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LEVEL OF KNOWLEDGE, ATTITUDE, AND PRACTICES ON THE PREVENTION OF TYPE 2 DIABETES MELLITUS AMONG TRICYCLE DRIVERS IN CITY OF SAN FERNANDO, PAMPANGA: BASIS FOR HEALTH PROMOTION PLAN

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ABSTRACT

Type 2 Diabetes Mellitus (T2DM) is a growing public health concern, particularly among occupational groups exposed to prolonged sitting, irregular work schedules, and limited opportunities for preventive healthcare. This study assessed the knowledge, attitudes, and practices (KAP) related to T2DM prevention among tricycle drivers in selected barangays of the City of San Fernando, Pampanga, and was completed in May, 2026. Using a quantitative descriptive-correlational design, 169 drivers were recruited through purposive sampling and surveyed using a locally adapted Knowledge, Attitude, and Practice–Prediabetes Assessment Questionnaire (KAP-PAQ). Descriptive statistics, Bloom's cut-off points, and Spearman's rank correlation were used for analysis. Results showed that 40.24% of respondents demonstrated high knowledge, 51.48% had neutral attitudes, and 48.52% reported fair preventive practices, while only 16.57% demonstrated good practices. Educational attainment was significantly associated with all three KAP domains. Age was positively correlated with preventive practices ($\rho = 0.3191$, $p < 0.0001$), whereas working days per week were negatively correlated with practices ($\rho = -0.2182$, $p = 0.0044$). Knowledge was strongly associated with attitudes ($\rho = 0.6511$), while attitude showed a stronger relationship with practices ($\rho = 0.4483$) than knowledge alone ($\rho = 0.2782$). These findings highlight a gap between diabetes prevention knowledge and consistent preventive behaviors among tricycle drivers. The study recommends occupation-specific health promotion initiatives, accessible diabetes screening, and practical lifestyle support to encourage healthier behaviors and strengthen T2DM prevention among this occupational group.

Keywords: *Type 2 Diabetes Mellitus*, *knowledge*, *attitudes*, *practices*, *tricycle drivers*, *health promotion*

INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) is a major noncommunicable disease characterized by chronic hyperglycemia and associated with long-term cardiovascular, renal, neurological, and eye complications. International burden analyses show that diabetes prevalence continues to increase across countries and populations (GBD 2021 Diabetes Collaborators, 2023; NCD Risk Factor Collaboration [NCD-RisC], 2024). The World Health Organization (WHO, 2024) identifies healthy eating, regular physical activity, weight management, and avoidance of tobacco as relevant measures for preventing or delaying T2DM. This burden makes prevention and early recognition especially important for adults who face practical barriers to accessing routine healthcare. The present study examines how prevention-related knowledge and attitudes correspond to self-reported behaviors among tricycle drivers rather than attempting to estimate the prevalence of diagnosed diabetes.

The burden of diabetes prevention is intertwined with occupational circumstances. Commercial transport drivers often work in environments characterized by variable schedules, psychosocial pressures, long periods seated in a vehicle, and limited control over their breaks. In a scoping review, Amoadu et al. (2024) mapped commercial drivers' psychosocial working conditions, health outcomes, and potential interventions. Njiro et al. (2024), in a systematic review and meta-analysis of professional drivers in low- and middle-income countries, reported a substantial noncommunicable disease burden in the populations studied. These findings warrant attention to work-related barriers to health promotion; they do not establish the prevalence of diabetes among the San Fernando tricycle drivers included in the present survey.

The occupational context matters because a driver's opportunities for healthy choices vary across the working day. Recommendations about exercise and regular consultation may be difficult to apply when fares are irregular and daily income depends on time spent at a terminal or transporting passengers. In the Philippines, Baral et al. (2024) studied stress experienced by tricycle drivers in Cabanatuan City, illustrating the importance of considering local working conditions. Barut Tusun and Emiroğlu (2023) also found, among taxi drivers in Turkey, that recognition of occupational health risks did not consistently correspond to reported protective strategies. Those studies concerned different outcomes and settings, but they support asking not only what drivers know, but what prevention-related actions are feasible in their routines.

