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Comparative Analysis of the Prevalence of Musculoskeletal Pain and Discomfort in Truck Drivers by Age Group

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Original Research Article

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ABSTRACT

Aims: To investigate the prevalence of musculoskeletal pain and discomfort reported by truck drivers compared to advancing age.

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Study Design: This is a descriptive study with a qualitative approach.
Place and Duration of Study: University of Gurupi, Campus Paraíso do Tocantins - Brazil, from January to June 2023.
Methodology: Descriptive study with a qualitative approach with relevance of 95% in (P<0.05) and degree of freedom = 1 with comparative percentage analysis of the data obtained through the (qvs 80) questionnaire. The study was submitted and approved by the Research Ethics Committee of the University of Gurupi (CEP/Unirg) under opinion number 5,694,439, through resolution 466 of December 12, 2012 of the National Health Council. Data collection was carried out at Posto Marajó Paraíso do Tocantins II LTDA, in the municipality of Paraíso do Tocantins.
Results: Main complaints of pain in truck drivers under 51 years old: 13 per cent back pain, 11 per cent pain in the head and/or eyes, 3% arms and/or shoulders, 1% pain in the wrists and/or hands, 3 per cent pain in the feet and/or legs, 59 per cent did not feel pain and 10 per cent multiple involvements.
In the case of truck drivers aged over 49 years, 8% of respondents reported pain in the spine, 6% pain in the head and/or eyes, 0% in the arms and/or shoulders, 3% felt pain in the wrists and/or hands, 0% constant discomfort in the feet and/or legs, and 60% indicated that they did not feel pain and 23% indicated multiple attacks.
Conclusion: It was reported that the frequency of pain in truck drivers is not directly related to age, but to the working conditions performed by truck drivers, since more than 70% of drivers who report single or multiple pain and discomfort are younger than 50 years.

Keywords: Repetitive strain injury; working conditions; men's health; quality of life.

1. INTRODUCTION

According to the statistics of the National Land Transport Agency (ANTT) for 2020, Brazil has a significant number of professionals in the road transport sector. Data show that there are 695,593 registered autonomous trucks and 695,320 truck drivers with employment, in addition to 209,529 cargo transport companies and 422 cooperatives in the sector. Considering that Brazil is a country where road transport is predominant, the number of workers in this field is of great strength for public health. This is due to the crucial role played by truck drivers in moving goods, supplying cities and guaranteeing essential services throughout the national territory. The large flow of consumption and demand for raw materials and exposed goods that drivers of freight vehicles keep in a seated position for several hours without a break. In this sense, adopting the same posture for many shifts, morning, afternoon and night, which evolve to the development of musculoskeletal disorders and other work-related complaints [1,2].

The profession of truck driver can cause negative effects on health, in view of the adoption of unhealthy habits, such as sedentary lifestyle, poor diet and therefore overweight, and possible chronic diseases such as childbirth. In addition, the sum of these factors mentioned above tends to cause an increase in mental and bodily fatigue, which throughout the profession brought the development of Musculoskeletal Disorders Beyond Work (DORT) , repetitive stress injuries (RSI) and cognitive impairment during work, leading to greater susceptibility to car accidents [3,4].

At the moment, several professional categories are supported by manifestations of wear on the structures of the musculoskeletal system, which receive different names. Among them, RSI and WMSD stand out, terms adopted by both the Ministry of Health (MS) and the Ministry of Social Security (MPAS). These are injuries that arise due to the overuse of the system responsible for the movement of the human skeleton, including bones, tendons, ligaments, muscles and joints, together with the lack of adequate time for recovery. These conditions are characterized by the manifestation of several symptoms, usually in advanced stage, which occur predominantly in the upper limbs, such as pain, heaviness and fatigue. Some of the main problems faced by workers include shoulder injuries and inflammation in the joints and tissues surrounding the tendons. Thus, there is strong evidence in the causal relationship between risk factors such as whole body vibration, static postures, transmission tasks, continuous movements, excessive forces, repetitive actions, manual handling of materials, stress, work demands and previous episodes of musculoskeletal pain. transport, with a higher

rate found in the lumbar region (73%), followed by the neck (42.4%), shoulder (39.2%) and upper back (25.5%) regions [5,6,7]

2. METHODOLOGY

This is a descriptive study with a qualitative approach with a relevance of 95% in ($p<0.05$) and degree of freedom = 1 with simple comparative percentage analysis of the data obtained. Conducted by students of the medical course and members of the Academic League of Urgency and Emergency Medicine (LAMUEM) of the University of Gurupi. The study was submitted and approved by the Research Ethics Committee of the University of Gurupi (CEP/Unirg) under opinion nº 5,694,439, through resolution 466 of December 12, 2012 of the National Health Council. Data collection was carried out at the Marajó Paraíso do Tocantins II LTDA Gas Station, in the municipality of Paraíso do Tocantins, located on the banks of the BR 153 highway, between the months of February and April of the year 2023. All duly informed about the purpose of the research, responsible institution, confidentiality of the information collected and about the possibility of withdrawal at any stage of the research and their signature of the Free and Informed Consent Form (TCLE).

