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ASSOCIATION BETWEEN WORK ABILITY AND QUALITY OF LIFE FOR TAXI DRIVERS

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ABSTRACT

The transport made by taxi drivers allows the ease of locomotion, however these professionals have particularities in their work that can impact on their work ability and quality of life. This study aimed to evaluate the quality of life and, work ability and its association with sociodemographic and occupational factors of taxi drivers. A cross-sectional study was carried out with 113 taxi drivers. For the data collection, a questionnaire was used (refined) for sociodemographic-occupational data. In addition, the Workability Index was applied to assess the work ability and the WHOQOL-bref for quality evaluation of life. There was a quality of life score of 74.6±3.33 and a Workability Index of 42.92±2.64 (classification: good). The environmental domain was the worst evaluated. The quality of life was negatively impacted in those with a history of accidents and who traveled to work, already the work ability was better evaluated by those who had rest in the workplace, it was still found an association between the quality of life and work ability. It is concluded that the work ability was well evaluated, the quality of life can be considered moderate to good and there is an association between the two variables in taxi drivers.

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INTRODUCTION

Urban transport systems are essential in the functioning of modern cities, since they facilitate the transport of the population by providing an alternative means for carrying out their daily tasks, thus influencing social and economic dynamics. However, urban transport workers, including taxi drivers, are vulnerable to the precarious working conditions offered by the environment and, consequently, susceptible to the development of health problems associated with work activity. Studies related to workers' health often address two terms: Capacity for work (WC) and Quality of life (QOL) directly linked to subjective well-being (Oviedo-Oviedo *et al*., 2016). The concept of WC is multidimensional, since it involves the self-perception of physical, mental and social conditions, in view of issues such as health, work and lifestyle of the individual. For specialists, the WC is a balance between work and personal resources of an unstable character, whose aim is to improve professional performance for a longer period (Cordeiro; Araújo, 2016).

QOL can be defined as an individual conception of the position in life, so that the individual relates his culture and values to his goals, expectations, standards and concerns1. The work capacity and QOL of taxi drivers are factors that determine the working conditions that determine the predisposition to the development of chronic non-communicable diseases (NCDs) (Oviedo-Oviedo *et al*., 2016; Cordeiro; Araújo, 2016). In the face of contemporary needs, the worldwide trend is to seek alternative transport to the use of the means of transportation itself, thus an increase in the number of professionals related to this sector is seen, more specifically taxi drivers, however, these are populations of workers who they do not receive due attention by the health and labor agencies, leaving the margin of health and occupational policies (Beirão; Cabral, 2007; Mass *et al*., 2014). This fact is also due to the low interest of research by this audience, investigating mostly the amount of accidents, leaving other important variables, such as QOL and WC without due scientific attention, since when QOL is evaluated, there is a broad spectrum of health, psychological,

environmental and social issues, while in the analysis of the WC the demands demanded in the profession (physical and mental), the health status of workers, and their capacity to perform their tasks are projected work activities at the present time and in the future (Luna; Souza, 2014; Kelsey; Hardy, 1975; Huichoet *et al*. 2012). Taxi drivers' QOL can be influenced by factors related to their physical, functional, spiritual / religious, labor, psychosocial, relational, among others. It is a professional activity that emerged on an informal basis, and that at the same time still has cases in this situation, which is constantly exposed to different conditions to increase its productivity and profitability, exposing them to multiple injuries capable of generating occupational and negatively impact your health / disease process (Luna; Souza, 2014; Kelsey; Hardy, 1975). Taxi drivers are subject to both the conditions of the macro - traffic - and micro - car - working environment, suffering interference from environmental factors, traffic interference and social interactions that directly disturb their psychophysiological state. These professionals are constantly subjected to factors that can impact their current and / or future health, as well as their productive capacity, and may predispose them to errors in their label execution, which can cause accidents that put their lives and their lives at risk. of countless people. Systematic exposure to high levels of stress provided by the environment can directly influence your QOL and WC (Nascimento *et al*., 2015).

Among the conditions of the macro working environment is exposure to traffic noise, which is a characteristic of the urban environment. Noise is considered the most widespread pollution of the transport system and can cause several problems such as: disorders in the cardiovascular system, productivity, social behavior, concentration and vigilance, as well as interfering with communication, rest and sleep, and can cause hearing impairment. In the microenvironment, professionals are subjected to the conditions of the vehicle, such as its biomechanical structure (Cogo *et al*., 2016). Other stressful factors are the interference of the traffic itself, among which stand out the drivers' recklessness, related to the use of cell phones while driving, speeding and disrespect to the signs, the problems of the road that involve lack of signs and inspection, bad conditions physical and recurring works, as well as the lack of attention of pedestrians and the need to conform to the traffic code is a problem (Assunção; Medeiros 2015). Among the social components to which drivers are subject, there is the relationship with other drivers and, especially, with passengers. In this regard, workers are vulnerable to several variable events, from trivial episodes such as lack of education from passengers to life-threatening conditions, such as the possibility of criminal attacks (Assunção; Medeiros 2015). The stress caused by chaotic traffic and the risks arising from the profession can negatively impact the QOL and WC of these workers. The workday, sometimes long and uninterrupted, makes it impossible for the driver to regularize breaks or rests, seeing himself susceptible to illnesses, in addition to this, working hours without regular breaks that expose workers to negative eating conditions. Thus, it is perceived that a range of occupational risks prevents taxi drivers from living a healthy life (Mass *et al*., 2014; Luna; Souza, 2014; Kelsey; Hardy, 1975; Teixeira *et al*., 2015; Razmara *et al*., 2018; De Vitta*et al*., 2013). Disturbances to the various bodily systems, can generate negative repercussions on current and future WC, increase in the number of diseases (directly or indirectly related to work), decrease in productive capacity due to illnesses, increase in the number of absence from work due to illnesses, self-perception decreased productive capacity and development of occupational stress, considered a natural defense response of the organism to threatening situations in the environment (Nascimento *et al*., 2015; Silva *et al*., 2011). Given the above, this study aimed to assess QOL and WC and their association with sociodemographic and labor factors of taxi drivers.

