



Article Obesity as a Risk Factor for Hypertension and Diabetes among Truck Drivers in a Logistics Company, South Africa

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Abstract: Despite the occupational nature of truckers predisposing them to cardiovascular diseases and risk factors, data is scarce on their prevalence of obesity and its association with developing hypertension (HBP) and diabetes in South Africa. Extracted from the original cross-sectional study of a sample of 312 employees in a logistics company, a census of 96 male truckers was used to determine the prevalence of obesity and its association with HBP and diabetes. WHO STEPwise approach was used to collect data, including systolic (SBP) and diastolic (DBP) blood pressure and anthropometry measurements. HBP is defined as SBP/DBP $\geq 140/90$ mmHg, overweight/obesity as BMI ≥ 25 kg/m², abdominal obesity by waist circumference as WC ≥ 90 cm, waist-to-hip-ratio as WHR \geq 0.90, and waist-to-height ratio as WHtR \geq 0.5. Data were analysed using SPSS 22. The mean age of truckers was 46 years, 29% were smokers, and 57% alcohol users, while 26% were physically inactive. The prevalence of overweight (44%) and obesity (30%) were observed, while abdominal obesity was high; WC (59%), WHR (65%), and WHtR (80%). HBP (57%) was prevalent and diabetes was 14%. The odds of developing HBP were high for obese truckers by WC [AOR = 4.68; CI = 1.92-11.34] and by WHtR [AOR = 5.49 CI = 1.74-17.27), while diabetes was associated with WHR (AOR = 1.19; CI = 1.19–31.21). This study showed an associative link between obesity, HBP, and diabetes among the truckers, which is informative for a relevant prevention programme tailored to their needs.

Keywords: overweight/obesity; abdominal obesity; hypertension; diabetes; truck drivers; logistics company; South Africa

1. Introduction

South Africa has recorded over 70,000 truck drivers in transport and logistics companies [1,2]. Truck drivers work for long hours delivering products across the country and borders [3]. Although the trucking industry contributes majorly to the economy and social development of the nation [4], truck driving is considered as one of the most dangerous occupations, giving rise to unfavourable health outcomes [5,6]. Truck drivers work in an environment which provides them with restricted chances to have a healthy lifestyle [7]. Truck drivers are subjected to unhealthy diets because of easy access to unhealthy food, in addition to a sedentary lifestyle, which predisposes them to the development of overweight/obesity [5,8]. Hence, overweight/obesity is an alarming health risk factors among truck drivers and might lead to hypertension (HBP), diabetes, and other health conditions [9–11].



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Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). According to WHO, overweight/obesity is defined as excessive fat accumulation predisposing to health risks, and has become an escalating epidemic throughout the world [12,13]. Alarming rates of obesity have been observed (62%) [14]; in South Africa, obesity prevalence is on the rise relative to other African countries [15–17]. The South African Health and Demographic Survey [18] has reported a prevalence of overweight/obesity among men at 31% by body mass index (BMI), 9% by waist circumference (WC), and 35% by waist-to-height ratio (WHtR). Although, overall overweight/obesity (BMI ≥ 25 kg/m²) is most generally assessed by BMI and poses a health threat, body fat distribution contributes to health conditions [19,20]. Abdominal obesity using WC, waist-to-hip ratio (WHR), and WHtR has been recognised as an independent risk factor for cardio-metabolic diseases than general obesity. Independent of BMI, studies have shown a strong association between obesity markers and cardiovascular diseases, such as HBP and type 2 diabetes mellitus (T2D) [21–23].

HBP is a public health burden and a risk factor for cardiovascular diseases [24–26]. Globally, HBP account for 9.4 million deaths each year [27,28]. During 2015 to 2020, studies in South Africa estimated the prevalence of HBP among men to be between 17% and 49.5% [29–31]. The country is faced with a growing burden of HBP, concurrent with a rapid increase of T2D (i.e., raised glucose levels), another major source of morbidity and mortality, collectively owing to epidemiological transition, poor diets and inactive lifestyle [32–34]. T2D pooled prevalence of 15.25% has been reported in South Africans aged 25 years and older, irrespective of certain demographic factors, as well as diagnostic test and study design [35]. T2D and HBP overlap in the population and in most cases, the advancement of hypertension and T2D advance with time [26].

