

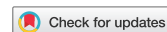
Nutrition knowledge, prevalence and correlates of elevated blood pressure among commercial drivers in Ondo, Nigeria

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Background: Commercial drivers are usually in transit and exposed to street foods. Their dietary choice and lifestyle could be influenced by nutrition knowledge, and predispose them to hypertension.

Objective: To determine the level of nutrition knowledge, elevated blood pressure (EBP), and associated factors.

Design A cross-sectional study was conducted using an interviewer-administered questionnaire. Data were analysed through SPSS 29.0 at 5% level of significance ($p < 0.05$).

Setting: Three hundred commercial drivers were randomly selected from four motor parks in Ondo West local government area, Nigeria.

Results: Participants were all males with a mean age and daily income of 42.0 ± 10.42 years and ₦3 932 \pm 2 897.61, respectively. The majority (69.0%) had secondary education, 44.7% travelled interstate, 13.7% smoked cigarettes and 39.7% drank alcohol, while 51.6% frequently ate outside the home, and 48.7% had adequate nutrition knowledge. Overweight, obesity and abdominal adiposity and EBP accounted for 45.0%, 6.7%, 84.3% and 29.3%, respectively. Nutrition knowledge was associated with level of education (aOR: 1.59, 95% CI: 1.03–2.47; $p = 0.038$), cigarette smoking (aOR: 3.23, 95% CI: 1.49–7.02; $p = 0.003$) and frequency of eating outside the home (aOR: 1.39, 95% CI: 1.15–1.68; $p < 0.001$) while EBP was associated with waist–hip ratio (aOR: 6.17, 95% CI: 1.01–37.64; $p = 0.049$), route of transportation (aOR: 1.94, 95% CI: 1.04–3.64; $p = 0.038$) and brisk walking (aOR: 1.96, 95% CI: 1.09–3.51; $p = 0.023$).

Conclusion: The findings indicate that inadequate nutrition knowledge predisposes to an unhealthy lifestyle, while abdominal adiposity and inactivity contribute to elevated BP. Incorporating nutrition and physical exercise into health education will help to alleviate cardiometabolic risk among commercial drivers in Nigeria.

Keywords: awareness, commercial drivers, elevated blood pressure, nutrition knowledge

Introduction

Nutrition knowledge reflects the awareness and understanding of food-related practices and concepts, which influence food choice and dietary habit. It is crucial in shaping healthy dietary behaviours, reducing and managing the risk of non-communicable diseases (NCDs).¹ Findings have shown that better nutrition knowledge helps in making a healthy choice for a balanced diet rich in fruits, vegetables, wholegrains, and lean proteins. It helps to limit or avoid intake of foods characterised by excessive salt, simple sugar and unhealthy fats because of the understanding of their associated health implications.^{2,3} Overall, adequate nutrition knowledge contributes to good nutritional status and healthy lifestyle practices.³

However, transport workers are uniquely vulnerable to NCDs because of long, sedentary work hours, irregular shifts, chronic work stress, and limited access to healthy food and healthcare. Many of them eat outside the home, and make choices of unhealthy, roadside-based foods.⁴ Lack of adequate nutrition knowledge could lead to unhealthy food choices and predispose to overweight and obesity, which are risk factors for hypertension, diabetes and other cardiometabolic diseases.^{2,3} Yet, there is limited evidence directly measuring drivers' understanding in Nigeria of diet–NCD relationships. Most studies among Nigerian drivers focus on dietary habits, nutrient adequacy and anthropometry, not on detailed knowledge of diet–NCD links.^{5–7}

Research has shown that providing adequate nutrition knowledge can alter eating behaviour and influence individuals' dietary intake. Nutrition awareness helps in mitigating vulnerability to malnutrition and diet-related diseases linked to food choice, selection, cooking, preparation and labelling.^{1,8,9} Despite the fact that a transport system is vital in the development of a nation, little effort is being made to influence the health status of workers in the transport sector in Nigeria. The health status of transporters does not only affect them but also puts the safety of their passengers at risk.⁹ However, commercial drivers' food choices are usually constrained by the roadside environment. This presents the drivers with options of street foods whose quality is compromised in most cases, and puts the health of the consumers at risk.^{10,11}

Addressing transporters' nutrition knowledge is important in driving policy to promote healthier food availability in motor parks and truck stops, rather than individual counselling alone. This will directly affect the NCD burden, road safety, and the costs and functioning of transport systems. It will also help in developing structured nutrition/health education programmes, lower the risk of unrecognised hypertension and improve self-management in hypertensive adults.¹² Therefore, this study evaluates factors associated with nutrition knowledge and elevated blood pressure among commercial drivers in Ondo State, Nigeria.

