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The Health Habits and Physical Activity of Student Truck Drivers

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ABSTRACT

This study examined health habits and physical activity levels of student truck drivers to determine if they are already at risk of developing health conditions that are shown in the truck driving industry. Student truck drivers from a technical college (N=52) participated in this study. They completed a modified version of a truck driver survey from the Transport Engineering Research Limited in New Zealand (2008). Questions regarding the students' health habits, physical activity (PA), and wellness in the workplace were included in the anonymous questionnaire. The mean age was 35 +/- 11.03 years. Mean body mass index was 29.4 +/- 6.38 with 44% feeling they are overweight. Current smokers are 38%. Over 72% reported at least moderate PA > 3 times/week with 37% work-related PA. Sleep was reported 7 hours or greater by 71%. Bacon, eggs, and pancakes were reported for breakfast by 31%, 29% consume cereal, while 31% do not eat breakfast. Concern about health habits changing was expressed by 41% while 37% were unsure. Student truck drivers are in need of improving health behaviors. They are concerned how their health habits would change and prefer to work for a company which provides wellness programs and incentives for health. This preliminary data could possibly lead to implementing wellness education into truck driving training courses. More data will be to be collected throughout the academic year.

LITERATURE REVIEW

The purpose of this study is to analyze the current health habits and physical activity levels of student truck drivers. In order to determine if student truck drivers are already at risk of developing health conditions that are shown in the truck driving community. Seiber (2014), along with many other researchers cited in Roberts and York (1997), Laden et al. (2007), and Apostolopoulos et al. (2010) all agree that "truck drivers have been reported to be at increased risk for a number of chronic diseases and health conditions such as heart disease, diabetes mellitus, hypertension, and obesity" (p.616). Their history of unhealthy diet intake and long-hours working sedentarily result in excess accumulation of weight if the employee does not make a conscious effort to stay healthy. Apostolopoulos et al. (2013) said the duties of a truck driver include "operating in a work environment characterized by excess workload ... chronic stress, erratic schedules, disrupted sleep patterns, and extreme time pressures, among others" (p.113). Therefore, it can be difficult for truckers to keep healthy habits on the road. Luckily, some companies have implemented wellness programs as a preventative method to reduce the high morbidity and mortality rates of truck drivers. There is a need for more companies to step up and create a health promotion plan for its employees. Also, what about the people who are not yet truck drivers, but want to become one? Are student truck drivers already prone to obesity and other risk factors before becoming professional truckers? Is there a need to introduce health promotion in truck driving training courses before they enter the workforce? Past research has focused more on the obesity and risk factors of professional truck drivers and has suggested interventions; yet, there has been little research on the current risk factors of student truck drivers. This chapter will compare and analyze previous research on the obesity and risk factors of professional truck drivers to determine the risk factors of student truck drivers. It will also analyze suggested intervention wellness programs to prevent comorbidities.

Current Physical Activity of Truckers

In a presentation created by Apostolopoulos et al., they described in their findings that only 8% of current drivers exercise regularly. Other than those 8%, the remaining 92% probably only engaged in

work related PA such as the physical demands of throwing and securing the chains to haul the trailers. Despite having a low physical activity level for the truck driving community as a whole, 84% of long-haul drivers perceive their health status as excellent or good (Seiber, 2014). Of the participants in Apostolopoulos et al. study, 75% described their health as excellent or good too. Apparently, some truckers feel they do not need to exercise to be in good health.

Suggested Physical Activity for the Inactive

The American College of Sports Medicine recommends 30 minutes of moderate intensity physical activity for 5 days of the week (acsm.org). Adults who want to “further reduce their risk of premature chronic health conditions ... should exceed the minimum recommended amounts of physical activity (Haskell et al, 2007, p.1084). Researchers Taylor and Dorn (2005) of the University of Exeter and Cranfield University, respectfully, in the United Kingdom, studied how physical activity may improve the driving performances of truck drivers. In their write-up, they suggested that physical activities ranging between 4-6 METS are good for reducing coronary heart disease and strokes. Brisk walking would be an appropriate activity that falls within this range. Taylor and Dorn also suggest walking and cycling to reduce risks of type 2 diabetes. Both walking and cycling are both convenient activities for truckers to do at rest stops. The Canadian Center for Occupational Health and Safety suggests a mixture of activities such as walking, cycling, and dancing for endurance; stretches, tai-chi, and yoga for flexibility; and climbing stairs and lifting weights for strength. Regular physical activity helps to reduce weight gain, blood pressure, depression, risks for cardiovascular diseases, type 2 diabetes, and improves overall health.