It is clear that truck drivers are essential employees contributing to the country's economy [2–4,36]. In this wise, studies from several countries, including Ethiopia, Nigeria, and Mexico have confirmed that obesity is high and associated with HBP, demographic, behavioural, and occupational factors [8,37,38]. However, in South Africa, data is scarce among commercial drivers, including truckers, which focuses on their healthcare and health status [2,36], HIV and sexually transmitted diseases [39–42], with minimal research on hypertension and T2D, and associated factors [43,44]. It is worth noting that non-communicable diseases (NCDs), inclusive of cardiovascular diseases, are prevalent [29,45] and/or co-exist with communicable (e.g., HIV) diseases among different populations in South Africa [17,46,47].

In spite of the occupational nature of truckers predisposing them to cardiovascular diseases and risk factors [36], there is scarcity of data on the prevalence of general obesity and abdominal obesity and their association with developing these cardiovascular diseases among truckers in South Africa. It is imperative to improve work related wellbeing of truck drivers in general, as reiterated by other researchers [2,36]. Therefore, this study was designed to assess the relationship of obesity (using BMI, WC, WHR, and WHtR) with HBP and diabetes among male truck drivers in a logistics company in Midrand of Gauteng Province, South Africa. In the midst of limited research in South Africa, this study will contribute knowledge in relation to the concept studied. Understanding this relationship is necessary to inform health programmes in the company, tailored to the needs of truck drivers, to prevent overweight/obesity and ultimately reducing cardiovascular consequences, although cardiovascular diseases are multifactorial [48].

2. Materials and Methods

2.1. Study Design and Population

This paper is extracted from the original cross-sectional study that determined the prevalence of undiagnosed HBP and associated factors among employees of a logistics company in Midrand of Gauteng Province, South Africa. The company's location and the purpose have been discussed in details, in the original study of Bokaba et al. [45]. Briefly, this logistics company is situated in Midrand, a business hub of companies in the Gauteng Province of South Africa, and is a bulk cold storage enterprise transporting food

in refrigerated primary transport to retailers, and has a wellness program organised twice a year [45]. There are 1650 employees in this particular logistics company and the original study calculated a representative sample of 312 using Rao software sample calculator [49], which considered the total population size of employees, a 5% margin of error, and 95% confidence. A systematic random sampling was used to select employees from a headcounts list in alphabetical order. The original study excluded employees who had previously been diagnosed with hypertension/chronic diseases and were on medication at the time of the study, as well as female employees who indicated that they were pregnant [45].

For this paper, a census sample of male truck drivers was taken out of the original sample. This was motivated by the fact that in the original paper, truck drivers had a higher prevalence of HBP and were more likely to be obese compared to other employees [45]. Research shows that the transport industry exposes truck drivers to risk of devastating health conditions [5,6,8]. Data is scarce on the health status of the truck driver [2]; however, literature documents explicitly that truck drivers work under physically challenging circumstances, predisposing to health risks like HBP and diabetes [7,9,11,50]. Considering this universal concept, we singled out all the 96 truck drivers from the original study [45].

2.2. Data Collection and Procedures

In the original study, the main researcher collected data using a modified version of WHO STEPwise questionnaire [51] under the three major items: the demographic, behavioural data, and physical measurements. Demographic and behavioural data entailed occupation (i.e., job description and working shifts), age, marital status, education level, smoking and alcohol use, fruit, vegetables, salt consumption, physical activity, diabetes status, and family history of HBP (see Supplementary Material from the original study). The questionnaire was tested for validity and reliability using language translators from English to IsiZulu, content and face validity, and a pilot study; the results of the pilot study were not included in the main study [45].

The original study further collected physical measurements in a form of blood pressure and anthropometry [45]. Standard procedures were adhered to during measurements [52] using a digital blood pressure monitor, electronic weighing scale, stadiometer for height, and a tape measure for waist and hip circumferences. HBP was defined as the average of three systolic blood pressures (SBP) of \geq 140 mmHg and diastolic blood pressure (DBP) of \geq 90 mmHg, or history of HBP or both, and studied the overall prevalence [53]. Body weight was measured from a participant wearing light clothes, and to the nearest 0.1kg in a standing position using a calibrated smart D-quip electronic scale, and height was measured to the nearest 0.1cm by a stadiometer in a standing position without shoes and with closed feet. The waist circumference (WC) was measured at the level of the umbilicus and hip circumference (HC) at the widest part of the buttocks using a non-elastic tape. The body mass index (BMI) was categorized as: underweight (BMI < 18.5 kg/m^2), normal $(18.5-24.9 \text{ kg/m}^2)$, overweight $(25.0-29.9 \text{ kg/m}^2)$, and obese $(\geq 30 \text{ kg/m}^2)$. However, during data analysis, overweight and obesity were combined, and expressed either as overweight/obesity or obesity. Abdominal obesity was defined as having a WC \geq 90 cm, WHR \ge 0.90, and WHtR \ge 0.5 [54,55].