For individual research on the health of truck drivers and complaints of musculoskeletal pain and discomfort, the Quality of Life and Health Assessment Questionnaire (QVS-80) was applied, prepared and published by Leite and collaborators and used for educational and research purposes. groups according to their age range: from 18 to 49 years old (under 50 years old) and over 50 years old (over 50 years old) as well as, between positive or negative pain and discomfort complaint, originating two nominal qualitative variables for analysis of a possible dependence of the presence of pain and discomfort upon advancing age equal to or greater than 50 years by calculating Pearson's chi-square.

3. RESULTS AND DISCUSSION

Through the application of the QVS-80, taking mainly into account question 13 regarding the site of pain and discomfort presented, as well as age, graphs demonstrating the site of the complaint in the general sample and subdivisions between under 51 years old and over 49 years old were prepared [6].

In Fig. 1, observe that 18 per cent of respondents reported back pain, 16 per cent had pain in the head and/or eyes, 9 per cent reported discomfort in the arms and/or shoulders, 7 per cent reported feeling pain in the wrists and/or hands, 8 per cent mentioned constant discomfort in the feet and/or legs, and 42 per cent reported feeling no pain. Respondents were aged between 23 and 71 years, and of these 104 truck drivers, 14.2 per cent reported feeling discomfort/pain in more than one location [5].

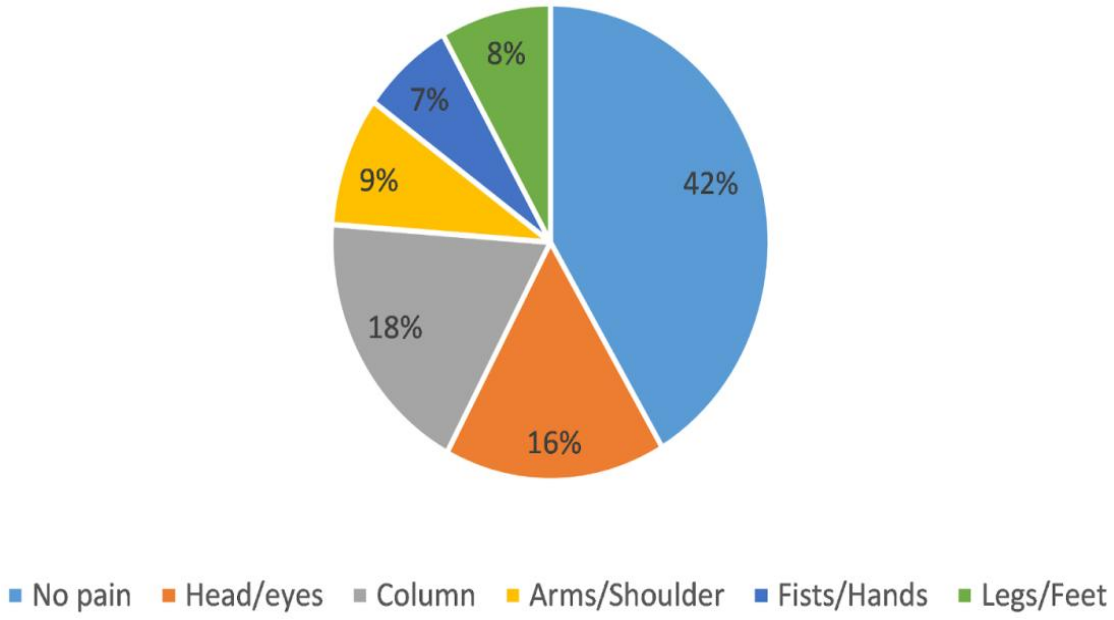

Fig. 1. Location of respondents' pain complaint

When taking into account the main pain complaint of truck drivers interviewed under 51 years of age in Fig. 2, it was observed that 13% of respondents reported back pain, 11% claimed pain in the head and/or eyes, 3% 100 reported discomfort in their arms and/or shoulders, 1% reported pain in their wrists and/or hands, 3% reported constant discomfort in their feet and/or legs, 59% reported no pain and 10% reported multiple attacks of pain. Given the above, it was observed that the main pain reported by drivers is back pain, followed by pain in the head/eyes, these data demonstrate the close relationship of complaints with the work activity of truck drivers [7].