Current Health Habits and Risk Factors of Truckers

Researchers are concerned about the of unhealthy health habits of truckers. Statistics of multiple cross-sectional studies have shown that 85% of truck drivers are overweight, 83% of truckers have unhealthy eating patterns, and 54% are hypertensive (Apostolopoulos et al., 2011). Additionally, many truckers have admitted to having two or more risk factors. In a research study conducted by Sieber et al. (2014), they found that 61% of truckers out of 1,670 long-haul truck drivers who were interviewed for the study acknowledge that they have two or more of the risk factors such as high blood pressure, obesity, smoking, high cholesterol, no physical activity, or averaging fewer than 6 hours of sleep. Obesity has been associated with many health problems such as heart disease, high blood pressure, high cholesterol, and sleep disorders. It has been shown in multiple cases that smoking is linked with lung cancer and heart disease (CDC, 2012). In an article written by Copeland (2012) in USA Today entitled More Truckers Focus on Getting Healthier, the author confirms that obesity and smoking are among the leading risk factors for truck drivers. They are also “the top two causes of preventable deaths in the United States” (Baicker et al., 2010, p.306). Copeland mentioned that a study at the University of Utah (2007) reported that 68% of 96 commercial drivers were smokers. In Sieber et al. study, 88% of long-haul truck drivers had “at least one of the three risk factors: hypertension, smoking, or obesity” (2014, p.621).

In Apostolopoulos et al. study (2012) they found that 57.9% of the truck drivers who completed his questionnaire reported sleep disturbance problems and 56.3% reported chronic fatigue. Clearly, sleep disturbances and chronic fatigue are problems in the trucking community, especially since researchers Taylor and Dorn dedicated an entire study to the stress, fatigue, health, and risk of road traffic accidents among professional drivers. Not only does sleep deprivation cause fatigue, but driving for a long period of time causes fatigue and “alter cardiovascular and neuroendocrine function” (Taylor & Dorn, 2005. section 2.5). Hamish Mackie, who wrote the Transport Engineering Research of New Zealand document, noted that 65% of log truck drivers are not meeting the recommended 7-8 hours of sleep. That statistic alone raises concerns. Sleep deprived drivers put themselves at risk of being in a traffic accident.

Wellness Programs in Workplace

Some trucking companies have decided to take action in regards to the serious health risks prevalent in trucking employees by implementing wellness programs. Apostolopoulos et al. (2012)

reported that truck driving companies such as Schneider National, JB Hunt, and Melton Truck Lines attained good results, including reducing healthcare cost and improving the health of their employees, when they implemented a form of wellness program. The Federal Motor Carrier Safety Administration implemented a Getting in Gear program to improve nutrition, exercise, social health, and mental health among truck drivers. In 2007, the Schneider National trucking company in Green Bay, Wisconsin provided a sleep apnea treatment program. Con-way Freight, a trucking firm in Ann Arbor, Michigan, saw 2,500 employees lose weight, 200 quit smoking, and 4,700 reduced blood pressure while in its wellness program.

Benefits of Wellness Program

Wellness programs have the potential to reduce health care cost and health premiums. Healthy workers will miss fewer days at work, therefore reducing employee absenteeism. What some companies fail to realize is that “the wider adoption of [wellness programs] could prove beneficial for budgets and productivity as well as health outcomes” (Baicker et al., 2010, p.304).

Summary

Previous studies have pointed to obesity and smoking as being among the leading problems for the truck driving population. Studies have also found that stress and sleep apnea are common among truck drivers. Not only has previous research pinpointed specific risk factors and associated comorbidities, but they have also suggested interventions to encourage health promotion among employee truck drivers. Now that researchers have an idea of what type of programs to use for this specific population, it is time to propose these ideas to the CEOs, major trucking companies, and the unions. There are a limited number of companies who actually have wellness programs in place for their employees, but these companies have had relatively good results of having wellness health programs (Apostolopoulos, 2012). A few companies cannot end this comorbid crisis alone; there needs to be more trucking companies who are willing to take the initiative to implement wellness promotion in the work environment. Not only do truck drivers need to be educated about wellness, but so do student truck drivers in training. They should know about healthy habits and physical activities that will keep them healthy whether they are on the clock. Student truckers should have the pleasure of knowing that whatever company they decided to work for will be a company who values the well-being of its employees. Students in truck driving training programs are committing to entering a workforce that is associated with being a sedentary occupation. This study will determine whether or not student truck drivers are already prone to health conditions, risk factors, and unhealthy habits before entering the trucking occupation. The participants personal input on wellness programs at worksites are also valued in this study. By focusing on the student truck driver’s population, a population that has not been observed before, this study brings a unique perspective to the field. If there is a significant prevalence of risk factors and conditions among the trainees, then a suitable wellness program should be introduced in the students’ course curriculum prior to entering the workforce.