2.3. Data Analysis

Data were analysed using the Statistical Package for Social Science (SPSS) version 22. Data were expressed as mean/percentage (95 CI%). A Chi-square test and Fisher's exact test were used to determine the association between obesity and cardio-metabolic factors. The relationship of obesity with HBP and diabetes was determined using adjusted logistic regression analysis. The Kappa statistics was used to assess the degree of agreement of anthropometric markers to identify obesity. The statistical significance was set at p < 0.05, and 95% confidence interval.

2.4. Ethical Consideration

The study was approved by the Sefako Makgatho Health Sciences University Research and Ethics Committee, South Africa (SMUREC/H/46/2019: PG), in accordance with Helsinki II Declaration [56]. Permission to conduct the study was granted by the clinic manager of the Logistics company.

3. Results

A census sample of 96 truck drivers was obtained and the mean age was 46 years (44.56; 47.85). Mean weight and height were 80.86 kg and 170.90 cm, respectively, ranging from 77.82 to 83.91 kg and 169.34 to 172.47 cm, respectively. Among the total number of participants, the mean SBP and DBP of the study population were 140.96 mmHg and 86.41 mmHg, respectively. The overall prevalence of hypertension and diabetes were found to be 57% and 14%, respectively. The results further showed that 29% of truck drivers were smoking, while 44% and 30% of them were overweight and obese, respectively, with an overall overweight/obesity of 74%. About 26% were physically active (Table 1).

Cardiometabolic Factor	Mean/Percentage (95% CI)
Age (years)	46.21 (44.56; 47.85)
Weight (kg)	80.86 (77.82; 83.91)
Height (cm)	170.90 (169.34; 172.47)
$BMI (kg/m^2)$	27.64 (26.73; 28.55)
Normal (%)	26% (18; 36)
Overweight (%)	44% (34; 54)
Obesity (%)	30% (22; 40)
Raised SBP (mmHg)	140.96 (137.74; 144.19)
Raised DBP (mmHg)	86.41 (84.21; 88.61)
Hypertension (yes)	57% (47; 67)
Diabetes (yes)	14% (9; 23)
Smoking (yes)	29% (21; 39)
Alcohol use (yes)	57% (47; 67)
Physical active (yes)	26% (18; 36)

Table 1. Descriptive statistics of cardio-metabolic factor amongst logistic company truck drivers.

BMI stands for body mass index; SBP stand for systolic blood pressure; and DBP stands for diastolic blood pressure.

The prevalence of obesity by cardio-metabolic risk factors is shown in Table 2. Comparable between all four groups, a higher prevalence of smoking was observed in both BMI, WHR, and WHtR groups, and a higher prevalence of diabetes and hypertension was also observed in all obesity groups.

In Table 3, Pearson correlation coefficients were used to measure the association between variables of cardio-metabolic and obesity (by BMI, WC, WHR, and WHtR) amongst male truck drivers. There were significant associations of hypertension with BMI (*p*-value = 0.042), WC (*p*-value = 0.001), and WHtR (*p*-value = 0.002) among truck drivers, while no association was observed with diabetes in this case. Raised SBP was significantly associated with WC and WHtR (Table 3).