In the case of truck drivers interviewed aged over 49 years, considering the main complaint of referred pain, it is noticed that 8 per cent of respondents reported pain in the spine, 6 per cent declared pain in the head and/or eyes, 0% had discomfort in the arms and/or shoulders, 3% mentioned feeling pain in the wrists and/or hands, 0 per cent claimed constant discomfort in the feet and/or legs and, on the other hand, 60 per cent indicated that they did not feel any pain and 23 per cent reported multiple attacks. , further reinforces the hypothesis that pain complaints are related to work activities and not just the age of the individual, since Fig. 3 shows the number of minor complaints in patients over 49 years of age. In view of the analysis of the data from the graphs and the aforementioned percentages, one can see a result that proves the absence of a direct correlation between the prevalence of pain and discomfort among truck drivers and advanced age, suggesting a greater causal relationship with their habits and quality of life [2].

There are several situations in the routine of drivers that tend to lead to physical and mental exhaustion, as this activity requires constant attention in traffic. In addition, the driver must meet deadlines for delivery and collection of goods, often followed by excessively long working hours and, above all, leading to the development of psychological problems, such as stress, anxiety, among others [8,9,10].

It is worth emphasizing the need for great skill in coordinating the head, spine, upper and lower limbs when driving the vehicle. These, combined with a sedentary lifestyle of repetitive movements, can lead to serious musculoskeletal complications and referred pain. Several studies show that musculoskeletal pain is particularly common in truck drivers, pain in the spine and lower limbs has been reported by drivers who drive for long periods of time, regardless of their age [10,11].