METHODS

Cross-sectional analytical study carried in the interior of the state of Goiás. The research was carried out after evaluation by the Ethics and Research Committee, respecting the ethical precepts of research involving human beings, and was approved by Opinion No. 1707302, of this all participants signed a free and informed consent form.The sample universe consisted of 143 registered taxi drivers. Using OpenEpi® with a 95% confidence level, he indicated a minimum sample of 105 taxi drivers.Taxi drivers who fell into one of the following categories were excluded from the survey: workers with physical disabilities, workers who were exclusively engaged in administrative activity, workers who were on leave, workers with less than 6 months in the profession, and those who were not completed the questionnaires in full. Up to three attempts were made to collect data at all taxi points, with the final sample consisting of 113 included taxi drivers, all male, aged between 20 and 60 years. Data were collected by six 6 duly trained assessors for this purpose.The workers were evaluated during their breaks in a situation that maintained secrecy and privacy. For this purpose, three enveloped instruments were used, a questionnaire on sociodemographic and occupational aspects, a specific instrument for assessing WC, the Work Ability Index (WCI) and the generic instrument proposed by the World Health Organization (WHO) for QOL assessment, called WHOQOL-Bref.

The first instrument refers to a questionnaire built by the authors to collect sociodemographic data. It was built in a structured format and with categorized nominal data. After its elaboration, it was refined by 3 judges, being these, researchers of the thematic area in question or experts in the proposed method. After refinement and due corrections, two pre-tests were carried out, which resulted in adjustments that facilitated the preparation of the final version used in this study. This instrument had two thematic axes, sociodemographic data (age, race, marital status, education, regular consultation with a doctor, smoker) and data related to occupation (working time, number of days worked per week, number of accidents suffered during the occupation, work shift, accident at work, possibility of taking road trips at work, carrying out other paid activity, formal contract and resting place between races).The second instrument, the WCI, allowed the WC self-assessment of individuals as proposed by Tuomi *et al*. (2005), translated and validated by Martinez; Latorre; Fischer (2009). The WCI involves, in a global way, the relations of the demands demanded in the profession, being physical and mental, the health status of the workers associated with their ability to perform their work activities at the present time and in the future.The questionnaire has ten questions synthesized in seven dimensions: (1) “Current WC and compared to the best of all life”, represented by a score from 0 to 10 points; (2) WC in relation to work requirements ”, by means of two questions about the nature of work (physical, mental or mixed) and which, weighted, provide a score of 2 to 10 points; (3) “current number of self-reported and diagnosed diseases by a

physician", obtained from a list of 51 diseases, defining a score of 1 to 7 points; (4) "estimated loss to work due to illness", obtained from a question with a score ranging from 1 to 6 points; (5) "absences from work due to illness", obtained from a question about the number of absences, categorized into five groups, with a score ranging from 1 to 5 points; (6) "own prognosis about WC", obtained from a question with a score of 1, 4 or 7 points; and (7) "mental resources", based on a score of 1 to 4 points obtained by weighting the answers to three questions. Instructions for calculating the score are found in Tuomi *et al*. (2005). The way in which workers' health is presented, demonstrates their WC. The evaluation of the WCI, through self-perceived health, offers information about the impairment of the capacity of each worker, in an isolated way, respecting the peculiarities and allowing the offer of support measures. The results can reach scores of 7-49 points, being 7-27, classified as a group with low WC, 28-36, moderate, 37-43 good, and 44-49 excellent. The third instrument, the WHOQOL-Bref, created by the WHO in 1998, and validated for the Portuguese language by Fleck *et al*. (2000) has 26 Likert-type questions divided into 4 domains: physical, psychological, social and environmental. To calculate the score, the guidance and syntax provided by WHO were followed. The final score varies between 20 and 100 points, and the higher the score achieved, the better the QOL. WHO did not create categorization forthis instrument.In this study, all questionnaires were self-administered, however, in case of doubt, the researchers were available to assist respondents, converting the application into assisted.For statistical purposes, only the questionnaires answered in full were considered, in the case of WHOQOL-Bref and WCI, while for the sociodemographic questionnaire, those whose data used in the study had complete answers were taken advantage of, the others being discarded. In cases where an instrument was discarded, the others were also discarded, for that respondent. The data obtained, entered twice in an Excel spreadsheet, were analyzed using SPSS (22.0) and STATA. Initially, a descriptive analysis of the variables was performed. Continuous variables were presented as means and standard deviation (SD) and qualitative variables as absolute and relative frequencies. Age, working time and WCI were also categorized, thus being also presented by relative and absolute frequency.The normality of WHOQOL-bref results and WCI dimensions was tested by the Kolmogorov-Smirnov test. Mann-Whitney / Wilcoxon or Kruskal-Wallis tests were used to compare the categories of independent variables in relation to the domains of QOL, the general QOL score and the WCI, and the Mann-Whitney test with Bonferroni correction was used when post-hoc analysis is required.