METHODS

Research Design

There are many health conditions that are commonly associated with the truck driving occupation, but there has been no research regarding the health of the student truck driver population. My study will answer the following research questions: Are truck drivers in training already prone to health conditions before entering the trucking job force? Do students plan to practice healthy habits after being employed by a trucking company? Are student truckers already engaging in healthy behaviors and physical activities prior to entering the workforce? Also, would students prefer to work for a trucking company that provides a wellness program for employees? This is a descriptive, non-experimental study.

Sampling and Population

Students enrolled in the truck driving training program at a local technical college in South Carolina voluntarily participated in this study. There were 43 male and 9 female participants all ranging

between the ages of 19 - 63. The average age of participants was 35 +/- 11.6 years. Convenience sampling was used to recruit participants.

Procedure

The study was approved by the University's Institutional Review Board. Permission from the local technical college was given to survey students enrolled in its Truck Driving Program. A hard copy of the survey, along with a consent form, and a cover letter was distributed to the students in the class. Data were collected on both healthy habits and physical activity levels of student truck drivers. The dependent variables in this study were health habits and physical activity levels. Every six weeks, a new cohort of students enrolled in the truck driving training course. Data will continue to be collected once with each new enrollment class throughout the year. This allows for more participants to complete the survey and provide solidity for the study.

Instrumentation and Measurement

The survey was based on the Transport Engineering Research New Zealand Limited questionnaire and was modified for American racial/ethnic categories, food options, and timing of employment physical (Mackie & Moore, 2008). Data analysis is descriptive in nature, with means, and frequencies. Open-ended questions were examined for themes by at least two researchers. Body Mass Index (BMI) was determined dividing body mass in kg by height in meters squared. Height and weight were self-reported on the survey.

RESULTS

The current health habits of the student truckers were assessed to determine if students are already at risk of developing health conditions that are shown in the truck driving community. After analyzing data, the results show some arising trends. Some of the significant findings so far are:

1. Smoking is a common habit among student truckers.
2. Student truck drivers appear to be overweight.

The population demographic of this study reported to be 59% White/Caucasian and 41% Black/African American. When compared to the Transport Engineering Research New Zealand Limited (TERNZ), which showed that 72% of New Zealand truck drivers reported being New Zealand European, the majority ethnicity of the sample size is also the majority ethnicity of the country's population. Similarly, the majority ethnicity in the United States is White/Caucasian and the majority ethnicity of the students enrolled in a truck driving training course are White/Caucasian (U.S. Census Bureau, 2014). When compared to the Obesity and Other Risk Factors: The National Survey of U.S. Long-Haul Truck Driver Health and Injury study by Sieber et al. (2014), ages ranged between 20-80 years of age and 74% of participants were white and 17% were black. There were 9 females participants out of the 52 participants; the remaining 43 were males in my study.

The average age of the surveyed drivers was 35 years +/- 11.6 years. Ages ranged from the youngest student driver being 19 years old and the oldest being 63 years old. In an article written by Crissey for the Carrier Journal stated that the, "Commercial Vehicle Training Association reported that the average age for new entrants to the truckload segment is currently 41 years old" (Crissey, 2011). (See Figure 1. Participants' age)

Tobacco Use

When asked, "Do you smoke one or more tobacco cigarettes per day?" There was a 62% response of "no" and 38% responded with "yes."

Obesity

When asked, "What are your thoughts about your weight?" A response percentage of 44% answered, "I am overweight or very overweight." While 48% think they are "about the right weight." (See Figure 2. Students' thoughts about their weight)

After using the height and weight provided by the subjects, all of them accurately classified themselves in regards to their body weight categories. The heights and weights of the participants were classified as underweight (< 19), normal weight (19-24), overweight (24-30), obese (30-40), and morbidly

obese (>40) according to the body mass index (BMI) chart. The mean BMI of the participants was 29.4 which indicates that majority of the participants were classified as obese.