Methods

Study design, population and location

A cross-sectional research study was conducted. It involved commercial vehicle drivers from four major motor parks in Ondo West Local Government Area. The location is one of the catchment areas in Ondo central senatorial districts of Ondo State in Nigeria. Its headquarters is in Ondo town. As at the 2006 National Census (<https://en.wikipedia.org/wiki/Census>), the population of Ondo West LGA was 283 672. It has area of 970 km².

Sampling technique

Random sampling was used to select the four major motor parks in Ondo town where commercial vehicles that plied major metropolitan cities within and outside Ondo State, Nigeria could be found. The names of the motor parks where the participants were recruited are Ife-garage, Oka-garage, Akure-garage and Ondo-garage. Thereafter, a convenience sampling procedure was employed to pragmatically select 300 apparently healthy commercial drivers. The participants travelled intra- and interstate from the four parks. The choice of this selection strategy was based on the peculiarity of transporters' occupation. Public drivers move from one location to another to secure their daily livelihood. The strategy also allowed the participants to contribute willingly to the study, and to avoid intruding into their schedules.¹³

Sample size calculation

Due to lack of formal records of the number of motor parks and register of commercial drivers in Ondo town where the study was conducted, Cochran's formula ($n = (Z^2 * p * (1-p)) / E^2$) for unknown population was used to determine the sample size, given:¹⁴

Given:

$Z = 1.96$ (for 95% level of confidence interval)

$P = 0.5$ (estimated proportion for maximum sample size) $E = 0.05$ (desired margin of error) $N = \frac{1.962 \times 0.5 \times 0.5}{0.052} = 384.16$

However, the unavailability of additional commercial drivers who showed interest in participating in the study in the catchment area limited the sample size to 300 participants.

Data collection procedure

A structured interviewer-administered questionnaire was developed based on the literature review conducted on the relationship between nutrition knowledge and non-communicable diseases. The questionnaire comprised three sections. The first domain assessed sociodemographic information. The second domain contained 10 closed-ended questions which focused on evaluating participants' nutrition knowledge based on their awareness of healthy foods, and the link between unhealthy dietary intake and non-communicable diseases such as hypertension and type 2 diabetes.¹⁵ Thus, the items on awareness were part of composite scores of nutrition knowledge. They were described descriptively in the main findings to explicitly characterise the participants' level of nutrition knowledge.

Each question contains options and the scoring was based on 10 summed items. Each correct answer scored 1 point, with a

maximum of 10. The variable was dichotomised using the median to simplify the statistical analysis, to aid easy interpretation and presentation of results, to differentiate participants with adequate nutrition knowledge (being knowledgeable) from those with inadequate knowledge (not knowledgeable) and to compare these groups of individuals.¹⁶ Thus, the 50th percentile of the continuous nutrition knowledge score was used to dichotomise nutrition knowledge based on the population scores. Adequate knowledge (≥ 5 points) referred to good or fair knowledge and inadequate knowledge (< 5 points) referred to poor knowledge.^{17,18}

However, assessment of lifestyle practices was the third domain assessed. This includes the period of time spent driving, cigarette smoking, alcohol consumption, physical activity and eating practices. Anthropometric measurements (weight, height, waist and hip circumferences) were taken using bathroom weighing scales, a stadiometer and non-stretchable measuring tape, respectively. Body mass index (BMI) and waist-to-hip ratio (WHR) were calculated to determine nutritional status. The BMI categories, which include underweight (< 18.5 kg/m²), normal weight (18.5–24.99 kg/m²), overweight (25.0–29.99 kg/m²) and obesity (≥ 30.0 kg/m²), were established. A waist-hip ratio cutoff point of 0.90 was used to determine abdominal adiposity for men.¹⁹

Participants' blood pressure was assessed once through the use of an Omron digital blood pressure monitor (Omron Corp, Kyoto, Japan) with the cuff placed on the midpoint of the left arm while each participant was in a sitting position following the standard procedure. Elevated blood pressure was defined as systolic and diastolic pressure equal to or greater than 140 mmHg and 90 mmHg, respectively.²⁰

Pretest and reliability score of nutrition knowledge and awareness questions

The study questionnaire, consisting of 10 questions on nutrition knowledge of healthy diets and awareness of unhealthy diets, was pretested with 20 commercial drivers. The information gathered was subjected to a reliability test, and yielded Cronbach's alpha (α), mean, variance and standard deviation of 0.79, 6.85, 14.03 and 3.75, respectively.