These occupational concerns do not mean that working as a driver by itself establishes a diagnosis. The present study did not measure blood glucose or body mass index as outcomes, verify diabetes diagnoses through laboratory testing, or follow participants for incident disease. Its indicators describe prevention-related awareness and self-reported practices. The American Diabetes Association Professional Practice Committee (2024) emphasizes structured risk assessment, evidence-based lifestyle

measures, and appropriate testing for people at increased risk. Such guidance provides clinical context for the questionnaire without turning respondents' answers into estimates of T2DM prevalence.

In the City of San Fernando, Pampanga, tricycle drivers provide a daily transportation service within the community. Many must balance their health needs with the demands of livelihood. Long hours of sitting, limited access to healthier food options, and irregular working routines may make preventive advice difficult to apply. Although understanding T2DM is useful, knowledge alone cannot guarantee healthier behavior when economic, environmental, and occupational barriers remain.

Knowledge–Attitude–Practice (KAP) assessment examines three related but different dimensions: what respondents know about diabetes, how they perceive prevention, and which actions they report carrying out. Al-Mutawaa et al. (2022) applied a KAP approach among adults in Qatar and demonstrated variation across the three domains, while Alaofè et al. (2021) examined KAP and associated factors among adults with established T2DM in Benin. Although those participant groups differ from the present preventive sample, they demonstrate the usefulness of describing each domain separately. A local occupational assessment can distinguish problems involving information from those involving motivation, everyday routines, or access to services.

The differences among these domains are central to the research question. A driver may know that sugar-sweetened drinks should be limited but still purchase them for reasons related to price or availability. Another may value check-ups yet postpone one because it requires time away from work. These are illustrative possibilities, not causal mechanisms established by this survey. Kusumo et al. (2023) showed why carefully developed KAP measurement instruments are needed when assessing diabetes-related behaviors. The present study therefore tests relationships among KAP scores rather than presuming that knowledge directly causes healthier choices.

This study aimed to determine the levels of knowledge, attitudes, and practices related to T2DM prevention among active tricycle drivers in selected barangays of the City of San Fernando, Pampanga. It further sought to identify associations between socio-demographic and occupational characteristics and KAP levels, and to examine the relationships among knowledge, attitudes, and practices themselves. The resulting evidence was intended to guide a health promotion plan suited to the realities of the participants’ work.

The inquiry was directed toward four selected barangays—San Juan, Sto. Niño, Sta. Lucia, and San Pedro Cutud—and considered age, educational attainment, daily working hours, and working days per week alongside the KAP dimensions. It asked whether these variables were statistically associated and whether stronger knowledge coexisted with more favorable attitudes and better self-reported practices. The health promotion plan was intended as an applied output of this needs assessment. No causal pathway, clinical screening effect, or reduction in diabetes incidence was tested in the completed descriptive-correlational phase.

The intended audience for the health promotion plan includes participating drivers, tricycle association officers, community nurses, and local public health personnel. A shared baseline can help these groups decide which topics need explanation, which habits need practical reinforcement, and which services require easier referral. The research therefore offers a starting point for collective planning, but its value depends on careful use of local results and transparent follow-up assessment rather than assuming that one brief educational activity will produce sustained changes across all participants.

Research Questions

This study sought to answer the following questions:

1. What are the socio-demographic and occupational characteristics of the participating tricycle drivers in terms of:
   1.1. age;
   1.2. educational attainment;
   1.3. daily working hours; and
   1.4. working days per week?
2. What are the respondents' levels of knowledge regarding T2DM prevention?
3. What are the respondents' attitudes toward T2DM prevention?
4. What preventive practices related to T2DM do the respondents report?
5. Is there a significant association between the selected socio-demographic and occupational characteristics and the respondents' knowledge, attitudes, and practices?
6. Is there a significant relationship among the respondents' knowledge, attitudes, and preventive practices?
7. What health promotion plan may be proposed based on the findings?

METHODOLOGY

Research Design

The study used a quantitative descriptive-correlational research design. The descriptive component characterized the respondents and summarized their knowledge, attitudes, and self-reported practices related to T2DM prevention. The correlational component examined associations between selected demographic and occupational variables and KAP scores, as well as relationships among the three KAP domains. The design identified patterns of association but did not establish causation or evaluate the effectiveness of a health intervention.