For the bivariate analysis of continuous data (domains of QOL, general QOL score and WCI), the Spearmann correlation coefficient was used. Variables with $p < 0.20$ and potential confounding variables (age, working time, number of days worked per week) were included in the linear regression model. The same analyzes (Spearmann correlation and linear regression, in the regression model variables with $p < 0.20$ were included) were performed to correlate the scores of the QOL domains and the general QOL score with the WCI score. To check the fit of the models, the coefficient of determination R^2 was used.In the bivariate analysis of the nominal data, Fisher's exact test and Pearson's chi-square test were used. The variables that presented p-value <0.20 in the bivariate analysis were included in the multiple regression analysis, which was performed using the robust Poisson Regression Model. To check the fit of the models, the Hosmer &Lemeshow statistic was used. To compare the domains and the QOL score according to the categorical classification of the WCI, the Kruskal-Wallis test was performed, using the Mann-Whitney test with Bonferroni correction when necessary for post-hoc analysis.In all tests, values of $p < 0.05$ were considered statistically significant.To verify the reliability of the two instruments in the population studied, Cronbach's alpha was calculated, which determined $\alpha = 0.82$ for the WCI and $\alpha = 0.86$ for the WHOQOL-Bref.

RESULTS

In total, 113 taxi drivers were evaluated, all male, all passed the selection criteria. Table 1 presents the sociodemographic and work-related data.

Table 1. Descriptive analysis of sociodemographic an occupational variables of taxi drivers

Variables	n	%
Age*	40.36±10.50	
Working time (years) *	7.62±7.23	
Number of days worked per week *	6.03±1.37	
Number of accidents suffered *	0.39±0.92	
Marital status		
Married	87	77
Not married	23	20.4
Widower	3	2.6
Education		
Elementary School	48	42.5
High school	61	54
University education	4	3.5
Age		
20-30 years	16	14.2
31-40 years	42	37.2
41-50 years	39	34.4
Above 51 years	16	14.2
Breed		
White	90	79.7
Brown	17	15
Black	6	5.3
Smoker		
Yes	3	2.7
Not	110	97.3
Time working as a taxi driver		
0.5-5 years	66	58.4
6-10 years	20	17.7
11-15 years	14	12.4
Above 15 years	13	11.5
Work shift		
Works in 3 shifts	113	100
Accident at work		
Yes	24	21.2
Not	89	78.8
Take a business trip		
Yes	46	40.7
Not	67	59.3
Perform other remunerated activity		
Yes	0	0
Not	113	100
Signed wallet		
Sim	8	7.1
Não	105	92.9
Rest place between races		
Yes	17	15
Not	96	85
Consult doctor regularly		
Yes	6	5.3
Not	107	94.7

*Continuous variables are presented as mean ± standard deviation.

It was observed that most taxi drivers are married (77%), have completed high school (54%), aged between 31-40 years (37.2%), are white (79.7%) and are not are smokers (97.3%). Regarding occupational data, it was found that most (58.4%) have between 0.5-5 years of time working as a taxi driver, in