Cardiometabolic Factors Obesity Classified by BMI		Obesity Classified by WC		Obesity Classified by WHR		Obesity Classified by WHtR		
	No	Yes	No	Yes	No	Yes	No	Yes
Age groups (years)								
30-40	37% (20; 57)	63% (43; 79)	44% (27; 64)	56% (36; 73)	37% (21; 57)	63% (43; 79)	19% (8; 38)	81% (62; 92)
41–50	19% (9; 33)	81% (67; 91)	40% (25; 55)	60% (45; 74)	26% (15; 41)	74% (59; 85)	19% (9; 33)	81% (67; 91)
>50	27% (13; 47)	73% (53; 87)	38% (22; 59)	62% (41; 78)	50% (31; 69)	50% (31; 69)	23% (12; 43)	77% (56; 89)
Smoking (yes)	32% (17; 52)	67% (48; 83)	50% (32; 68)	50% (32; 68)	39% (23; 59)	61% (41; 77)	25% (12; 0.45)	75% (55; 88)
Alcohol use (yes)	23% (13; 35)	78% (65; 87)	35% (23; 48)	65% (52; 77)	38% (26; 52)	62% (48; 74)	15% (7; 0.27)	85% (73; 93)
Physical active (no)	22% (14; 34)	78% (66; 86)	38% (27; 50)	62% (49; 73)	37% (26; 49)	63% (51; 74)	19% (12; 0.31)	80% (69; 88)
Raised SBP	19% (10; 32)	81% (68; 89)	26% (16; 40)	74% (59; 84)	30% (19; 44)	70% (56; 81)	10% (4; 0.21)	90% (78; 96)
Raised DBP	21% (11; 37)	79% (63; 89)	29% (17; 46)	71% (54; 83)	29% (17; 46)	71% (54; 83)	11% (4; 0.25)	89% (75; 96)
Diabetes (yes)	14% (3; 45)	86% (55; 97)	29% (11; 58)	71% (42; 89)	21% (6; 51)	79% (49; 93)	8% (0.9; 4)	92% (61; 99)
Hypertension (yes)	19% (9; 31)	81% (69; 90)	25% (15; 39)	75% (61; 84)	29% (18; 43)	71% (57; 82)	10% (4; 20)	90% (79; 96)
n (%)	25 (26%)	71 (74%)	39 (41%)	57 (59%)	34 (35%)	62 (65%)	19 (20%)	77 (80%)

Table 2. Prevalence of cardio-metabolic factors distributed by obesity amongst logistic company truck drivers.

BMI stands for body mass index; WC for waist circumference; WHR for waist hip ratio; WHtR for waist-height-ratio; SBP for systolic blood pressure; and DBP for diastolic blood pressure.

Cardiometabolic Factor	Obesity by BMI	Obesity by WC	Obesity by WHR	Obesity by WHtR
Age	0.230	0.889	0.118	0.886
Smoking	0.382	0.230	0.611	0.411
Alcohol use	0.275	0.160	0.512	0.135
Physical active	0.187	0.383	0.678	0.976
Raised SBP	0.075	0.002 *	0.234	0.005 *
Raised DBP	0.367	0.059	0.283	0.065
Diabetes	0.278	0.320	0.236	0.199
Hypertension	0.042*	0.001 *	0.133	0.002 *

Table 3. Association between variables of cardio-metabolic and obesity (by BMI, WC, WHR and WHtR) amongst male truck drivers.

BMI stands for body mass index; SBP stand for systolic blood pressure; DBP stands for diastolic blood pressure; and * *p*-value: significant at 0.05.

Cohen's k was estimated to see if there was an agreement between two obesity indicators: BMI-WC, BMI-WHR, BMI-WHtR, WC-WHR, WC-WHtR and WHR-WHtR. There was moderate agreement between obesity by BMI and WC, k = 0.59 (p < 0.001), and obesity by WC and WHtR, k = 0.48 (p < 0.001), indicating that 55 and 56 truck drivers, respectively, were obese. Obesity by BMI and WHtR had a significant agreement, k = 0.65 (p < 0.001), but obesity by BMI and WC had a small agreement. However, there was a reasonable agreement between WC and WHR with a 45.8% agreement (Table 4).

Table 4. Agreement among anthropometric markers for identifying obesity.

Two Obesity Indicators	Obesity	Kappa (<i>p-</i> Value)	Agreement
Obesity by BMI-WC	55 (57.3%)	0.59 (<0.001) **	Moderate
Obesity by BMI-WHR	50 (52.1%)	0.20 (0.044)	Slight
Obesity by BMI-WHtR	68 (70.8%)	0.648 (<0.001) **	Substantial
Obesity by WC-WHR	44 (45.8%)	0.32 (0.002)	Fair
Obesity by WC-WHtR	56 (58.3%)	0.483 (<0.001) **	Moderate
Obesity by WHR-WHtR	54 (56.3%)	0.216 (0.022)	Fair

BMI stands for body mass index; WC for waist circumference; WHR for waist hip ratio; WHtR for waist-heightratio; and ** *p*-value: significant at less than 0.001.

In Table 5, the odds of developing hypertension were over four times higher among truck drivers than the odds of non-obese truck drivers by WC (AOR = 4.68; CI = 1.92, 11.34) and WHtR (AOR = 5.49 CI = 1.74; 17.27), as compared to two times higher by BMI (AOR = 2.74; CI = 1.04, 7.21) and WHR (AOR = 2.29; CI = 0.93, 5.61). Diabetes was significantly associated with obesity by WHR (AOR = 1.19; CI = 1.19, 31.21) only.

