Truckies’ Nutrition and Physical Activity: A Cross-sectional Survey in Queensland, Australia

Marguerite C. Sendall¹, Laura K. McCosker¹, Rahma Ahmed¹, Phil Crane¹

Abstract

Truck drivers are at increased risk of diet- and physical activity-related chronic diseases. Despite this, there is a paucity of data about Australian truck drivers’ diet and physical activity behaviors. A multiple choice/short response survey was distributed to truck drivers attending an Australian Truck Show. The survey asked about self-reported health, source(s) of health information, number of serves of fruit, vegetables, and unhealthy food, and number of cans of sugary drink consumed per day, and frequency per week of moderate- and vigorous-intensity physical activity. The survey was completed by 231 truck drivers—almost all male, with a mean age of 46 (range 20 to 71) years. Over 85% worked more than 9 hrs/day. Nearly 75% acknowledged the need to make changes to improve their health. Half consumed fewer serves of fruit and 88% consumed fewer serves of vegetables than national recommendations. Over 63% consumed at least one serve of unhealthy foods per day, and 65% drank at least one can of sugary drink per day. Most of them (80%) undertook less than moderate- and vigorous-intensity physical activity level mentioned in national recommendations. Over 63% consumed at least one serve of unhealthy foods per day, and 65% drank at least one can of sugary drink per day. Most of them (80%) undertook less than moderate- and vigorous-intensity physical activity level mentioned in national recommendations. Over 63% consumed at least one serve of unhealthy foods per day, and 65% drank at least one can of sugary drink per day. Most of them (80%) undertook less than moderate- and vigorous-intensity physical activity level mentioned in national recommendations. Of concern, almost 90% of drivers had above the recommended body mass index—approximately 60% were “obese” (almost double the proportion found in the general population). These findings highlighted the importance of health promotion to help drivers make better choices about their health behaviors, which are often underpinned by the limitations of their work environment. Health promotion in transport industry workplaces should be an important topic for future research.

Keywords: Motor Vehicles; Obesity; Health behavior; Risk factors; Nutritional status; Exercise; Health promotion

Introduction

Approximately 209 000 people work as truck drivers in the Australian road transport industry. Truck drivers’ work environments are characterized by long sedentary hours, erratic schedules and time pressures, with few opportunities to access healthy food options or environments conducive to physical activity. As a result, truck drivers are consistently identified as being at increased risk of diet- and physical activity-related chronic diseases such as obesity, cardiovascular disease and diabetes. To address the risks associated with truck drivers’ work environment, it is important to understand their diet, physical activity and related health behaviors. Some studies have explored these behaviors in the US truck drivers, however there is little data from the Australian context, where

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studies have mostly focused on “safety” issues. The limited data available on diet and physical activity of Australian truck drivers to date have come from small-scale health promotion intervention studies.

To address this gap, we conducted a survey with a large, diverse cohort of Australian truck drivers to examine (a) self-reported diet and physical activity behaviors, (b) readiness to make lifestyle changes to improve their health, and (c) sources of health information.

Materials and Methods

A questionnaire was distributed to truck drivers attending the 2015 Brisbane (Queensland) Truck Show—the Australian transport industry’s premier event. The questionnaire was based on an instrument developed for a previous transport industry workplace health promotion project, and consisted of 32 multiple-choice and short-response questions organized in five parts. Herein, we report on the first three parts of the survey.

Part 1: Demographic Information and General Health Behaviors

This asked about age, sex, self-reported height/weight, home post code, type of truck-driving, average hours worked per day, self-reported health rating, and source(s) of health information.

Part 2: Healthy Eating Behaviors

This asked about the number of serves of fruit and vegetables, unhealthy food, high in saturated fat, added salt or added sugar (e.g., burgers, chips, pies, cakes, etc), and cans of sugary drink (e.g., soft drinks, energy drinks, etc) consumed per day, for comparison to national recommendations.

Part 3: Physical Activity Behaviors

This asked about the number of times per week of moderate-intensity (equivalent to “brisk walking”) and vigorous-intensity (equivalent to “heavy loading, jogging, fast cycling, etc”) physical activity of specific durations, for comparison to national recommendations.

The questions used simple Likert scales, checkboxes and short answers. Drivers were notified that responses were confidential and anonymous. Non-responses were “cleaned” from the data and excluded from counts/percentage calculations. Consent to participate was assumed if the driver chose to complete and return a survey.

Ethics

Ethical approval for this project was obtained from the Queensland University of Technology Human Research Ethics Committee. All participants gave their informed consent.