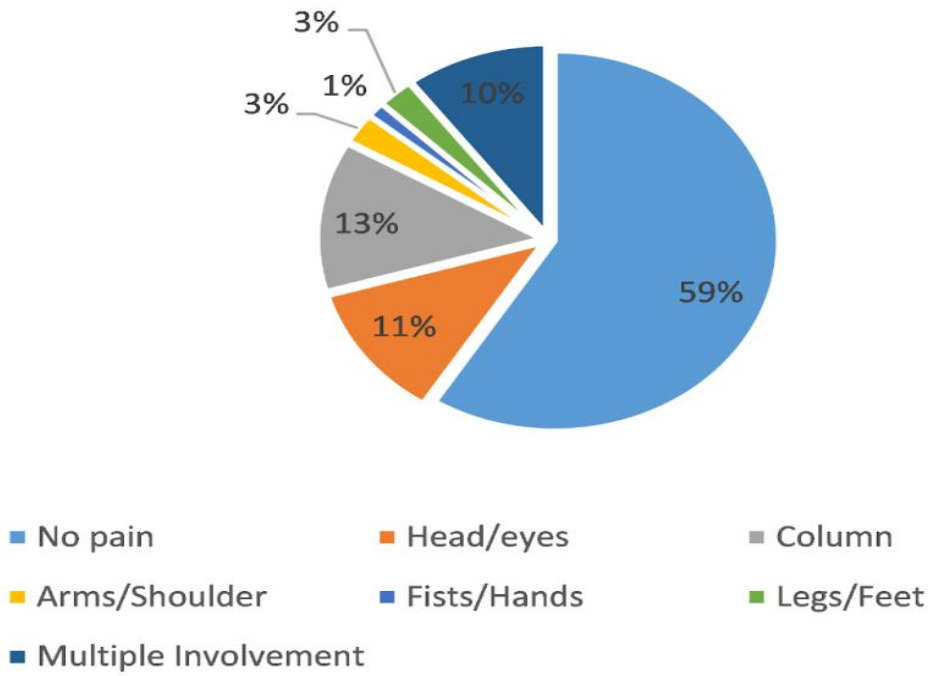

Fig. 2. Complaint of pain in interviewed truck drivers aged < 51 years

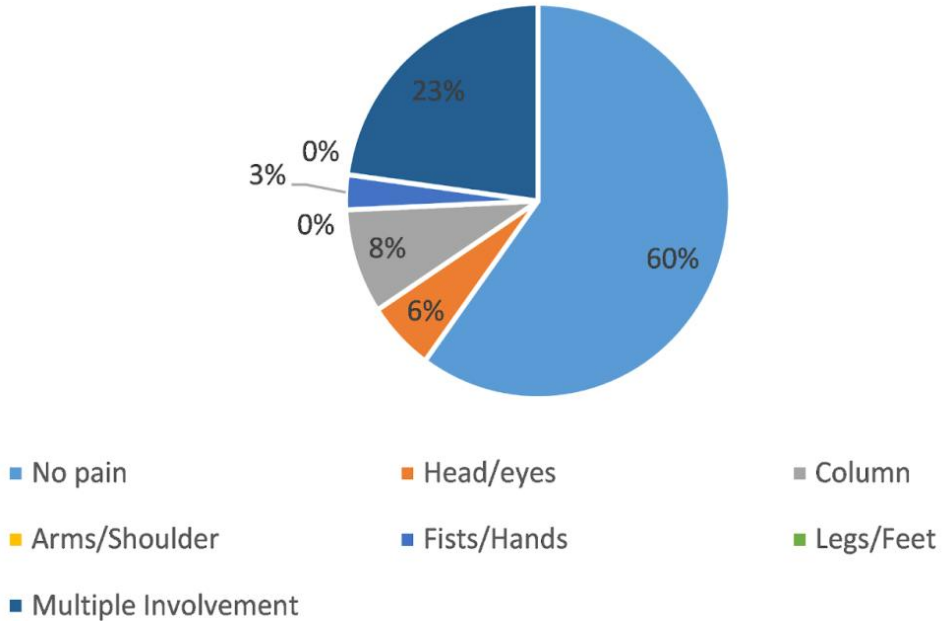

Fig. 3. Complaint of pain in interviewed truck drivers aged > 49 years

This painful condition may be associated with remaining in a sitting position, continuous body inclinations, mechanical vibration and constant contraction of certain muscle groups. Individual factors such as sedentary lifestyle, obesity and variables related to environmental stressors at work, such as road conditions and intense traffic, as well as organizational stressors (for example, type of shift and employment relationship) may also be related and should be considered in relation to the occurrence of pain [8,9]

In study, 58 per cent of respondents reported some type of pain, of which 18 per cent of drivers reported back pain. The data found suggest that workers exposed to intensive work routines have more complaints of pain, and thus we can observe that the frequency of pain and discomfort in truck drivers may be related to their quality of life, habits and work conditions, and not necessarily with the truck driver's age, as tested with Pearson's chi-square test, which revealed the continuous observed higher frequency of complaints in younger truck drivers compared to older ones. In other words, pain complaints are quite common despite age and, therefore, occur both in older truck drivers and in young people, not directly related to age, but to work activity [12,3].

It is important to emphasize that the physical and mental exhaustion caused by the regular working hours and long working hours of drivers can cause severe fatigue, which the driver is often unaware of, leading to a lack of attention and, therefore, to an increased risk of accidents. The study pointed out that 41 per cent of drivers aged < 51 years have some type of pain, which can be taken into account, among other things, by the intense work routine. Since in the study by Mozzi (2008) and other authors, the presence of rest breaks are essential to guarantee the functional recovery of structures exposed to high overload and tension, leading to a better recovery of musculoskeletal structures. [9,10].

Thus, the impossibility of stopping the vehicle to rest due to scheduling and loading times is probably the greatest difficulty in resting during work.

4. CONCLUSION

Based on this study, can conclude how arduous the truck drivers' lifestyle is, which can become unsustainable due to the difficulties offered by the profession. Overcoming age barriers, a sedentary lifestyle, poor posture and repetitive movements stand out as the main factors responsible for musculoskeletal pain in this work sector. In addition, it is essential to highlight that another factor that corroborates the physical exhaustion of this group is the eating style to which they are suited and that, as they spend most of their time on highways and without great possibilities for choices, this group is still conditioned to ingest hyper-processed, high-calorie and extremely low-nutrient foods, a fact

that reflects on the situation of perceived discomfort [4,2,3].

It is concluded after analysis that the data suggest that the presence of pain and discomfort among truck drivers is more associated with quality of life, habits and working conditions than with age, since approximately 74.41 per cent of drivers who reported pain were under 50 years of age. In other words, age is not a predominant factor for the onset of pain and discomfort. After discussing the factors associated with the routine of drivers, which involves a constant demand for attention, meeting deadlines and long working hours, which can lead to psychological problems, such as stress and anxiety, an association between psychological factors, such as fear and stress, and reports of pain becomes possible. Therefore, it is suggested that research be carried out in order to investigate the mental health of the studied population and its impact on the occurrence of pain and discomfort, in addition to carrying out additional studies to investigate the hypothesis in which adequate rest periods and strategies to relieve stress can contribute to the reduction of pain complaints in this population, thus improving their quality of life and general well-being [10,11].

CONSENT

The study obtained ethical approval from the ethics committee of the University of Gurupi - Unirg responsible for the course before the inclusion of collaborators. All patients signed informed consent prior to their participation.

ETHICAL APPROVAL

The study was submitted and approved by the Research Ethics Committee of the University of Gurupi (CEP/Unirg) under opinion nº 5,694,439, through resolution 466 of December 12, 2012 of the National Health Council.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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