Table 5. Adjusted associations between hypertension, diabetes, and classification of obesity among truck drivers.

Variable	Obesity by BMI	Obesity by WC	Obesity by WHR	Obesity by WHtR
Diabetes (yes)	2.81 (0.49; 16.30)	1.98 (0.49; 8.04)	6.01 (1.19; 31.21) *	7.31 (0.63; 84.70)
Hypertension (yes)	2.74 (1.04; 7.21) *	4.68 (1.92; 11.34) *	2.29 (0.93; 5.61) *	5.49 (1.74; 17.27) *

* *p*-value: significant at 0.05.

4. Discussion

Literature documents that truck drivers are predisposed to obesity due to the inactive environment of their occupation, making them susceptible to several devastating health conditions (e.g., hypertension and diabetes) [5,6,8–11]. Therefore, this study determined the prevalence of obesity and its association with hypertension and diabetes among truckers in a logistics company in South Africa. The study showed a moderate proportion of

smoking among truckers, while alcohol use and physical inactivity were high. Overall overweight/obesity, abdominal obesity and hypertension were high among truckers, while diabetes was moderate. Hypertension was significantly associated with all abdominal obesity indicators, more so with WC and WHtR, and then followed by BMI and WHR. Elevated SBP was significantly related with WC and WHtR. On the other hand, diabetes was substantially related with abdominal obesity by WHR.

Overall overweight and obesity among truckers were 44% and 30%, respectively, making an overall overweight/obesity (by BMI) of 74%. The high proportion of overweight/obesity is in line with 69% reported among truckers in South Africa [36], which is double the prevalence in the general population (31%) [18]. The elevated proportion of overweight/obesity has also been reported in several developing countries, such as Ethiopia (56.5%), India (40–55.5%), and Brazil (79.2%) [11,57,58], and developing countries, such as the USA (64–93.3%) [9,59,60] and Germany (76%) [61]. Researchers have alluded that high prevalence of overweight/obesity among truckers is attributed to junk foods, sugary foods, and drinks frequently consumed during long distance driving [5,8]. This is in addition to the socioeconomic (e.g., income), occupational (i.e., driving for long hours), and behavioral factors (i.e., alcohol use) [8,14,45]. This could justify the alarming prevalence and the variations of prevalence of overweight and obesity among studies, including the present study.

In addition, abdominal obesity by WC (59%), WHR (65%), and WHtR (80%) were prevalent. Literature documents that BMI has a strong correlation with gold standard body fat, while WC, WHR, and WHtR are better indicators for assessing abdominal obesity [21–23,62]. The findings of this study classify truckers as being at a high or very high cardio-metabolic risk. This is consistent with a study of Lemke et al. [9], who reported 89% of abdominal obesity among truckers, and further indicated that it is a valid measure of abdominal adiposity predisposing to cardio-metabolic risk. The concept of cardio-metabolic risk encompasses the increased likelihood of vascular events, and comprehends risk factors, such as hypertension, dyslipidemia, and smoking [63]. The current study further showed that the prevalence of diabetes was 14%. Prominent cardio-metabolic risk factors, in addition to overweight/obesity, included smoking (29%) and consuming alcohol (57%), were observed in the present study, which were high compared to 11% and 9%, respectively, in addition to physical inactivity reported among truck drivers in South Africa [36].

We found an alarmingly high prevalence of hypertension (57%) among truck drivers in this study. A similar prevalence of 57% has been reported among commercial drivers in South Africa [43], while Lalla-Edwards et al. [36] reported a 36% of hypertension among truckers in other South African provinces (i.e., Gauteng and Free State) between 2016 and 2017. The prevalence of hypertension recorded in this study is comparable to two studies in Hong Kong (57%) [64] and Taiwan (56%) [65] reported among commercial drivers, but higher than studies in Africa (9% to 33%) [37,66,67] and several developing countries [68,69]. In addition, the current study reported a prevalence of 14% for diabetes, which is almost similar to the 16% prevalence among commercial drivers [44] in South Africa, but too high compared to <3% reported among truckers in the country [36]. In addition, this prevalence is almost double compared to 8.3% overall prevalence of diabetes in the general population in South Africa [70]. Compared to developing countries, such as Hong Kong [64], Iran [68,71], and Brazil [72,73], the prevalence of diabetes among truckers in this study is higher, while Sangaleti et al. [11] reported an almost similar finding (16.4%) among commercial taxi drivers in South Brazil. Uncontrolled and poorly controlled diabetes among truck drivers have been implicated to an increased risk of road accidents [74,75]. Both the prevalence of hypertension and diabetes among truck drivers in the current study may be related to their unhealthy lifestyle and illicit health behaviours associated with their job, similar to the suggestions of other researchers [43,67].

