain within the scope of licensed health professionals.

Fourth, alcohol reduction education should be provided, especially for respondents who reported alcohol consumption. The activity should focus on moderation, awareness of health risks, practical reduction strategies, and alternative social activities that do not depend on alcohol use.

Fifth, secondhand smoke exposure should be addressed through health education and environmental control. Since several respondents were non-smokers but still exposed to cigarette smoke, the intervention should include awareness on secondhand smoke risks, avoidance strategies, and reinforcement of smoke-free spaces.

Sixth, stress management activities should be included because work-related stress emerged as the leading source of stress among affected respondents. Possible activities include stress awareness sessions, time management workshops, relaxation exercises, peer support activities, and referral mechanisms for respondents who may require more formal psychosocial support.

Finally, future researchers may extend the study by examining associations between demographic factors and risk classification, comparing teachers with non-teaching personnel, or conducting a pretest-posttest evaluation of a lifestyle modification program based on the present findings.

5.3 Implications of the Study

The study has practical implications for school-based and community-based health promotion. It demonstrates that teachers, despite being active members of an educational institution, may still carry multiple lifestyle disease risk

factors that require organized preventive attention. The findings support the need for outreach programs that are evidence-based, localized, and responsive to the actual risk profile of the beneficiary group.

For the CEU Community Outreach Department, the study provides a basis for shifting from general health awareness activities to targeted lifestyle modification planning. The identified risks suggest that health promotion should focus on diet, physical activity, stress management, alcohol reduction, secondhand smoke avoidance, and periodic screening.

For nursing education, the study shows how community assessment can connect classroom learning, health screening, risk interpretation, and health promotion planning. It provides a practical example of how nursing students may participate in preventive community health work using standardized assessment tools.

For the teacher-respondents, the study emphasizes the importance of early lifestyle modification before moderate risk progresses into more serious chronic disease. The findings imply that health programs for teachers should consider work-related barriers, including stress, time constraints, and the sedentary nature of some teaching tasks.

For future research, the study highlights the need for stronger designs that can examine relationships among lifestyle practices, screening indicators, and risk classification. Longitudinal or intervention-based studies may determine whether structured lifestyle modification programs can reduce risk levels over time.

6. References

Ahmed, S. H., Meyer, H. E., Kjøllesdal, M. K., Marjerrison, N., Mdala, I., Htet, A. S., & Madar, A. A. (2019). The prevalence of selected risk factors for non-communicable diseases in Hargeisa, Somaliland: A cross-sectional study. BMC Public Health, 19, 1-10. https://doi.org/10.1186/s12889-019-7101-x

Angeles-Agdeppa, I., & Custodio, M. R. S. (2020). Food sources and nutrient intakes of Filipino working adults. Nutrients, 12(4), 1009. https://doi.org/10.3390/nu12041009

Angeles-Agdeppa, I., Sun, Y., & Tanda, K. V. (2020). Dietary pattern and nutrient intakes in association with non-communicable disease risk factors among Filipino adults: A cross-sectional study. Nutrition Journal, 19(1). https://doi.org/10.1186/s12937-020-00597-x

Atento, R. G., Quinto, L., Espelita, C. A. M., & Castaneda, C. (2025). Integrating business and health analytics: A conceptual framework for dual outcomes in healthcare. International Journal of Health & Business Analytics, 1(1). https://doi.org/10.65166/04pdc866

Baklouti, M., Ayed, B., Ketata, N., Maamri, H., Yaich, S., Feki, H., & Dammak, J. (2021). Prevalence and determinants of high blood pressure among school teachers. European Journal of Public Health, 31(Supplement_3). https://doi.org/10.1093/eurpub/ckab165.016

Begley, A., Paynter, E., Butcher, L. M., & Dhaliwal, S. S. (2019). Effectiveness of an adult food literacy program. Nutrients, 11(4). https://doi.org/10.3390/nu11040797

Bermido, C. M., Quinto, L. F., & Atento, R. G. O. (2025). A qualitative thematic review of contemporary challenges affecting health professions education: Implications for higher education leadership. International Journal of Health and Business Analytics, 1(2). https://doi.org/10.65166/yfm5w791

Burroughs, N., Gardner, J., Lee, Y., Guo, S., Touitou, I., Jansen, K., & Schmidt, W. (2019). A review of the literature on teacher effectiveness and student outcomes. IEA Research for Education, 6, 7-17. https://doi.org/10.1007/978-3-030-16151-4_2

Casadei, K., & Kiel, J. (2023). Anthropometric measurement. In StatPearls. StatPearls Publishing. https://pubmed.ncbi.nlm.nih.gov/30726000/

Department of Health. (2012). Integrated non-communicable disease risk assessment form [Assessment form]. Department of Health.

Halcomb, E., Ashley, C., Middleton, R., Lucas, E., Robinson, K., Harvey, S., Charlton, K., & McInnes, S. (2021). Understanding perceptions of health, lifestyle risks and chronic disease in middle age. Journal of Clinical Nursing, 30(15-16), 2279-2286. https://doi.org/10.1111/jocn.15711

Khoramdad, M., Vahedian-Azimi, A., Karimi, L., Rahimi-Bashar, F., Amini, H., & Sahebkar, A. (2019). Association between passive smoking and cardiovascular disease: A systematic review and meta-analysis. IUBMB Life, 72(4). https://doi.org/10.1002/iub.2207

Kress, A. C., Mbulo, L., Stadnik, C., Hemedez-Gonzalez, R., Twentyman, E., Dorotheo, E. U., & Pan, L. (2023). Decrease in secondhand smoke exposure in work and public places among adults in the Philippines: An analysis of the Global Adult Tobacco Survey, 2009 and 2015. International Journal of Environmental Research and Public Health, 20(2), 1077. https://doi.org/10.3390/ijerph20021077