Ethical statement

Ethical approval for the study was obtained from institutional research ethics committee of Wesley University, Ondo, Nigeria (reference number NUD/15/006). Interviews were conducted with the study participants at a location within the parks where the participants felt comfortable to give their personal information with their privacy preserved. They were informed that refusal to consent would not affect their work or benefits associated with the study. Verbal informed consent was obtained from the study participants before the interview was conducted. This form of consent was preferred by the participants because of sensitivity of the area to insecurity matters, to prevent suspicion towards researchers, to maintain research integrity, to ensure voluntary participation and to maintain confidentiality of the information.

Data analysis

Data were analysed using the Statistical Package of Social Science (SPSS) version 29.0 (IBM Corp, Armonk, NY, USA). Mean, standard deviation, frequency and percentage were employed to describe the characteristics of variables. Association among the variables was established by cross-tabulation,

chi-square and multivariable logistic regression at a 5% level of significance ($p < 0.05$).

Results

Sociodemographic information

Table 1 presents a sociodemographic profile of the participants. All of them were males. Their mean age was 42.0 ± 10.42 years. A large proportion of the commercial vehicle drivers were within the age range 20–49 years, had secondary education and were married. More than half of the transporters worked intrastate while 44.7% worked interstate. Average daily income was ₦3 932 \pm 2 897.61. The types of vehicles driven by the participants were bus (39.0%), motorcycle (23.7%), tricycle (22.3%) and car (15.0%). The proportion of those who had additional occupations was 23.3%.

Participants' lifestyle practices

Only a few of the participants smoked cigarettes, while 39.7% drank alcohol on a regular basis. Some of them spent less than 30 minutes daily walking briskly. More than half ate outside the home on daily basis for at least one meal (either breakfast or lunch) (Table 2).

Table 1: Sociodemographic characteristics of participants

Variables	Frequency	Percentage (%)
Age (years)		
20–34	69	23.0
35–49	142	47.3
50–64	85	28.3
65–74	4	1.3
Level of formal education		
None	9	3.0
Primary	64	21.3
Secondary	207	69.0
Tertiary	20	6.7
Marital status		
Single	52	17.3
Married	246	82.0
Divorced	2	0.7
Income		
\leq ₦5 000	271	90.3
₦5 000–₦10 000	20	6.7
₦11 000–₦15 000	6	2.0
\geq ₦16 000	3	1.0
Mean \pm SD: ₦3 932 \pm 2 897.61		
Route of transportation		
Intrastate	166	55.3
Interstate	134	44.7
Types of vehicle driven		
Motorcycle	71	23.7
Tricycle	67	22.3
Taxi	45	15.0
Bus	117	39.0
Engaged in additional occupation		
None	230	76.7
Farming	27	9.0
Trading	7	2.3
Artisans	35	11.7
Teaching	1	0.3

Nutrition knowledge, awareness of healthy diets and dietary practices among participants

The average score of participants' nutrition knowledge was 4.7 ± 1.24 . The majority of participants scored 4–5 points. The maximum point score was 8 and the least point score 1 by a few participants, respectively (Table 3). Less than half of the participants demonstrated adequate nutrition knowledge while more than half had inadequate nutrition knowledge (Figure 1). Based on the knowledge assessment, findings showed that 47.7% of the participants were aware of the health benefits of green leafy vegetables, fruits and fish, while more than two-thirds knew that consumption of raw fruits is better than commercially made fruit juice. Some of the participants knew that it is unhealthy to add extra salt to cooked food on the table while eating. Two-thirds of them preferred taking water rather than sodas and alcohol when thirsty. On a

Table 2: Lifestyle practices of participants

Variables	Frequency	Percentage (%)
Cigarette smoking		
Yes	41	13.7
No	259	86.3
Time spent on brisk walking per day (minutes)		
< 30	261	87.0
30–60	37	12.3
60–120	2	0.7
Place of taking meal		
Home only	35	11.7
Outside the home	25	8.3
Both	240	80.0
Meal taken outside the home		
Breakfast only	20	6.7
Lunch only	137	45.7
Dinner	5	1.7
Breakfast and lunch	71	23.6
Lunch and dinner	10	3.3
Breakfast, lunch and dinner	22	7.3
None	35	11.7
Frequency of eating outside the home per week		
Every day	155	51.6
2–3 days	17	5.7
4–5 days	39	13.0
6 days	54	18.0
None	35	11.7