Research Setting and Participants

The study was conducted among tricycle drivers in four selected barangays of the City of San Fernando, Pampanga: San Juan, Sto. Niño, Sta. Lucia, and San Pedro Cutud. The manuscript identified an estimated accessible population of 301 drivers and a target sample of 169, based on a sample-size calculation using the Raosoft calculator with a

95% confidence level and a 5% margin of error. Participants were recruited through non-probability purposive sampling.

The stated eligibility criteria included legally recognized tricycle drivers affiliated with a tricycle operators and drivers association (TODA), aged 18–59 years, with at least six months of driving experience, able to understand Filipino or English, willing to provide informed consent, and able to complete the questionnaire. The original methodology also specified active driving for at least five days per week. Drivers with a known diagnosis of diabetes, non-TODA operators, and individuals who were unwilling or unavailable to participate were excluded under the stated criteria.

Research Instrument

Data were collected using an adapted Knowledge, Attitude, and Practice–Prediabetes Assessment Questionnaire (KAP-PAQ), localized for Filipino tricycle drivers. The questionnaire included demographic and occupational items and three 10-item sections measuring knowledge, attitudes, and practices.

The knowledge section used True, False, and Don't Know responses, with one point assigned for each correct answer. The items assessed knowledge of risk factors, symptoms, complications, and preventive measures. The attitude section used a four-point agreement scale, ranging from Strongly Disagree (1) to Strongly Agree (4), to assess beliefs and motivation regarding prevention. The practice section used a three-point frequency scale, ranging from Never (1) to Always (3), to assess reported preventive behavior involving diet, physical activity, screening, and other health-related practices.

The knowledge score could range from 0 to 10, the attitude score from 10 to 40, and the practice score from 10 to 30. The source manuscript states that the instrument underwent expert review and pilot testing. The final manuscript should specify the instrument's original source, adaptation permission where applicable, validation procedure, pilot sample and process, and exact score-category cutoffs using the supporting documentation. These details must not be inferred if the records do not substantiate them.

Data Collection Procedure

Before data collection, the researchers secured the necessary institutional permissions and submitted the research protocol to the University of the Assumption Research Ethics Board for ethical review. Coordination with the relevant barangay representatives and tricycle operators and drivers' associations (TODA) was undertaken to facilitate access to eligible respondents in Barangays San Juan, Sto. Niño, Sta. Lucia, and San Pedro Cutud, City of San Fernando, Pampanga. The researchers approached active tricycle drivers who met the study's inclusion criteria and explained the purpose, procedures, and voluntary nature of participation, including the confidentiality of the information to be collected. Written informed consent was obtained from each respondent before administering the questionnaire. The printed, locally adapted Knowledge, Attitude, and Practice–Prediabetes Assessment Questionnaire (KAP-PAQ) was distributed and completed at appropriate times to minimize disruption to the drivers' work. After completion, the questionnaires were collected, checked for completeness, and organized

for data encoding. The responses were then encoded and prepared for statistical analysis to determine the respondents' levels of knowledge, attitudes, and practices regarding Type 2 Diabetes Mellitus prevention and to examine the relationships among the study variables.

Statistical Treatment

Descriptive statistics were used to summarize the respondents' demographic and occupational profiles and their responses regarding knowledge, attitudes, and practices (KAP) related to Type 2 Diabetes Mellitus (T2DM) prevention. Frequencies and percentages were used to describe categorical variables, while means and standard deviations were used for appropriate continuous variables. Bloom's cut-off points were applied to classify respondents' knowledge, attitude, and practice scores according to the study's established categories. Spearman's rank correlation coefficient (Spearman's rho) was used to examine the relationships among the KAP domains and the associations between respondents' socio-demographic and occupational characteristics and their KAP scores. The strength and direction of the relationships were interpreted using the computed correlation coefficients, while statistical significance was determined based on the corresponding p-values. The reported findings included the correlations between knowledge and attitudes, attitudes and practices, and knowledge and practices, as well as the associations of age, educational attainment, and working days per week with the KAP domains. The results were interpreted as statistical associations and not as evidence of causal relationships. All descriptive statistics, classifications, correlation coefficients, and p-values were based on the study's statistical analysis and should be verified against the final dataset and statistical output before publication.