Physical Activity

When asked, “How many times per week do you accumulate 15 minutes or more of vigorous physical activity or 30 minutes or more of moderate activity at home or at work?,” the most common answer was 2 times a week. For the purpose of this study, those who marked 3 times a week or more were considered physically active. (See Figure 3. Amount of physical activity each week)

Next, students were asked, “What is the most common source of physical activity that you have specified above?” The most common answer was “gym based exercises” (38%) followed by “work related activity” (37%). Other answer choices included: running, cycling, golfing, rowing, tennis, soccer, basketball, baseball, swimming, hunting, resistance training, other, and I do not participate in any physical activities.

Nutrition

For breakfast, “eggs, bacon, grits, and pancakes” along with “I usually don’t eat breakfast” was reported to be the most common among the participants with a percentage of 31% for each. For lunch, both a sandwich with chips was reported to be the most common meal among the participants at 38%.

Sleepiness

The students were asked, “How many hours of sleep do you normally get each night?” seven hours was the most common answer.

When asked, “On average how often do you feel sleepy or drowsy when truck driving?,” the most common answer was “almost never” (52%) and the second most common answer was “now and then.” When compared with the TERNZ study (Mackie & Moore, 2008), most drivers reported feeling sleepy or drowsy “now and then,” but the “almost never” and “now and then” responses were combined together into the “now and then” category. The percentage of drivers who answered in the “now and then” category in the TERNZ study also commonly reported having 6 hours of sleep each night.

Health Conditions

All of the following conditions showed up at least twice in this study: high blood pressure, disorder of the neck or back, vision problems, hearing problems, mental illness, and other. All of the participants admitted to being told by a physician that they have at least one of the following health conditions:

- High blood pressure (28%)
- High blood cholesterol (14%)
- Vision problems (21%)
- Mental illness (depression, anxiety) (28%)

Wellness in Workplaces

Students reported that their health habits and physical activity levels will change once they become a truck driver (41%) and 37% are unsure. Many participants felt that “finding the time to exercise will become more difficult” and “planning healthy meals will become more difficult” after they become truck drivers. The majority (84%) of the students thinks that it is important to work for a company that promotes wellness in the workplace.

Qualitative Answers

One theme that began to arise in the open-ended questions related to better nutritional options. When asked, “What could employers do to encourage healthy habits on the job,” One responder said, “[To provide] healthier restaurants at truck stop, instead of fast food and [add] more Subways. Some truck [stops] do [have these] but the restaurants close too early.” Another participant responded, “Supply a list of restaurants to eat at while on the road, along with healthy choices to make at these establishments. Provide a calorie chart like weight watcher in order to balance meals or snacks throughout the day.”

DISCUSSION

As previously mentioned, researchers such as Mackie and Moore (2008), Seiber et al. (2014), Taylor and Dorn (2005), and Apostolopoulos, Sonmex, Shattell, Gonzales, and Fehrenbacher (2013) have found that there are many health conditions and risk factors found within the truck driving occupation. Students who are in training to become truck drivers should be aware of the associated health conditions and take preventative measures if necessary. After carefully analyzing the data, the findings in this study show that smoking and obesity are common risk factors in the professional truck driving training program. Smoking has generally been associated with cardiovascular disease and lung cancer. The Centers for Disease Control and Prevention reported that, “Smoking is the leading preventable cause of death in the United States. Smoking causes about 90% (or 9 out of 10) of all lung cancer deaths in men and women” (CDC, 2014, para.2). Smokers are also at a higher risk of developing heart disease, stroke, and lung cancer (CDC, 2014). Based on the findings of this study, 41% of students are already at risk of developing cardiovascular disease, lung cancer, and stroke because they smoke regularly. Obesity, another health factor that showed up in the findings, is often associated with related conditions that include heart disease, type 2 diabetes, stroke, high blood pressure, sleep apnea, and certain types of cancer (CDC). Smoking and obesity are among the leading causes of preventable death. The health conditions shown in the truck driving occupation could decrease dramatically if employees begin to practice preventable measures. This is important because all of the participants in this study admitted to being told by a physician that they have at least one health condition.