Table 3: Proportion of participants by nutrition knowledge score

Scores	Frequency (300)	Percentage (100%)
1	2	0.7
2	7	2.3
3	36	12.0
4	96	32.0
5	94	31.3
6	40	13.3
7	21	7.0
8	4	1.3

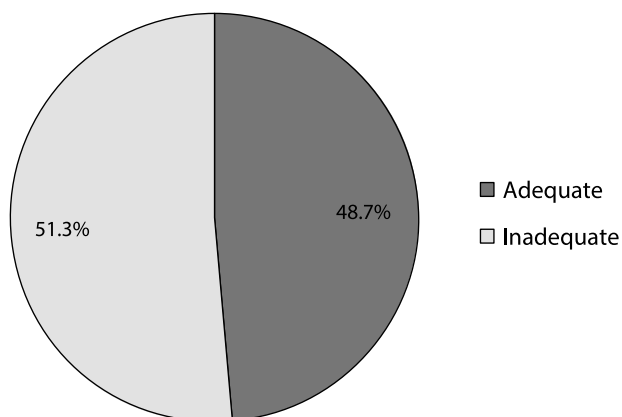


Figure 1: Participants' level of nutrition knowledge.

regular basis, 43.3%, 40.7%, 97.3% and 2.7% ate fruits as snacks, and were aware of the health implications of consuming excess sugar, salt and dietary fat, respectively (Figure 2).

Anthropometric characteristics and blood pressure pattern

Participants' average body mass index, waist circumference and waist-hip ratio were 24.9 ± 3.38 kg/m², 81.8 ± 13.15 cm and 0.88 ± 0.15 , respectively. The proportion of participants who were of normal weight was 46.3%. Those who were underweight, overweight and obese were 2.0%, 45.0% and 6.7%, respectively (Figure 3). A large proportion of the participants had elevated waist-hip ratio (Figure 4). Participants' mean systolic and diastolic blood pressure were 124.6 ± 16.81 mmHg and 82.93 ± 11.89 mmHg, respectively. The majority of the participants had normal blood pressure (Figure 5).

Factors associated with nutrition knowledge

Table 4 presents information on factors associated with nutrition knowledge among participants. A significant association was found between nutrition knowledge and daily income, level of formal education, cigarette smoking and time spent

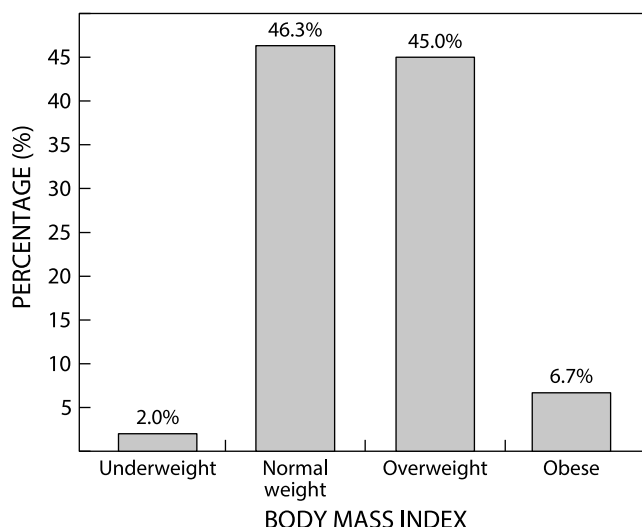


Figure 3: Body mass index of participants.

on brisk walking. The proportions of participants who had adequate nutrition knowledge were higher among those who had secondary formal education and who did not smoke cigarettes but lower among the participants who spent less than 30 minutes walking briskly daily. Findings of multivariate regression analysis showed the factors that significantly influenced nutrition knowledge among participants to include: level of education, cigarette smoking and frequency of eating outside the home. The odds of adequate nutrition knowledge increased 1.59-fold with a higher level of formal education. In contrast, participants who smoked cigarettes were three times less likely to have adequate nutrition knowledge compared with non-smokers, while those who frequently ate outside the home were 1.39 times less likely to have adequate nutrition knowledge (Table 5).