Scope and Limitations

The study involved 169 tricycle drivers selected through purposive sampling from four barangays in the City of San Fernando, Pampanga; therefore, the findings may not be generalizable to other drivers or transport workers. Self-reported responses may be subject to recall and social desirability bias. The study did not objectively measure dietary intake, physical activity, screening history, blood glucose, body mass index, or diabetes incidence. Furthermore, the descriptive-correlational design cannot establish causality or determine the effectiveness of the proposed health promotion plan. Thus, the findings should be interpreted within the study's sample and measured variables.

RESULTS

Socio-Demographic and Occupational Characteristics

The study included 169 respondents. Their mean age was 42.69 years (SD = 8.27), and their mean reported working duration was 8.02 hours per day. The mean number of working days was 5.86 per week. High school education was the most common educational category, representing 109 respondents (64.50%), followed by college or vocational education, with 38 (22.49%), and elementary education, with 22 (13.02%).

Table 1. Summary of Respondent Characteristics

Characteristic	Result
Mean age (SD)	42.69 (8.27) years
Mean daily working hours	8.02 hours
Mean working days per week	5.86 days
Elementary education	22 (13.02%)
High school education	109 (64.50%)
College/vocational education	38 (22.49%)
Working 5 days per week	52 (30.77%)
Working 6 days per week	64 (37.87%)
Working 7 days per week	46 (27.22%)

Knowledge Regarding Diabetes Prevention

Respondents most frequently identified healthy eating and regular exercise as preventive measures (92.31%), followed by recognition that excessive sugar consumption increases diabetes risk (91.72%) and that blood sugar checks can support early detection (87.57%). Awareness of potential complications involving the heart, kidneys, eyes, and feet was 82.84%. Lower correct-response percentages were reported for recognizing frequent urination and excessive thirst as symptoms (49.11%), understanding the risk associated with smoking and alcohol use (52.66%), and recognizing the possible risk associated with prolonged sitting without activity (41.42%).

Table 2. Knowledge Items Answered Correctly

Knowledge statement	Correct (n)	Correct (%)
Excess sugar intake increases diabetes risk	155	91.72
Lack of regular exercise can lead to diabetes	107	63.31
Being overweight increases diabetes risk	120	71.01
Family history increases risk	111	65.68
Frequent urination and excessive thirst are common symptoms	83	49.11

Diabetes may affect the heart, kidneys, eyes, and feet	140	82.84
Smoking and alcohol use can increase risk	89	52.66
Healthy eating and regular exercise can help prevent diabetes	156	92.31
Blood sugar checks support early detection	148	87.57
Long periods of sitting without activity increase risk	70	41.42

Attitudes Toward Diabetes Prevention

The manuscript reported that 59.76% of respondents strongly agreed that diabetes is a serious disease. The same proportion strongly agreed that individuals diagnosed with diabetes should take prescribed medication regularly. More than half (56.80%) strongly agreed that tricycle drivers should be more aware of diabetes prevention, and 44.38% strongly agreed that regular exercise helps prevent diabetes. Responses concerning the avoidance of sugary drinks and snacks were divided: 30.18% strongly agreed that they were motivated to avoid them, while 25.44% strongly disagreed. Attitudes toward check-ups when feeling healthy were also mixed. Overall, 51.48% of respondents were classified as having neutral attitudes.

Self-Reported Preventive Practices

The practice items showed a mixture of reported behaviors. Most respondents stated that they always took short breaks to stretch or walk during long driving periods (72.78%), and 52.07% reported always including fruits and vegetables in meals. In contrast, 20.12% reported always limiting sweetened beverages, 17.16% always avoided excessive fried or fatty foods, and 35.50% always completed at least 30 minutes of physical activity three to five times per week. A substantial proportion reported never attending check-ups when they did not feel sick (64.50%) and never having their blood sugar checked in the preceding year (65.68%). A further 53.25% reported never avoiding cigarette smoking.