Table 2. Potential factors associated with QOL and WCI of taxi drivers

Variables	Physical	Psychological	Social	Environment	QOL score	WCI
Marital status						
Married	87.06±6.78	77.05±7.46	78.35±9.11	54.77±5.57	74.31±4.29	42.75±2.32
Not married	87.57±5.68	77.35±5.86	80.43±10.54	53.94±4.02	74.82±3.81	43.34±1.02
Widower	86.91±6.46	75±7.21	83.33±14.43	54.59±3.61	74.85±1.41	45.33±2.88
Education						
Fundamental	87.31±6.44	76.68±6.59	81.02±11.61	51.46±4.91	74.37±4.65	43.89±2.5[b]
Medium	87.29±6.69	77.52±7.38	77.59±7.68	55.94±4.99	74.59±3.84	42.49±1.86
Higher	85.71±5.43	79.16±7.12	75±8.45	56.25±4.93[a]	74.03±3.92	43.5±0.57
Age						
20-30 years	87.27±6.64	79.94±7.01	79.68±10.07	54.88±5.09	75.44±5.28	42.93±1.52
31-40 years	87.75±6.65	78.37±6.18	79.76±8.85	54.46±4.93	75.08±2.55	43.05±1.79
41-50 years	87.63±5.48	76.81±6.10	79.70±9.89	53.24±4.38	74.6±3.33	42.92±2.64
Above 51 years	84.37±7.81	71.35±8.98[c]	73.95±9.06	55.46±7.86	71.28±6.37[c]	42.62±2.47
Breed						
White	88.65±5.95	77.12±7.31	78.14±9.05	54.27±5.28	74.09±4.2	42.92±2.35
Brown	88.09±3.68	76.47±7.35	81.37±10.42	56.80±4.71	75.82±4.02	42.70±1.21
Black	87.16±6.46	77.77±2.15	83.33±12.91	53.12±4.84	75.58±2.41	44±0.89
Smoker						
Yes	69.04±2.06 [c]	58.33±1.02 [c]	61.11±4.81[c]	48.95±1.81 [c]	59.36±1.26 [c]	39±3.46 [c]
Not	87.66±5.79	77.57±6.48	79.39±9.15	54.74±5.21	74.84±3.33	43.05±2.04
Time in the profession						
0.5-5 years	87.22±7.41	76.51±7.85	78.78±9.93	55.87±5.01[d]	74.60±4.41	42.92±1.99
6-10 years	88.39±6.22	76.70±4.92	79.53±9.15	55.46±3.18 [d]	75.28±2.75	42.70±1.17
11-15 years	85.45±3.27	76.78±5.59	76.19±7.20	51.56±6.68	72.49±3.46	43.57±1.28
Above 15 years	86.81±3.68	79.16±7.6	81.41±10.29	50±3.37	74.34±4.77	42.76±4.22
Crashed						
Yes	87.20±8.67	74.47±6.4 [c]	80.90±13.34	51.69±4.41 [c]	73.57±6.04	42.37±2.96
Not	87.15±5.79	77.76±6.91	78.37±8.21	55.37±5.18	74.66±3.45	43.11±1.89
Travel						
Yes	86.64±6.18	76.72±6.94	75.54±3.68 [c]	52.65±5.21 [c]	74.11±2.14	43.30±1.64
Not	87.52±6.67	77.30±7.62	81.21±11.45	57.54±3.64	74.65±5.07	42.70±2.44 [c]
Signed wallet						
Yes	84.82±1.65	79.16±4.23	75±3.21	55.46±4.45	73.61±0.44	42.75±1.16
Not	87.34±6.66	76.90±7.35	79.21±9.81	54.52±5.54	74.49±4.27	42.96±2.23
Resting place						
Yes	85.29±3.76	79.16±2.08	75.01±5.14	55.88±1.03	73.83±1.46	44±±2.03
Not	87.5±6.79	76.69±7.61	79.61±10.17	54.36±5.63	74.53±4.43	42.76±2.15 [c]
Regular medical consultation						
Yes	88.09±9.22	72.22±7.75	72.22±4.31	52.08±4.29	74.61±3.99	43.24±1.79
Not	87.11±6.33	77.33±7.01	7928±9.61	54.73±5.26	71.15±5.45 [c]	37.67±1.36 [c]

[a] statistically higher than elementary school; [b] statistically higher than high school; [c] statistically lower than the other category (ies); [d] statistically greater than over 15 years.

Table 3. Correlation between continuous independent variables and dependent variables: QOL domains, QOL score and WCI

Dependent variables		Age	Working time	Working days in the week
Physicist	Correlation	-0,219*	-0,011	-0,187*
	p value	0,020	0,912	0,048
Psychological	Correlation	-0,348*	0,008	0,139
	p value	0,000	0,938	0,143
Social	Correlation	-0,194*	0,027	0,043
	p value	0,039	0,783	0,651
Environmental	Correlation	-0,025	-0,357*	-0,040
	p value	0,793	0,000	0,672
Overall QOL score	Correlation	-0,355*	-0,097	-0,001
	p value	0,000	0,318	0,988
WCI	Correlation	-0,068	-0,007	0,036
	p value	0,471	0,940	0,703

* $p<0.05$.

addition, all of them work in the 3 shifts, since they work on duty. With regard to accidents during work, the majority did not have an accident (78.8%), as well as they do not travel for work, that is, they provide services only within the urban area of the municipality; another fact that received the same response from all volunteers was the failure to carry out another paid activity; in relation to having an employment contract (formal contract), it was found that the vast majority (92.5%) do not have it, that is, they work in commission; in relation to the place for rest between runs and regular consultation with a doctor, it was found that most taxi drivers do not have this place (85%) and do not make regular

appointments (94.7%). Table 2 shows the comparison of the mean values of the QOL domains, the general QOL score, and the WCI in relation to the categories of independent variables. In this table it can be seen that taxi drivers with higher education had a statistically greater environmental domain compared to those with a fundamental level (p=0.001) and those with a fundamental level had higher WCI (p=0.047) compared to those with a medium level.

Regarding time in the profession, taxi drivers aged 0.5-5 years (p=0.001) and 6-10 years (p=0.01) had a better assessment of the environmental domain compared to those with more than 15 years of profession. Taxi drivers who have suffered accidents at work had a worse assessment of the psychological (p=0.044) and environmental (p=0.002) domains. In relation to the fact of making only urban routes, that is, not traveling during work, this had a negative impact in the social (p=0.002)

Table 4. Association between independent variables with QOL domains and general QOL score

Variables	β (IC 95%)	p
Physical Domain		
Age	-0.128 (-0.240; -0.016)	0.025
Working days in the week	-0.814 (-1.667; 0.039)	0.061
Psychological		
Age	-0.235 (-0.355; -0.116)	0.000
Social		
Age	-0.176 (-343; -0.009)	0.039
Environmental		0.025
Working time	-0.257 (-0.386; -0.128)	0.000
Overall QoL score		
Age	-0.140 (-0.209; -0.070)	0.000