Factors associated with elevated blood pressure

Table 6 presents findings on factors associated with elevated blood pressure. Waist-hip ratio, route of transportation and

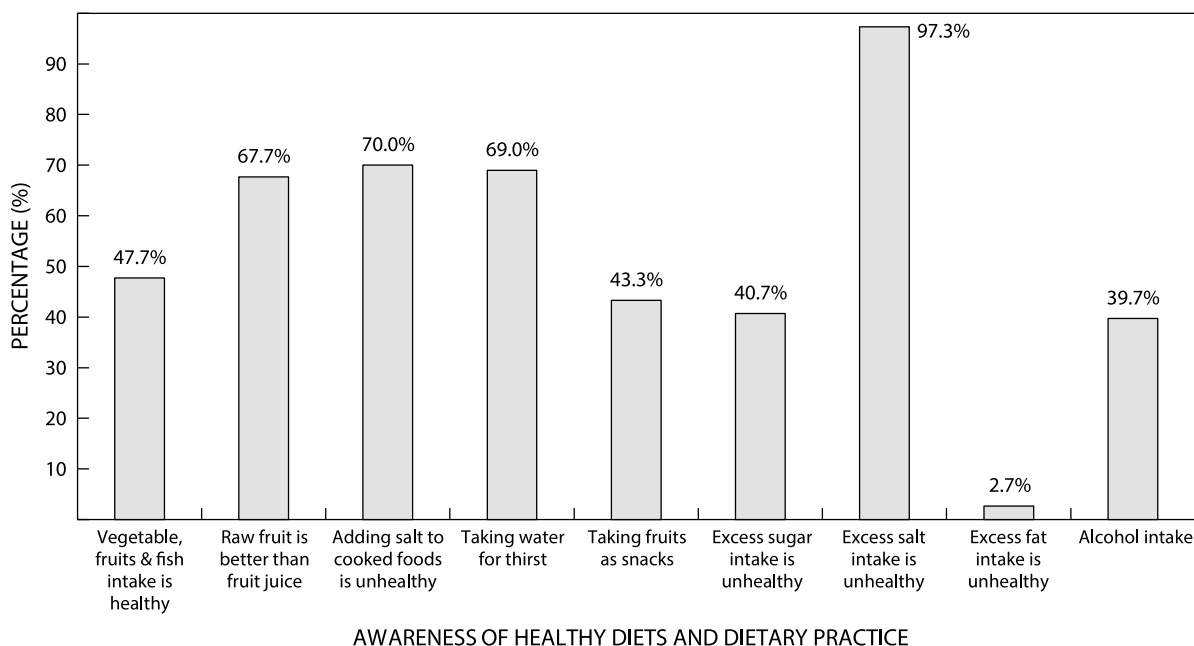


Figure 2: Awareness of healthy diets and dietary practice among participants.

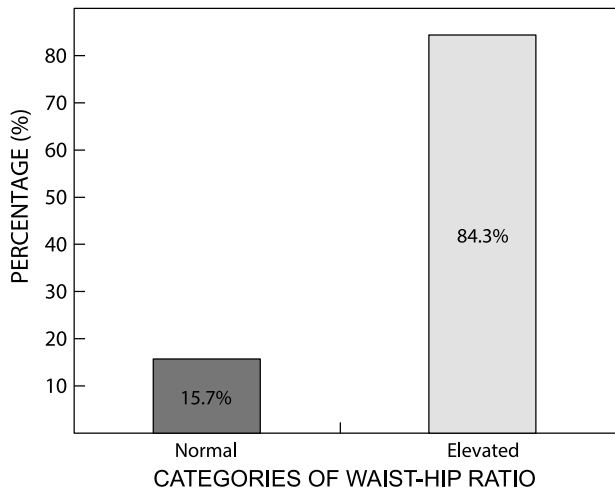


Figure 4: Waist–hip ratio of respondents.

time spent on brisk walking per day were significantly associated with elevated blood pressure. Participants who had normal waist–hip ratio, those who worked interstate and those who spent less than 30 minutes on brisk walking were found to have a higher risk of developing elevated blood pressure. Based on multivariate logistic regression, factors that significantly contributed to elevated blood pressure among participants are: waist–hip ratio, route of transportation and brisk walking. Participants with normal waist–hip ratio were 6.17 times less likely to develop elevated blood pressure compared with those with an elevated waist–hip ratio. Participants who worked interstate were 1.94 times more likely to develop elevated blood pressure than those who worked intrastate. Each one-unit increase in time spent on brisk walking was associated with a 1.96 times reduction in developing elevated blood pressure (Table 7).