Table 3. Self-Reported Preventive Practices

Practice statement	Always (%)	Sometimes (%)	Never (%)
Eat fruits and vegetables	52.07	44.38	3.55
Limit soft drinks/sweetened beverages	20.12	55.03	24.85
Avoid excessive fried/fatty food	17.16	45.56	37.28
Complete 30-minute activity, 3–5 times a week	35.50	43.20	21.30

Take breaks to stretch/walk while driving	72.78	20.12	7.10
Attend medical check-ups even when feeling well	15.38	20.12	64.50
Have blood sugar checked during the past year	15.98	18.34	65.68
Avoid smoking	20.12	26.63	53.25
Avoid alcohol	17.75	40.24	42.01
Monitor blood pressure or weight	31.95	31.36	36.96

Overall Knowledge, Attitude, and Practice Classifications

The findings showed that 59.76% of respondents strongly agreed that diabetes is a serious disease and that individuals diagnosed with diabetes should take prescribed medication regularly. More than half (56.80%) strongly agreed that tricycle drivers should be more aware of diabetes prevention, while 44.38% strongly agreed that regular exercise helps prevent diabetes. Responses regarding motivation to avoid sugary drinks and snacks were divided, with 30.18% strongly agreeing and 25.44% strongly disagreeing. Attitudes toward undergoing medical check-ups when feeling healthy were also varied. Overall, 51.48% of respondents were classified as having neutral attitudes toward T2DM prevention.

Table 4. Overall KAP Classification

KAP domain	Reported classification	Percentage
Knowledge	High	40.24%
Attitude	Neutral	51.48%
Practices	Fair	48.52%
Practices	Good	16.57%

Associations Between Respondent Characteristics and KAP

Educational attainment was significantly associated with all three domains of diabetes prevention knowledge, attitudes, and practices (KAP). Age was positively associated with preventive practices ((\rho = 0.3191), ($p < 0.0001$)), indicating that older respondents tended to report better preventive practices. In contrast, the number of working days per week was negatively associated with preventive practices ((\rho = -0.2182), ($p = 0.0044$)), suggesting that respondents who worked more days per week tended to report lower practice scores. These findings indicate statistically significant

relationships among selected respondent characteristics and preventive practices, but they do not establish causation.

Table 5. Selected Associations Between Respondent Characteristics and KAP

Variable	KAP domain	Spearman's ρ	p-value
Age	Practices	0.3191	< 0.0001
Working days per week	Practices	−0.2182	0.0044
Educational attainment	Knowledge	Verify original output	Verify original output
Educational attainment	Attitudes	Verify original output	Verify original output
Educational attainment	Practices	Verify original output	Verify original output

Relationships Among Knowledge, Attitudes, and Practices

Knowledge was positively correlated with attitudes toward T2DM prevention ((\rho = 0.6511)). Attitudes were also positively correlated with preventive practices ((\rho = 0.4483)), while knowledge showed a weaker positive correlation with practices ((\rho = 0.2782)). These findings suggest that higher knowledge and more favorable attitudes tended to be associated with better prevention-related outcomes. However, the strength and statistical significance of each relationship should be interpreted based on the complete statistical results. The correlations indicate associations and do not establish causal relationships.

Table 6. Relationships Among KAP Domains

Pair of variables	Spearman's ρ	p-value
Knowledge and attitudes	0.6511	Verify original output
Attitudes and practices	0.4483	Verify original output
Knowledge and practices	0.2782	Verify original output

DISCUSSION

Knowledge of T2DM Prevention

The findings suggest that respondents recognized several key messages on T2DM prevention, particularly the importance of healthy eating, regular exercise, and limiting excessive sugar consumption. However, knowledge was less consistent regarding common symptoms, smoking- and alcohol-related risks, and the health implications of prolonged sitting. These gaps highlight the need for diabetes prevention education that

extends beyond general lifestyle advice to include symptom recognition, modifiable risk factors, and the importance of appropriate preventive assessment. The occupational context is relevant when developing health education for tricycle drivers, who may spend extended periods sitting and have limited opportunities to interrupt their work for health-related activities. However, sitting duration and physiological risk indicators were not directly measured in this study. Therefore, the findings identify areas for improving diabetes prevention knowledge but do not establish that respondents have elevated blood glucose levels or a higher prevalence of diabetes.