The American College of Sports Medicine (ACSM) recommends 30-60 minutes of moderate to vigorous aerobic physical activity for 3-5 days of the week for adults ages 18-65. Adults who want to “further reduce their risk of premature chronic health conditions ... should exceed the minimum recommended amounts of physical activity (Haskell et al., 2007, p.1084). Engaging in regular physical activity is a health habit that “has been associated with a reduced risk of stroke, impaired glucose tolerance, type 2 diabetes, mortality, and cardiovascular disease” based on the reports by the National Health Institute Surveys (2005). Regular PA been known to play a role in weight loss and maintaining body weight. When asked about the type of PA students participate in the most, the most marked response was “other.” Since the survey is loosely based off the survey used in the Transport Engineering Research New Zealand Limited (TERNZ) log truck drivers study (Mackie & Moore, 2008), it is appropriate to compare results. Walking was the most common source of PA in the TERNZ study closely followed by work related physical activity. Walking was not one of the answer choices in this survey, but it is suspected to possibly be the most common source of PA based on the results of the TERNZ study. Furthermore, a trainee asked if it would be best to mark other because walking was not one of the answer choices.

Participants were also asked about their breakfast and lunch diet intake. The results of this section are important because truckers could be exposed to unhealthy food choices while on the road. Results in this study were compared to the results in the TERNZ study, and both studies found that majority of participants had some sort of breakfast meal. The TERNZ (Mackie & Moore, 2008) study also found that 30% of drivers ate nothing or only tea/coffee for breakfast. The total percentage of drivers admitting that drinking tea/coffee for breakfast or skipping breakfast all together was expressed as 54%. Another health habit observed in this study was alcohol consumption. According the students’ reports, 73% either do not consume alcohol or are light drinkers (1 – 3 drinks per week) in comparison to the TERNZ study which reported that 45% of truck drivers did not consume alcohol or were light drinkers. It is encouraging that the majority of students who plan to become truck drivers are not putting themselves at risk of causing an alcohol related traffic accident. The National Institute of Alcohol Abuse and Alcoholism NIAA developed an online booklet that includes information about how aging adults become more sensitive to the effects of alcohol (NIAA, 2013). This is important because a large population of truck drivers are in their middle ages or older. As shown in this study, the average age of student truck drivers was 35 years old.

Alongside dealing with the stress of getting older, CDC researchers have determined that stress in general has been shown to be “associated with lower levels of eating awareness, physical activity, and walking. Among participants who had low levels of eating awareness, higher levels of perceived stress were associated with fewer servings of fruit and vegetables and greater consumption of fast food meals” (Barrington et al., 2007). The TERNZ study evaluated stressed and uptight drivers as drivers who often feel drowsy when driving a truck. The majority (52%) of student truck driver participants reported almost never feeling drowsy when driving, but 60% feel stressed now and then. The percentage of drivers who answered in the “now and then” category in the TERNZ study also commonly reported having 6 hours of sleep each night. Similarly, student participants reported sleeping 7 hours regularly each night. This is important because sleep deprivation is fairly common among truckers.

This study not only focused on the health habits and physical activity practices of student truck drivers, it also was interested in the students’ input on workplace wellness and worksite health promotion. One theme that stood out was related to better nutrition options. Many students suggested that the trucking worksites should provide health programs which included adding healthier restaurants, supplying a list of healthy food choices, and implementing nutrition programs. Schneider National Inc., a large truck driving company is one of the few companies that have implemented health and wellness programs for its employees. Schneider’s health and wellness program includes access to full time physical and occupational therapists along with programs that target the health needs of employees (Mabry, Hickman, & Hanowski, 2013). Transport America, another truck driving company, has implemented events such as Truck Driver Fitness Challenge and Nutritional Blitz to encourage employees to get healthy.

As with all studies, there are some limitations to this research. The location of data collection limits the generalizability of the study. There was no way to show that participants abide by the request to answer each question honestly even though the survey was anonymous. Since no actual height, weight, waist circumference, nor body compensation quantitative measurements were taken, the results of this study solely relied on the responses of the participants. This study brings its own uniqueness into the field by focusing on observing a population that has not been observed before. It also allowed student truck drivers to give their personal input on what they want from truck company employers in regards to health and wellness.

Recommendations for further research and steps should include researching if or how the health habits and physically activity levels of truck drivers changed after they became employed in the trucking workforce. Future research could carefully study the best ways to develop a routine of physical movements that are appropriate for employees who work in occupations that demand a sedentary lifestyle. Further steps could be taken to implement workplace wellness as a heavily weighted component in the commercial vehicle training education curriculum.

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