Discussion

This study explored the level of nutrition knowledge, elevated blood pressure and associated factors among commercial drivers. All the drivers who participated in this study were males. The majority were within the age range 20–49 years. This observation suggests that the transportation industry is predominantly dominated by young and middle-aged men, as reported previously by other researchers.²¹ Finding that some of the drivers in the study location had tertiary education shows a high level of literacy among them. This is in agreement with the report by Tobin and colleagues among transporters in Benin, Nigeria.²²

However, a lack of adequate nutrition knowledge is a public health issue and a predictor of poor dietary intake that has serious health implications.^{2,3} More than half of the commercial drivers in this study demonstrated inadequate nutrition knowledge despite some of them having attended high school. Many of them did not know the health benefits of consuming green leafy vegetables, fruits and fish regularly. Some were not aware of lifestyle practices associated with non-communicable diseases. Previously, Odeyinka and Ajayi also observed a similar knowledge deficit among commercial drivers in Ibadan Metropolis, South-western Nigeria where a large proportion of them lack knowledge of the risk factors predisposing to diabetes.²³

Factors found by this study to influence nutrition knowledge of commercial drivers include level of education, cigarette

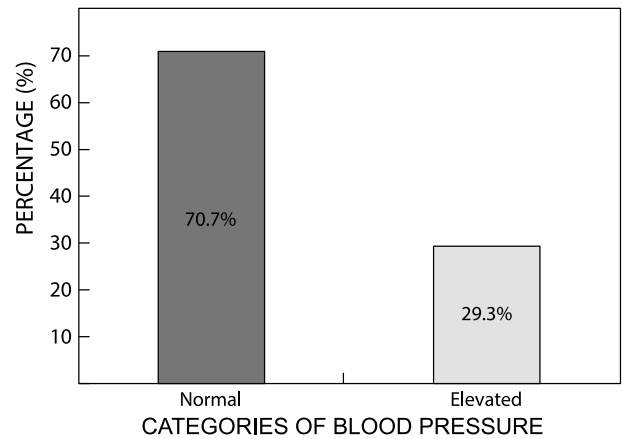


Figure 5: Categories of blood pressure among participants.

smoking and frequency of eating outside the home, though Yahia and colleagues had earlier stated that formal education does not translate to having adequate nutrition knowledge.²⁴ However, formal education plays a significant role in acquiring nutrition knowledge.²⁵ In comparison with women, our finding buttresses the claim that men's knowledge of nutrition is usually lower than women's.^{26,27} People can only make a healthy lifestyle choice when they have adequate knowledge of a healthy diet.^{8,9} In addition, in this study smokers were less likely to have adequate nutrition knowledge, though the prevalence of cigarette smoking by drivers in the study location is lower than Goon and Bipasha reported among bus drivers in Dhaka city, Bangladesh.²⁸ Commercial drivers in this study were possibly aware of the negative consequences that smoking has on human health. Previous studies have shown that the lifestyle of commercial drivers is often characterised by frequent eating of meals during the trip and outside the home.^{6,7} This could be the reason why alcohol intake is part of the lifestyle practices of commercial drivers. Though the prevalence of alcohol consumption (39.7%) in this study is higher than the 20.5% observed in Akure, it is less than the 91.4% reported among commercial drivers in Enugu in Nigeria.^{5,29}

Furthermore, the prevalence of elevated blood pressure was 29.3%. This is higher than the 17% reported in Port Harcourt but less than the 33.5% observed among commercial vehicle drivers in Sokoto, Nigeria, respectively.^{6,30} Factors identified as contributing to elevated blood pressure among the commercial drivers in this study are: waist–hip ratio, route of transportation and brisk walking. As reported earlier, sedentarism/physical inactivity is associated with overweight and obesity among commercial drivers.⁶ In this study, many commercial drivers spent less than 30 minutes walking briskly in a day. This is contrary to the findings of Rzewnicki et al., who reported that 58% of Belgian drivers performed brisk walking for 74 minutes per day.³¹ This suggests that the drivers in this study spend longer hours sitting because of the nature of their work than embarking on physical exercise.