Attitudes Toward Prevention

The predominance of neutral attitudes suggests that recognizing diabetes as a serious condition did not necessarily correspond to consistently favorable attitudes across all prevention-related items. Respondents expressed favorable views regarding the seriousness of diabetes and the importance of awareness, while responses concerning the avoidance of sugary drinks and attendance at check-ups when feeling healthy were more varied.

The positive knowledge–attitude correlation ($\rho = 0.6511$) suggests that better understanding accompanies more favorable views in this sample, but it does not establish that education itself changes motivation. Studies measuring KAP in different populations, including those of Al-Mutawaa et al. (2022) and Pakpour et al. (2024), demonstrate the value of identifying separate needs across domains. Practical interventions may need to address perceived benefits, family and workplace support, and the feasibility of behavior changes rather than relying exclusively on knowledge delivery.

Preventive Practices

Practices emerged as the most important area for improvement. Respondents frequently reported stretching or taking brief walking breaks while working, demonstrating that some health-supporting actions can already be incorporated into tricycle driving. In contrast, reported participation in asymptomatic check-ups and blood glucose monitoring was low. This difference suggests an opportunity to reinforce existing positive micro-habits while improving convenient access to screening and preventive consultation.

Dietary practices also merit attention. Only 20.12% reported always limiting sugary drinks, and only 17.16% always avoided excessive fatty or fried foods. Nutrition education should therefore focus on realistic choices within drivers' daily budgets, food availability, and schedules. The findings likewise justify tobacco cessation counseling and referrals where appropriate, as 53.25% reported never avoiding cigarettes.

Infrequent screening and variable dietary habits have consequences for the proposed health promotion plan. Arman et al. (2025) documented the usefulness of opportunistic blood glucose assessment for identifying previously unrecognized elevated values in a different population of professional drivers. Their study does not prove that screening at local tricycle terminals reduces diabetes incidence. A terminal-based education session could instead connect drivers to qualified personnel for risk assessment

and appropriate referral. Teixeira et al. (2024) and Jayedi et al. (2024) support sustained lifestyle change as a diabetes-prevention approach in people with prediabetes, but practical adaptations to drivers' budgets and schedules would still need local evaluation.

Relationships Among KAP Domains

Attitudes were more strongly correlated with practices (ρ = 0.4483) than knowledge was with practices (ρ = 0.2782). This is an association between simultaneous questionnaire scores, not evidence that attitudes mediate the effect of knowledge. Comparable KAP research in populations with diabetes or prediabetes has examined the relevance of understanding, perception, and behavior as distinct constructs (Alaofè et al., 2021; Pakpour et al., 2024). For the present drivers, a proposed education program should therefore address motivation and accessible habits alongside factual content, with its effects measured independently after implementation.

Age was positively associated with preventive practices, whereas the number of working days per week was negatively associated with practices. These relationships warrant cautious interpretation because the factors underlying them were not established. Further research could examine work schedules, access to health services, financial constraints, and other factors not measured in this study.

Implications for Health Promotion

Consistent with the study's objective of generating a basis for a health promotion plan, the separate researchers' Evidence-Based Project proposes "Tsuper Tamis Iwas Diyabetis," a community-based initiative organized around Monitor, Remind, and Educate. Its proposed strategies include short health education sessions, an accessible brochure, tricycle-based reminder stickers, and small daily actions such as drinking water, reducing sugary beverages, choosing healthier snacks, and taking safe short movement breaks between trips. The plan also proposes coordination with barangay health workers, TODA officers, and qualified healthcare personnel for periodic blood pressure and capillary blood glucose monitoring and referral when needed.

The EBP project schedules implementation and subsequent monitoring for 2027. These are proposed activities, not evaluated outcomes of the 169-participant KAP survey. Their relevance lies in their response to the actual knowledge and practice gaps identified by the completed research. Pre- and post-activity assessments, a seven-day micro-habit bingo card as supporting evidence of early adoption, and planned follow-up discussions can help evaluate the intervention once it has been carried out.