Table 5. Association between WCI categories with sociodemographic and occupational independent variables

Variables	WCI			p value
	Moderate	Good	Great	
Marital status				
Married	1	32	12	
Not married	0	9	4	0.930
Widower	0	1	1	
Education				
Fundamental	0	16	9	
Medium	1	25	7	0.617
Higher	0	1	1	
Age				
20-30 years	0	7	3	
31-40 years	1	13	7	
41-50 years	0	16	5	0.860
Above 51 years	0	6	2	
Breed				
White	1	32	15	
Brown	0	9	0	0.177
Black	0	1	2	
Smoker				
Yes	0	1	1	0.781
Not	1	41	16	
Time in the profession				
0.5-5 years	1	23	12	
6-10 years	0	11	1	
11-15 years	0	3	2	0.678
Above 15 years	0	5	2	
Crashed				
Yes	0	11	2	0.414
Not	1	31	15	
Travel				
Yes	1	17	6	
Not	0	25	11	0.436
Signed wallet				
Yes	0	3	1	
Not	1	39	16	0.950
Resting place				
Yes	0	5	4	
Not	1	37	13	0.481
Regular medical consultation				
Yes	1	2	17	
Not	0	40	0	0.000

The age above 51 had a negative impact on the assessment of the general QOL score, so that taxi drivers in this age group had worse scores than those aged 20-30 years (p=0.003), 31-40 years (p=0.003) and 41-50 years (p=0.036). Smoking taxi drivers had the worst assessment in all domains of QOL (p<0.01), in the general QOL score (p=0.000) and WCI (p=0.001).

and environmental (p=0.000) domains. The fact of having a resting place between runs was positive in the assessment of the WCI (p=0.029). Those who do not regularly visit the doctor, had worse scores in the general QOL score (p=0.045) and in the WCI (p=0.000). Table 3 shows the correlation between the QOL domains, the QOL score and the WCI with the continuous independent variables. It is possible to verify a

negative correlation of age with physical domain, psychological domain, social domain and general QOL score, in these cases, the higher the age, the worse the evaluation of these variables was. The working time had a negative correlation with the general QOL score, thus, the more time worked in the profession, the worse the QOL assessment. Finally, there was a negative correlation between the number of days worked in the week and the physical domain, that is, the greater the number of working days the worse the assessment of this domain.Table 4 shows the domains/QOL, with the variables that showed a significant association according to the regression model. Age was shown with the independent variable associated / predictor of lower values of (β = -0.128 and p=0.025) psychological domain (β = -0.235 and p=0.000), social domain (β = -0.176 and p=0.039) and general score of QOL (β = -0.257 and p=0.000). Working time, on the other hand, presented a negative association / prediction to the environmental domain (β = -0.257 and p=0.000). In all associations, β values predict that the greater the independent variable, the lower the values obtained in the domains/QOL.In the bivariate analysis of nominal data, no statistically significant association was found between WC and marital status, education, age, race, smoking, time in the profession, accidents at work, travel, formal license and resting place. There was a higher prevalence of optimum work capacity among taxi drivers in the age group who have regular medical appointments (p=0.000) (Table 5). The result obtained by the Robust Model of Poisson Regression did not show that regular consultation with the doctor was associated with the optimal capacity for work, however, taxi drivers who take care of their health showed a 42% increase in the optimal capacity for work (p=0.543; 95% CI: 3.50; 4.08). The means obtained for the QOL domains according to the taxi drivers' WC classification, showed that the group with moderate capacity (51.83 ± 5.95) had a worse perception of QOL in the environmental domain compared to good capacity (55.80 ± 4,71) and excellent) (56.25 ± 1.34) (p=0.030). In the correlational analysis of the WCI score with the QOL domains and with the general QOL score, there was a correlation of the WCI with the psychological domain (rs=0.0364 and p=0.000), social domain (rs=0.262 and p=0.005) and with a general QOL score (rs=0.312 and p=0.001). In the multiple linear regression model the social domain (β = 0.072, p=0.034, 95% CI 0.005; 0.139) the psychological domain (β=0.126, p=0.002, 95% CI 0.049; 0.203) and the general QOL score (β = 0.221, p = 0.026, 95% CI 0.031; 0.432) were shown to be associated/predictive factors for WCI.