Results

Demographic Information

Two-hundred and thirty-one questionnaires were completed. Most participating truck drivers were male (99.1%, n = 223), with a mean age of 46 years (n = 229, range 20 to 71). Most of them reported working local (day) trips (46.9%, n = 98). Smaller numbers completed long-distance (overnight)
across-state trips (18.7%, n = 39), long-distance (overnight) within-state trips (11.0%, n = 23) or a mixture of two or three of these (23.4%, n = 49). The majority of drivers reported working of 9+ hours per day (85.6%, n = 197), most of the remainder work on average 8 to 9 hours per day (12.2%, n = 28).

The mean body mass index (BMI) (n = 214) was 32.3 kg/m², classified as “Obese – Class I” (Table 1). BMIs ranged from 18.6 (“Normal”) to 69.9 kg/m² (“Obese – Class III”). Approximately, 29.0% (n = 62) of the cohort were overweight (“Pre-Obese”, BMI 25.0 to 29.9 kg/m²); 59.8% were obese (“Classes I – III”, BMI ≥ 30.0 kg/m²). Of those who were obese, 10.3% (n = 22) were morbidly obese (“Obese – Class III”, BMI ≥ 40 kg/m²).

Consumption of Fruit and Vegetables

Most drivers reported eating an average of one serve (33%, n = 74) or two serves (61%, n = 27.2%) of fruit per day (Fig 1). Half (40%, n = 112) met the Australian recommendations of 2+ serves of fruit per day. Nearly one-fifth of the total cohort reported not eating any fruits (17%, n = 38). Most drivers reported eating an average of one serve (37.5%, n = 84), two serves (25%, n = 25), or three serves (19.6%, n = 44) of vegetables per day (Fig 1). Only one-tenth (11.9%, n = 13) met the Australian recommendations of 5+ serves of vegetables per day.

Consumption of Unhealthy Food and Drink

Most drivers reported eating an average of one serve (28.3%, n = 64), two serves (23%, n = 52) or three serves (11.9%, n = 27) of unhealthy foods per day (Fig 1). Most reported consuming an average of none (35.9%, n = 79), one (33.6%, n = 74) or two (14.1%, n = 31) cans, or equivalent, of unhealthy drink per day.

### Table 1: Demographic characteristics of truck drivers

| Parameters | n (%) |
|------------|-------|
| **Sex** (n = 225 respondents) | |
| Male | 99.1 (223) |
| Female | 0.9 (2) |
| **Age** (n = 229 respondents), yrs | |
| <20 | 0.0 (0) |
| 20–30 | 9.2 (21) |
| 31–40 | 16.6 (38) |
| 41–50 | 34.5 (79) |
| 51–60 | 27.5 (63) |
| 61–70 | 11.8 (27) |
| >70 | 0.4 (1) |
| **Type of work** (n = 209 respondents) | |
| Long-distance (overnight) across states | 18.7 (39) |
| Long-distance (overnight) within state | 11.0 (23) |
| Local (day) trips only | 46.9 (98) |
| A mixture of two or three of these | 23.4 (49) |
| **Number of hours worked per day** (n = 230 respondents) | |
| ≤7 | 2.2 (5) |
| 8 | 6.1 (14) |
| 9 | 6.1 (14) |
| 9+ | 85.6 (197) |
| **Body Mass Index** (n = 214 respondents with height + weight), kg/m² | |
| <18.5 (Underweight) | 0.0 (0) |
| 18.5–24.9 (Normal weight) | 11.2 (24) |
| 25.0–29.9 (Pre-obesity) | 29.0 (62) |
| 30.0–34.9 (Obesity – Class I) | 32.7 (70) |
| 35.0–39.9 (Obesity – Class II) | 16.8 (360) |
| >40 (Obesity – Class III) | 10.3 (22) |

*World Health Organization, 2017
Moderate-intensity Physical Activity

The majority of drivers reported engaging in a 30-minute moderate-intensity physical activity one or more days per week (84.5%, n = 191). Almost 16% of drivers (n = 35) reported no moderate-intensity activity per week. Less than one-third (30.1%, n = 68) met the Australian recommendations of a minimum of 150-minute moderate-intensity activity per week (averaging to 30 minutes per day, at least 5 days per week).

Vigorous-intensity Physical Activity

Drivers reported engaging in a 15-minute vigorous-intensity physical activity on zero days (25.8%, n = 58), one day (16.9%, n = 38) or two days (16.9%, n = 38) per week. Only one-fifth (20.8%, n = 47) met the Australian recommendations of a minimum of 75-minute moderate-intensity activity per week (averaging to 15 minutes per day for at least 5 days per week).