Li, Y., Schoufour, J., Wang, D. D., Dhana, K., Pan, A., Liu, X., Song, M., Liu, G., Shin, H. J., Sun, Q., Al-Shaar, L., Wang, M., Rimm, E. B., Hertzmark, E., Stampfer, M. J., Willett, W. C., Franco, O. H., & Hu, F. B. (2020). Healthy lifestyle and life expectancy free of cancer, cardiovascular disease, and type 2 diabetes: Prospective cohort study. BMJ, 368. https://doi.org/10.1136/bmj.l6669

Lloyd-Jones, D. M., Braun, L. T., Ndumele, C. E., Smith, S. C., Sperling, L. S., Virani, S. S., & Blumenthal, R. S. (2019). Use of risk assessment tools to guide decision-making in the primary prevention of atherosclerotic cardiovascular disease: A special report from the American Heart Association and American College of Cardiology. Circulation, 139(25). https://doi.org/10.1161/CIR.0000000000000638

Mathew, T. K., Tadi, P., & Zubair, M. (2023). Blood glucose monitoring. In StatPearls. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK555976/

Mohajan, D., & Mohajan, H. K. (2023). Body Mass Index (BMI) is a popular anthropometric tool to measure obesity among adults. Journal of Innovations in Medical Research, 2(4), 25-33. https://www.paradigmpress.org/jimr/article/view/578

Nakao, M., Shirotsuki, K., & Sugaya, N. (2021). Cognitive-behavioral therapy for management of mental health and stress-related disorders: Recent advances in techniques and technologies. BioPsychoSocial Medicine, 15(1). https://doi.org/10.1186/s13030-021-00219-w

Ng, R., Sutradhar, R., Yao, Z., Wodchis, W. P., & Rosella, L. C. (2019). Smoking, drinking, diet and physical activity: Modifiable lifestyle risk factors and their associations with age to first chronic disease. International Journal of Epidemiology, 49(1). https://doi.org/10.1093/ije/dyz078

Patel, Y., Gadiraju, T. V., Gaziano, J. M., & Djoussé, L. (2018). Adherence to healthy lifestyle factors and risk of death in men with diabetes mellitus: The Physicians' Health Study. Clinical Nutrition, 37(1), 139-143. https://doi.org/10.1016/j.clnu.2016.11.003

Quinto, L., Agang-Ang, G., Kim, Y., Eustaquio, J. C., De Vera, R. K., Crisologo, J., ... & Lavalle, D. K. (2025). Gender differences in nutrition, lifestyle, and distress among dormitory medical students: A cross-sectional study. International Journal of Health & Business Analytics, 1(1). https://doi.org/10.65166/xngg1k50

Quinto, L., & Atento, R. G. (2025). Economic growth and developmental equity in four ASEAN economies: Linking macroeconomic trends to employment and child nutrition (1999-2024). International Journal of Health & Business Analytics, 1(1). https://doi.org/10.65166/nq75nv94

Rivera, L. (2018). Lifestyle diseases affecting the work performance of teaching and non-teaching personnel of Paniqui South District of Schools Division of Tarlac Province: An assessment. De La Salle University

Research Congress. https://www.dlsu.edu.ph/wp-content/uploads/pdf/conferences/research-congress-proceedings/2018/fnh-03.pdf

San Juan, F. M. Z., Elardo, C. J., Atento, R. G., & Valderama, M. L. P. (2026). Digital sleep diary self-monitoring and perceived sleep quality in civil engineering students: A pilot pretest-posttest controlled study. International Journal of Behavioral and Social Analytics, 1(1). https://doi.org/10.65166/cdq7k160

Santos, A. C., Willumsen, J., Meheus, F., Ilbawi, A., & Bull, F. C. (2022). The cost of inaction on physical inactivity to public health-care systems: A population-attributable fraction analysis. The Lancet Global Health. https://doi.org/10.1016/S2214-109X(22)00464-8

Schwingshackl, L., Bogensberger, B., & Hoffmann, G. (2018). Diet quality as assessed by the Healthy Eating Index, Alternate Healthy Eating Index, Dietary Approaches to Stop Hypertension score, and health outcomes: An updated systematic review and meta-analysis of cohort studies. Journal of the Academy of Nutrition and Dietetics, 118(1), 74-100.e11. https://doi.org/10.1016/j.jand.2017.08.024

Temporada, K., Quinto, L., Tarraya, D. A., Sison, F. C., Marfil, J. F., Ramirez, C., & Ng, W. J. (2025). Awareness and preventive practices on leptospirosis in flood-prone communities of Marikina City, Philippines. International Journal of Health & Business Analytics, 1(1). https://doi.org/10.65166/x71zvx65

World Health Organization. (2020). WHO package of essential noncommunicable disease interventions for primary health care. https://www.who.int/publications/i/item/9789240009226

World Health Organization. (2022). Noncommunicable diseases. https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases

Yap, M. J. B., Rodriguez, D. M., & Heng, P. H. (2021). Effect of a lifestyle medicine program to reduce the risks of cardiovascular disease among young male adults in a chosen residential school in the Philippines. Atlantis Press. https://www.atlantis-press.com/article/125965075.pdf

Yu, E., Malik, V. S., & Hu, F. B. (2018). Cardiovascular disease prevention by diet modification. Journal of the American College of Cardiology, 72(8), 914-926. http://www.onlinejacc.org/content/72/8/914