DISCUSSION

The present study aimed to evaluate QOL and WC and its association with sociodemographic and labor factors of taxi drivers, since QOL can be considered a reflection of health status and this, in turn, is associated with the ability to perform work activities both now and in the future (Mass *et al*., 2014; Luna; Souza, 2014; Kelsey; Hardy, 1975; Huicho *et al*., 2012). The sample consisted of men, adults with an average age of 40 years, married and of white color / race, data like those found in several studies conducted with taxi drivers18-20, among them, most were not smokers and had completed high school. These persistent characteristics to this professional class are associated with the informal origin and execution of the activity, in this perspective, the taxi driver profession allows access to work and remuneration for people with low education, guaranteeing those with little / no academic training and work experience to enter the labor market. job market. However, many professionals remain without qualification recycling and for years the profession imposes on them the need for more hours worked to guarantee the necessary monthly income (Oliveira *et al*., 2016). Most of the participants in this research reported a service time of 0.5-5 years and a long working day consisting of three daily shifts and, on average, 6 days worked per week. These results, added to the fact that, the taxi driver was the only paid activity performed by these workers, demonstrate the economic fragility of these individuals. Professionals undergo extensive work, accompanied by occupational stress and tiredness resulting from overload. Such an act spends time on them, reducing their hours of rest, attention to family and leisure, in addition to impairing their eating habits and the practice of physical exercises, factors that, when added, provide the appearance of NCDs (Ledesma *et al*., 2017; Silva *et al*., 2016). These factors are indications that impact your WC and QOL.However, a positive factor in the population studied was the fact that the majority of respondents were not involved in accidents, this result is different from the literature, in which most studies address involvement in traffic accidents, considered one of the main risks occupational factors of the profession (Ledesma *et al*., 2017; Ramukumba; Mathikhi, 2016). On the other hand, a negative factor revealed in this study was the predominance of workers without a job, that is, without a formal contract, which can be explained by the autonomy of the label provision. However, it is possible to notice negative consequences of this factor, such as the absence of a resting place, social security, job instability, pressure for production and absence of a health plan, which would allow access to regular medical consultations (Ledesma *et al*., 2017; Luna; Souza, 2014).

In the assessment of QOL, it was noticed that the environmental domain was the worst evaluated and also showed differences between the categories of education, time in the profession, previous accident at work. The environmental domain, in general, represents the interference of the environment in which the individual is inserted (physical security/protection, home environment, financial resources, health / social care, opportunities to acquire new information/skills, participation in recreation/leisure and physical environment) in their perception of QOL, in this case, the performance of both the micro and macro work environment in the taxi drivers' lives is punctual (Oliveira *et al*., 2016). The bad evaluations presented by this domain have several plausible explanations, among which is that the weather of traffic, in which drivers are subjected to numerous adverse environmental exposures, such as heat, vibrations, intense noise, toxic gases from fossil fuels, as well as the unfavorable ergonomic conditions of the vehicle, added over the period of service, there is a negative imposition on the health of the worker, promoting recurrent symptoms such as fatigue and stress (Silva *et al*., 2016; Pereira *et al*., 2006; Matos *et al*., 2018; Alves, 2005; Castro *et al*., 2007; Rosales-Flores *et al*., 2018; Baba *et al*., 2018), another associated fact is the insecurity of the activity, the exposure of the worker to risks of labor accidents, as well as criminal attacks. The instability present in traffic, as well as climatic variations, the high levels of both air and noise pollution caused by the intense flow of vehicles are unfavorable to the health of these professionals (Assunção; Medeiros, 2015; Ramukumba; Mathikhi, 2016). The education variable showed a statistically greater difference regarding the environmental domain in

higher education compared to elementary education and from this, with secondary education, in WCI the fundamental stood out in comparison with the secondary education. In the environment domain facet, the difference observed may be related to opportunities in the labor market, as with a lower educational level, there is a tendency for fewer opportunities to acquire new information and skills, culminating in possibly lower wages. Thus, the worker will have less conditions to satisfy personal and family needs, a factor that can be decisive for access to leisure conditions, housing, transportation, and services health services, determining factors for maintaining a good perception of QOL (Pereira *et al*., 2006). This sample showed an inverse association between smoking and all domains of QOL, this is due to the fact that this harmful habit, notably impacting health, also brings relational and family damage, in addition to the fact that the characteristic odor is an aversion factor for thus, it affects the perception of QOL and implies in its various aspects (Pereira *et al*., 2006). Regarding age, it was noted that workers over the age of 51 had a lower score in the psychological domain and in the general QOL score, since advancing health reduces the perception of WC, causing a psychiatric burden detrimental to QOL, in addition, senescence itself causes loss/decrease of all physiological capacities, which are linked to physical, mental, social and work functions (Ratnapradipa *et al*., 2018). This was also noticed in drivers who have already been involved in accidents and have their psychological domain altered, who now have a perception of physical safety and protection of the affected environmental domain (Matos *et al*., 2018; Li *et al*., 2018).