In the present study, hypertension was significantly associated with all obesity indicators. Studies have found direct associations of hypertension with BMI, WC, WHR, and WHtR [23,76,77]. An upward trend in the incidence of hypertension with increasing BMI, WC, and WHtR has been reported in literature [78]. Obesity increases the risk of developing hypertension [79] due to the activation of the sympathetic nervous system, renin-angiotensin system, and sodium retention among other abnormalities [33,80]. Meanwhile, the current study further showed that diabetes was substantially related with abdominal obesity by WC and WHR. WC has been reported as a stronger anthropometric predictor of diabetes than BMI [81]. In addition, WHR has been reported as the mutual indicator for diabetes, subsequent to BMI, and correlates weakly with BMI compared to the correlation with WC [82,83]. Abdominal obesity leads to developing insulin resistance and glucose metabolism [84], which exposes to T2D and far ahead to hypertension; then, eventually causing cardiovascular diseases [85]. Hypertension and diabetes share similar metabolic pathways and risk factors, such as genetics, physical inactivity, dyslipidemia, insulin resistance, and obesity. These factors collectively contribute to the development of arterial stiffness, which promotes the development of hypertension [86,87]. Researchers have found that truck drivers are at increased risk of being overweight or obese, which is associated with developing hypertension and T2D [11,68,69].

In agreement with limited South African studies [36,43,44], the current study affirms an associative link between obesity, HBP, and diabetes among the truckers. Remarkably, the increased proportion of obesity and the associated cardio-metabolic complications, such as HBP and diabetes mellitus, is a drawback of years of efforts towards the attainment of the Sustainable Development Goal (SDG) three (3) of health and well-being and 10 of reducing inequality, since this leads to health complications and death [88]. Moreover, truck drivers contribute significantly in the economy of their families and the country.

5. Limitations

The limitations of this study are worth noting. First, the results of the cross-sectional design cannot report on causality, rather, inferences, considering that cardiovascular diseases are multifactorial. Continuing studies are useful to study the magnitude of the association. Second, the study used a census (i.e., all) sample of truckers who participated in the original study, which is small in nature and may affect the reliability of the results, leading to a higher variability. Nonetheless, our findings were comparable with limited available studies in South Africa, Africa, and developing countries on the subject studied. Third, the study did not collect psychosocial and biochemical data, hence, diabetes was self-reported. The appropriate method to diagnose diabetes is the use of capillary glycaemia; however, we were limited by budget constraints. Studies with budget resources should endeavor to collect all work-related data, from occupation, psychosocial, and blood sample for all-inclusive approach. Social desirability might have led to under-reporting on smoking and alcohol consumption, condoned by the use of dichotomous questions. Fourth, data collection took place at one site, hence, may not apply to truckers in other logistics companies in South Africa. Despite these noted weaknesses, our study provides important findings on the prevalence of obesity in association with hypertension and diabetes among truckers, adding to the limited data available in South Africa. Furthermore, multiple anthropometric and blood pressure measurements were obtained and the averages were used in data analysis. Participants with hypertension were advised to seek medical care from the in-house clinic available in this logistics company.

6. Conclusions

The prevalence of overall overweight/obesity and abdominal obesity among truck drivers in a logistic company in South Africa are alarming. Prominent risk factors for cardiovascular diseases were smoking and alcohol use, in addition to a sedentary lifestyle indicated by physical inactiveness. Overweight/obesity and abdominal obesity were associated with developing of hypertension and diabetes. This study provides useful information on the association of anthropometric indicators of obesity with hypertension and diabetes, which would be helpful for an effective prevention programme tailored for truckers. **Supplementary Materials:** The following are available online at https://www.mdpi.com/article/ 10.3390/app12031685/s1, Questionnaire: Obesity as a Risk Factor for Hypertension and Diabetes among Truck Drivers in a Logistics Company, South Africa.

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Informed Consent Statement: Participation was voluntary and the participants provided written informed consents.

Data Availability Statement: The dataset for participants generated and analysed during the original study is available from the corresponding author upon reasonable request.

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Conflicts of Interest: The authors declare no conflict of interest.

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