Consequently, elevated blood pressure observed among the drivers is associated with the time spent on brisk walking. This supports the findings of other researchers who had previously established a significant relationship between physical inactivity and non-communicable diseases such as exhaustion, musculoskeletal disorder, hypertension, hyperlipidaemia and type 2 diabetes.^{32,33} Physical inactivity is a predisposing factor to

Table 4: Factors associated with nutrition knowledge among participants

Factors	Level of nutrition knowledge		χ^2	p-value
	Inadequate 154 (51.3%)	Adequate 146 (48.7%)		
Age (years)				
20–34	39 (13.0)	30 (10.0)	0.262	0.609
35–49	70 (23.3)	72 (24.0)		
50–64	42 (14.0)	43 (14.4)		
65–74	3 (1.0)	1 (0.3)		
Income				
≤ ₦5 000	146 (48.7)	125 (41.7)	6.158	0.013*
₦5 000–₦10 000	6 (2.0)	14 (4.7)		
₦11 000–₦15 000	1 (0.3)	5 (1.7)		
≥ ₦16 000	1 (0.3)	2 (0.7)		
Marital status				
Single	30 (10.0)	22 (7.3)	1.640	0.200
Married	124 (41.3)	122 (40.7)		
Divorced	0 (0.0)	2 (0.7)		
Level of education				
No formal education	7 (2.3)	2 (0.7)	4.647	0.031*
Primary	37 (12.3)	27 (9.0)		
Secondary	102 (34.0)	105 (36.0)		
Tertiary	8 (2.7)	12 (4.0)		
Cigarette smoking				
Yes	12 (4.0)	29 (9.7)	9.255	0.002*
No	142 (47.3)	117 (39.0)		
Alcohol intake				
Consumed	53 (17.7)	66 (22.0)	3.646	0.056*
Not consumed	101 (33.7)	80 (26.7)		
Frequency of eating outside the home				
Every day	99 (33.0)	56 (18.7)	15.909	< 0.001*
2–3 days	7 (2.3)	10 (3.3)		
4–5 days	15 (5.0)	24 (8.0)		
6 days	16 (5.3)	38 (12.7)		
None	17 (5.7)	18 (6.0)		
Time spent on brisk walking (minutes)				
0–30	141 (47.0)	120 (40.0)	6.048	0.049*
31–60	12 (4.0)	25 (8.4)		
61–120	1 (0.3)	1 (0.3)		
BMI (kg/m²)				
Underweight	2 (0.7)	4 (1.3)	6.339	0.096
Normal	69 (23.0)	70 (23.3)		
Overweight	77 (25.7)	58 (19.3)		
Obese	6 (2.0)	14 (4.7)		
Waist–hip ratio				
Normal	135 (45.0)	118 (39.3)	2.654	0.103
Elevated	19 (51.0)	28 (9.3)		

*Significant association at $p < 0.05$, BMI: body mass index.

overweight and obesity, which are independent risk factors for cardiometabolic diseases among commercial drivers.³⁴ That some of the participants were overweight, obese and had acquired abdominal adiposity establishes the resultant effects of inadequate knowledge and sedentary lifestyle among commercial drivers.

However, some of the commercial drivers were found to be aware that excessive intake of dietary salt can result in the

development of hypertension. This could be the reason why many of them avoided putting extra salt on already cooked foods, and two-thirds of them had normal blood pressure, though the rate of elevated blood pressure was higher among those who travelled interstate. This observation, which poses a cardiovascular risk, is similar to what was reported by Hirata and other researchers among interstate bus drivers in Brazil.³⁵ This could be a result of stress emanating from long periods spent travelling. To maintain a healthy living, a driver

Table 5: Factors influencing nutrition knowledge of participants

Variables	aOR	95% CI	p-value
Age	1.00	0.98, 1.03	0.847
Level of education	1.59	1.03, 3.21	0.038*
Income	1.75	0.96, 3.21	0.068
Marital status	1.43	0.70, 2.89	0.328
Cigarette smoking	3.23	1.49, 7.02	0.003*
Alcohol intake	1.11	0.66, 1.85	0.701
Frequency of eating outside the home	1.39	1.15, 1.68	< 0.001*
BMI	1.02	0.95, 1.09	0.548
Waist–hip ratio	4.49	0.60, 33.64	0.143
Time spent on walking	1.22	0.66, 2.25	0.525

aOR: adjusted odd ratio, CI: confidence interval. *Significant at 5%.