Still related to time, participants with 0.5-5 years and 6-10 years of profession had a higher score in the environment domain when compared to those with 15 years of service, since the experience is directly related to functional aging and too much exposure to stressors (Matos *et al*., 2018; Ratnapradipa *et al*., 2018). The fact that some drivers travel demonstrated damage to the social and environmental domains, given that this exposes them to stressful agents and accidents, in turn, those who did not travel showed a decline in WCI, due to the subjective reduction in the functional perception of WC(Matos *et al*., 2018). The lack of resting place reduced the WCI due to the increased perception of fatigue that impair the label execution, in addition, the rest provides recovery of physical, organic and mental capacities preparing the worker for the next activity. In this sense, the importance of health care was verified, when it was found that the absence of regular medical appointments harmed both the general QOL score and the WCI, since it prevents the maintenance of the worker's health (Castro *et al*., 2007; Li *et al*., 2018). In this sense, it was also found that the WCI optimal classification was associated only with those workers with regular access to medical consultations, since access to health services encompasses both care or curative actions and, especially, promotion activities health and disease prevention, so that patients can intervene in the development of diseases when receiving health education, which is a set of knowledge and practices transmitted by health professionals that enable knowledge of the conditions of the health-disease process and the possible adoption of new habits favorable to life (Castro *et al*., 2007; Li *et al*., 2018). In the physical domain, negative correlations were observed with age and with the number of days worked in the week, because changes in the psychophysiological state of the professional can be observed throughout their time of service, since the risks arising from the conditions of work allow the appearance of irritability, insomnia, attention disorders and musculoskeletal symptoms. The service itself demands energy and the work done inside a vehicle, as in the case of taxi drivers, impairs their mobility, causing sustained muscle contractions, preceded by fatigue that causes the appearance of pain. In addition to the physiological changes imposed by age, working conditions and frequent sleep inadequacies lead to functional aging, which often causes dependence on medications in the individual who aims to maintain their work capacities (Pereira *et al*., 2006; Li *et al*., 2018). The negative correlation/association between the social and psychological domain with age and, environmental with working time, is due to the urban specificity of performance. The monotonicity of the performance perimeter reduces interaction with society, since it limits interpersonal relationships. Involvement in accidents affects self-esteem, pleasure at work, can also be an impact of sleep and lack of attention, causing trauma resulting from impaired psychological integrity. Psychological demands increase muscle tension and exacerbate pain sensitivity (Ramukumb; Mathikhi, 2016; Li *et al*., 2018). Both factors directly affect the perception of QOL of drivers represented by such domains (Matos *et al*., 2018). Despite the many flaws found in the label execution of the evaluated taxi drivers, the vast majority showed a positive self-perception of health, with their WCI considered predominantly good, with a negligible presence of the moderate ratings and few excellent evaluations, such categorization of the achieved WC may be associated with the fact that adults with labor and economically active activities have a better perception of health, due to the feeling of usefulness coming from work, in this sense, those of those referring to the predominant age of 41-50 years, as well as the work experience of 0.5-5 years, corroborate the feeling of usefulness vehemently observed. Other findings that had a positive impact on the WCI were the urban convenience of action and the absence, mainly, of episodes of racial prejudice and accidents at work, since these factors correlate with the perception of QOL (Cogo*et al*., 2016; Alves, 2005; Ratnapradipa*et al*., 2018). Still regarding the analysis of the WCI, a correlation and association was found, by regression, of the WCI with the psychological domain, social domain and with general QOL score. These findings confirm the findings in the literature, which demonstrate that among the factors that exhibit the greatest association with WC are those related to working conditions, due to the extensive workloads that promote wear and the consequent decrease in time for other activities essential to life, such as spending time with the family, leisure, physical activity, good nutrition and, above all, effective rest. Linked to this, there is an important individual characteristic, age, which, in addition to promoting the chronological aging of the worker, is reflected in the functional aging related to the progressive wear and tear caused by work, in general, these factors act significantly reducing the WC (Cordeiro; Araújo, 2016).

Psychosocial factors are predictors of reduced WC, since stress, fatigue, job dissatisfaction determines a greater psychic burden, directly interfering in the perception of QOL and, consequently, decreasing WC. Traffic stress and fear of violence are frequent in this profession, these factors impair the mental well-being of workers, triggering the reduction of WC (Cordeiro; Araújo, 2016; Ramukumb; Mathikhi, 2016). As well as the need to increase the workload, it harms the general health of the worker, since it reduces their availability with personal and family care (Rosales-Flores *et al*., 2018). WC is a dynamic phenomenon that addresses physical, mental,

social agents and the needs of the worker himself, presenting interference on the individual's QOL. Their analyzes represent a parameter for verifying the possible modifications necessary for adjustments in occupational health. Thus, the indispensability of promoting the assistance of health professionals in the planning and implementation of educational activities to taxi drivers is noticeable, so that they can perceive the risks that negatively affect their WC and QOL. In addition, it is also possible to raise awareness among managers and professionals from the traffic regulation and inspection bodies for greater participation in promoting the health of this group of workers, as well as for the inclusion of the group in public health policies (Teixeira *et al*., 2015).

Conclusions

It is concluded that taxi drivers had a higher prevalence of good WC. Regarding dental quality, it was the worst evaluated, which implies dissatisfaction with physical security/protection, home environment, financial resources, health/social care, opportunities to acquire new information/skills, participation in recreation/leisure and physical environment. There was an association between QOL and CT, among the factors that impacted QOL/WC, age and length of service (impact on QOL) and resting place (impact on WC) stood out.

REFERENCES

Alves V. A health education model for the Family Health Program: towards comprehensive health care and model reorientation. Interface - Comunic., Saúde, Educ 2005; 9(16):39-52.

Assunção A, Medeiros A. Violence against metropolitan bus drivers and fare collectors in Brazil. Rev Sau Publ 2015; 49(11):1-8.

Baba M, Miyama G, Sugiyama D, Hitosugi M. Influence of workplace environment, working conditions and health status of taxi drivers on vehicle collisions or near-miss events. Innov Aging 2018; 2(3):67-76.

Beirão G, Cabral J. Understanding attitudes towards public transport and private car: A qualitative study. Transport Policy Journal 2007;14(6):478-489.

Castro M, Oliveira M, Moraes J, Miguel A, Araujo R. Qualidade de vida e gravidade da dependência do tabaco. Rev psiquiatria clínica 2007;34(2): 61-67.