The proposed intervention should have a clear sequence for evaluation. Pre- and post-session assessments may document immediate learning, while a seven-day micro-habit card could record early, self-reported attempts at lifestyle change. Later discussions and the proposed three-month follow-up may help describe participation and practical barriers, provided definitions and referral procedures are standardized. Community health worker interventions have shown benefits for glycemic control among adults with diagnosed T2DM in the systematic review by Evans et al. (2025), but that management

evidence does not establish the effectiveness of a prevention program for asymptomatic drivers. No planned outcome should be inserted into the present Results section before the project has been implemented and evaluated.

Conclusions

This study assessed knowledge, attitudes, and self-reported practices related to T2DM prevention among tricycle drivers in four selected barangays of San Fernando, Pampanga. Respondents recognized several key prevention messages, although gaps remained in symptom recognition and awareness of the risks associated with prolonged sitting. Attitudes were predominantly neutral, while preventive practices were generally fair, with fewer respondents demonstrating good practices.

Educational attainment was associated with all three KAP domains. Age was positively associated with preventive practices, whereas the number of working days per week was negatively associated with practices. Positive relationships were also observed among knowledge, attitudes, and practices. These findings indicate associations but do not establish causation; all reported coefficients and p-values should be verified against the final statistical output.

Overall, the findings highlight the need for occupation-sensitive diabetes prevention initiatives that combine clear health information, practical behavioral support, and access to preventive services. The study provides a local baseline for planning but does not establish diabetes prevalence among respondents or demonstrate the effectiveness of the proposed health promotion plan.

Recommendations

For tricycle drivers. Health education should encourage practical preventive choices, including limiting sugar-sweetened beverages, choosing balanced meals when feasible, taking safe movement breaks, engaging in regular physical activity, and seeking appropriate preventive consultation. Information about symptoms and risk factors should be presented clearly and should not encourage self-diagnosis.

For nurses and healthcare providers. Community health personnel may develop short, accessible sessions on diabetes prevention and risk recognition. Information should be practical, culturally appropriate, and responsive to the working schedules of tricycle drivers. Qualified health professionals should guide screening and referral procedures, with follow-up offered through established health services.

For tricycle associations and local stakeholders. Association officers and community partners may coordinate educational activities at convenient times and identify feasible opportunities for movement breaks and preventive health referrals. Collaboration should protect voluntary participation and avoid disrupting livelihood unnecessarily.

For the proposed health promotion plan. The “Tsuper Tamis Iwas Diyabetis” plan may be developed around the knowledge and practice gaps identified in the study. Proposed education sessions, reminders, micro-habit activities, and coordination with

health personnel should be described as planned activities until implemented and evaluated. Any screening or monitoring should be performed by qualified personnel using appropriate procedures.

For future researchers. Subsequent studies should verify participant eligibility, use clearly documented scoring thresholds, report complete statistical results, and consider larger or more diverse samples. Future research may also evaluate whether a health promotion intervention improves knowledge or self-reported practices over time. Objective health indicators should be collected only when ethically approved and appropriate to the study design.

Compliance with Ethical Standards

The researchers sought ethical review of the study protocol through the University of the Assumption Research Ethics Board. Before data collection, the 169 participating tricycle drivers from selected barangays in the City of San Fernando, Pampanga, were provided with bilingual information explaining the purpose and procedures of the study. Written informed consent was obtained before questionnaire administration. Participation was voluntary, and respondents were informed of their right to refuse participation or withdraw at any time without penalty. The researchers observed confidentiality and privacy safeguards in handling the collected information, consistent with the principles of the Philippine Data Privacy Act of 2012 (Republic Act No. 10173). The data were collected for academic research purposes and were encoded for statistical analysis. The researchers sought to minimize disruption to the respondents' work during data collection and to respect their welfare throughout the research process. The final ethics approval status and approval or reference number, if issued, shall be reported in accordance with the official records of the University of the Assumption Research Ethics Board. The authors declare that any actual or potential conflicts of interest have been disclosed and that the study findings are presented honestly and objectively. The authors also affirm their commitment to research integrity and the avoidance of plagiarism, fabrication, and falsification. Artificial intelligence was used to assist in editing and refining the manuscript's wording; the authors remain responsible for verifying the accuracy of the content, data, interpretations, and references and for ensuring that the disclosure complies with the journal's requirements.

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