Table 6: Factors associated with elevated blood pressure among participants

Factors	Blood pressure (mmHg)		χ^2	p-value
	Normal 212 (70.7%)	Elevated 88 (29.3%)		
Age (years)				
20–34	50 (16.7)	19 (6.3)	0.401	0.940
35–49	101 (33.7)	41 (13.7)		
50–64	58 (19.3)	27 (9.0)		
65–74	3 (1.0)	1 (0.3)		
Waist–hip ratio				
Normal	186 (62.0)	67 (22.3)	6.333	0.012*
Elevated	26 (8.7)	21 (7.0)		
Route of transportation				
Intrastate	125 (41.7)	41 (13.7)	3.851	0.050*
Interstate	87 (29.0)	47 (15.7)		
Time spent on brisk walking per day (minutes)				
0–30	168 (56.0)	58 (75.3)	7.582	0.023*
31–60	42 (14.0)	30 (10.0)		
61–120	2 (0.7)	0 (0.0)		
Nutrition knowledge				
Adequate	104 (34.7)	42 (14.0)	0.044	0.834
Inadequate	108 (36.0)	46 (15.3)		
Cigarette smoking				
Yes	29 (9.7)	12 (4.0)	0.000	0.992
No	183 (61.0)	76 (25.3)		
Alcohol intake				
Consumed	82 (27.3)	37 (12.3)	0.294	0.587
Not consumed	130 (43.3)	51 (17.0)		
Frequency of eating outside the home				
Every day	109 (36.3)	46 (15.3)	4.259	0.372
2–3 days	10 (3.3)	10 (3.3)		
4–5 days	30 (10.0)	30 (10.0)		
6 days	35 (11.7)	35 (11.7)		
None	28 (9.3)	7 (2.3)		
BMI (kg/m ²)				
Underweight	4 (1.3)	2 (0.7)	1.560	0.668
Normal	103 (34.3)	36 (12.0)		
Overweight	92 (30.7)	43 (14.3)		
Obese	13 (4.3)	7 (2.3)		

*Significant association at $p < 0.05$. BMI: body mass index.

Table 7: Factors influencing elevated blood pressure among participants

Variables	aOR	95% CI	p-value
Age	0.99	0.87, 1.03	0.962
Nutrition knowledge	0.93	0.75, 1.14	0.471
Smoking	0.96	0.41, 2.26	0.931
Alcohol intake	1.05	0.59, 1.86	0.880
Frequency of eating outside the home	1.01	0.85, 1.19	0.952
BMI	1.01	0.93, 1.09	0.849
Waist–hip ratio	6.17	1.01, 37.64	0.049*
Route of transportation	1.94	1.04, 3.64	0.038*
Having additional work	0.52	0.26, 1.03	0.060
Brisk walking	1.96	1.09, 3.51	0.023*

aOR: adjusted odd ratio, CI: confidence interval. *Significant at 5%.

should be taking time to have adequate rest, eat healthy foods and regularly do exercise after spending long hours driving.

Furthermore, a person's occupation can influence his or her daily dietary pattern. Many commercial drivers in this study were found to be eating breakfast and lunch outside the home. This can be responsible for low intake of fruits, vegetables, legumes and fish.³⁶ According to Jogunola and Awoyemi, workers whose occupation is outside the home patronise food canteens and eat street foods more than others.⁴ The majority of them would prioritise consuming foods that are calorie-dense, rather than foods which supply micronutrients.³⁷ Previous studies have found street foods to be high in saturated fat, carbohydrate and microbial load, which predispose to non-communicable diseases.^{10,11}

Strength and limitations of the study

The findings of the study provide evidence for developing policy that guides health promotion and nutrition education to ensure healthy living and practices among transporters. However, there are certain limitations identified in the study. First, the cross-sectional design employed did not give an opportunity to determine the cause-and-effect relationship of variables. A single-occasion measurement of blood pressure might have introduced measurement error by misclassifying participants' blood pressure status. The study findings might not fully represent the general experience of all the commercial drivers in Nigeria because of the reduced sample size, self-reported lifestyle variables and possible residual confounding variables. Convenience sampling used might have also introduced selection bias.

Conclusion and recommendation

There are many commercial drivers who are unaware of the roles of healthy diets and have inadequate nutrition knowledge despite their level of formal education. Many of them are physically inactive and are not taking time to have adequate rest because of the nature of their work. They sit for long periods of time while driving. These practices have led to a prevalence of overweight and obesity, and might put them at the risk of cardio-metabolic diseases such as high blood pressure. Workplace intervention that includes public health promotion is required for commercial drivers. There is a need for regular public campaigns against unhealthy food choice, eating practices and habits. Awareness of healthy foods and physical

exercise should be intensified among commercial drivers in Nigeria for healthy food choices and lifestyle practices to lower the risk of them developing non-communicable diseases.

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