Cogo L, Fedosse E, Santos V. Qualidade de vida e aspectos auditivos de trabalhadores do transporte coletivo urbano. Revista CEFAC 2016;18(1): 40-46.

Cordeiro T, Araújo T. Capacidade para o trabalho entre trabalhadores do Brasil. Rev Bras Med Trab 2016; 14(3):262-274.

De Vitta A, De Conti M, Trize D, Quintino N, Palma R, Simeão S. Sintomas musculoesqueléticos em motoristas de ônibus: prevalência e fatores associados. Fisioterapia em Movimento 2013;26(4), 863-871.

Fleck MPA *et al*. Aplicação da versão em português do instrumento abreviado de avaliação da qualidade de vida "WHOQOL-bref". Rev. Saúde Pública 2000; 34(2):178-183.

Huicho L, Adam T, Rosales E, Paca-Palao A, López L, Luna D, Miranda J, PIAT WorkingGroup. Evaluation of interventions on road traffic injuries in Peru: a qualitative approach. BMC Public Health 2012; 12:71.

Kelsey J, Hardy R. Driving of motor vehicles as a risk factor for acute herniated lumbar, intervertebral disc. *Am J Epidemiol* 1975; 102:63-73.

Ledesma R, Poó F, Úngaro J, López S, Cirese A, Enev A, *et al*. Trabajo y SaludenConductores de Taxis. Ciencia&trabajo 2017; 19(59), 113-119.

Li MK, Yu JJ, Ma L, Zhang W. Modeling and mitigating fatigue-related accident risk of taxi drivers. Accid Anal Prev. 2018, 20;123:79-87.

Luna J, Souza O. Sintomas osteomusculares em taxistas de Rio Branco, Acre: prevalência e fatores associados. CadSauCol 2014;22 (4):401-408.

Martinez MC, Latorre MRDO, Fischer FM. Validade e confiabilidade da versão brasileira do Índice de Capacidade para o Trabalho. Rev SaúdePública 2009; 43(3):525-532.

Mass A, Goldfarb D, Shah O. Taxi Cab Syndrome: A Review of the Extensive Genitourinary Pathology Experienced by Taxi Cab Drivers and What We Can Do to Help. Med Reviews JournalUrology 2014;16(3):99-104.

Matos J, Mascarenhas C, Araújo C, Gomes F, Santos G. Fatores associados à autopercepção de saúde em taxistas. Fisioterapia e Pesquisa 2018;25(4), 369-375.

Nascimento R, Neves D, Vasconcelos F, Alferes M, Abreu M, Demier M. Estresse Ocupacional: um Estudo de Caso com Motoristas de Transporte Urbano do Município do Rio de Janeiro. RAUnP - Revista Eletrônica do Mestrado Profissional em Administração da Universidade Potiguar 2015; 8(1): 19-30.

Oliveira B, Nascimento T, Teixeira J, Nery A, Casotti C, Boery E. Influência da condição de trabalho na qualidade de vida de taxistas. Rev Baiana de Enferm 2016; 30(1):365-374.

Oviedo-Oviedo N, Sacanambuy-Cabrera J, Matabanchoy-Tulcan S, Zambrano-Guerrero C. Percepción de conductores de transporte urbano, sobre calidad de vida laboral. Universidad y Salud 2016;18(3): 432-446.

Pereira R, Cotta R, Franceschini S, Ribeiro R, Sampaio R, Priore S *et al*. Contribuição dos domínios físico, social, psicológico e ambiental para a qualidade de vida global de idosos. Rev Psiquiatr RS 2006;28(1):27-38.

Ramukumba T, Mathikhi M. Health assessment of taxi drivers in the city of Tshwane. Curationis 2016;39(1), 1-7.

Ratnapradipa KL, Wang J, Berg-Weger M, Schootman M. Coming Out of "Retirement"-Predictors of Driving Resumption Among Older Drivers. Innov Aging. 2018 Oct 31;2(3):67-76.

Razmara A, Aghamolaei T, Madani A, Hosseini Z, Zare S. Prediction of safe driving Behaviours based on health belief model: the case of taxi drivers in Bandar Abbas, Iran. BMC Public Health 2018; 18:380.

Rosales-Flores R, Mendoza-Rodríguez, J, Granados-Cosme, J.Life, health and work conditions of taxi drivers in Mexico City. RevMeddel Instituto Mexicano del Seguro Social 2018;56(3):279-286.

Silva L, Batista M, Nunes T, Pelazza B, Robazzi M, Maia L *et al*. Características ocupacionais e qualidade de vida de motoristas de ônibus. Journal Health NPEPS 2016; 1(1):53-67.

Silva M, Oliveira M, Fontana R. Atividade do mototaxista: riscos e fragilidades autorreferidos. Rev Bras Enferm 2011; 64:1048-55.

Teixeira J, Boery E, Casotti C, Araújo T, Pereira R, Ribeiro I *et al*. Association between Psychosocial Aspects of Work and Quality of Life among Motorcycle Taxi Drivers. CadSauPubl 2015; 31: 97-110.

Tuomi K; Ilmarinen J; Jahkola A; Katajarinne L; Tulkki A. Índice de capacidade para o trabalho. São Carlos: EduFSCar, 2005, p. 9-10.

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