Self-reported Health

The majority of drivers rated their health as “good” (47.6%, n = 109) while 25.8% (n = 59) and 19.7% (n = 45) reported their health as “very good” or “fair,” respectively. A minority rated their health as “excellent” (5.2%, n = 12) or “poor” (1.7%, n = 4).

Readiness to Make Changes to Improve Health

Most drivers reported they were either currently making changes to improve their health (35.9%, n = 78) or thinking about doing so (31%, n = 67). Smaller numbers reported they were planning changes (8.7%, n = 19) or had made and maintained changes (12%, n = 26). A minority reported they were unable to change (2.3%, n = 5), did not want to change (3.7%, n = 8) or did not need to change (6.4%, n = 14).

Sources of health Information

Nearly all drivers reported accessing some type of health information, frequently from general practitioners (58.5%, n = 131) and family members/friends (26.3%, n = 59). Smaller numbers obtained information from television (12.1%, n = 27), their workplace (10.7%, n = 24), the Internet (7.6%, n = 17) and the radio (6.7%, n = 15).

Discussion

We found that many Australian truck drivers have poor dietary behaviors. Half consumed fewer serves of fruit per day and most (88.1%) consumed fewer serves of vegetables per day than Australian recommendations. These results were comparable to previous Australian research, which found 28.0% and 89.0% of drivers consume fewer than the recommended number of serves of fruits and vegetables, respectively, per day. Drivers also consumed more unhealthy food and drink per day than Australian recommendations. Nearly two-thirds reported eating unhealthy foods on two or more days per week and consuming at least one can of
sugary drink per day. These findings were broadly similar to previous Australian research, but compared favorably to findings from the US truck drivers, who eat less fruit and vegetables and more unhealthy foods than Australian drivers.

Our findings also suggested that many Australian truck drivers had poor physical activity behaviors. More than two-thirds did not meet the Australian recommendations for moderate-intensity physical activity, and nearly 80% did not meet recommendations for vigorous-intensity activity. These results were comparable to previous Australian and international research.

Poor healthy eating and physical activity behaviors are known risk factors for overweight and obesity. The mean BMI of participating drivers was 32.3 kg/m² (“Obese – Class I”), with 59.8% of drivers being obese, compared with just 27.0% of the Australian population. Studies from the US report that the BMI in US drivers range from 30.0 to 34.5 kg/m², which is consistent with our findings.

Truck drivers have poor healthy eating and physical activity behaviors and high BMIs, largely due to limitations of their work environments. Drivers have limited access to grocery stores, and truck stops provide few healthy food options, focusing instead on foods high in saturated fat and kilojoules. Most truck cabs lack the equipment necessary to store and prepare healthy foods, and it is easier for drivers to eat conveniently-wrapped take-away foods than healthier food options such as salads.

In relation to physical activity, Australian regulations permit truck drivers to drive for up to 12 hours per day, which is often uninterrupted. During these periods, drivers are confined to their trucks, and workplace policies often prohibit them from leaving certain pre-defined areas for their own safety. Not surprisingly, drivers do not consider transport industry workplaces to be conducive to physical activity.

Despite poor healthy eating and physical activity behaviors and high BMI, most drivers perceived their health to be “good” or even “very good” (73.4%), and most (75.6%) reported contemplating, planning, or actively making changes to improve their health. This showed that drivers recognized the importance of improving their health and were motivated to do so, and highlighted the importance of effective health promotion for truck drivers.

Our findings were limited by potential biases introduced by the use of a self-report survey and a convenience sample of drivers, and the possibility that the written survey may have excluded drivers with low literacy levels. For these reasons, generalizability of findings to settings beyond Australia may be limited.

Truck drivers are a highly-mobile, pressured and hard-to-reach group, and traditional health promotion strategies may be limited in their effectiveness. Transport industry workplaces, including truck cabs, truck depots and truck stops, are increasingly recognized as settings conducive to health promotion. Previous Australian research shows workplace health promotion results in drivers identifying their workplace as an important source of health information and suggests workplace health promotion can generate improvements in drivers’ health knowledge, behaviors, and self-reported health outcomes. Work-place health promotion enables truck drivers to overcome many of the limitations of their workplaces, which underpin their poor healthy eating and physical activity behaviors and may be a key strategy in improving the poor healthy eating and physical activity behaviors and outcomes such as obesity. Our findings highlighted the importance of health promotion in transport industry workplaces, to help drivers make better choices about their health behaviors.
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Conflicts of Interest: None declared.

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