Journal of Nursing
Revista de Enfermagem
UFPE On Line
ISSN: 1981-8963

ORIGINAL ARTICLE

OCCUPATIONAL CHARACTERISTICS OF WORKERS MOTORCYCLE TAXIS

CARACTERÍSTICAS OCUPACIONAIS DE TRABALHADORES MOTOTAXISTAS

CARACTERÍSTICAS OCUPACIONALES DE TRBAJADORES MOTOTAXISTAS

Luiz Almeida da Silva[1], Maria Lúcia Carmo Cruz Robazzi[2], Rita de Cácia Marchi Barcellos Dalri[3], Fábio Souza Terra[4], José Natal Almeida Silva[5], Mikael Henrique de Jesus Batista[6]

ABSTRACT

Objective: to identify the occupational characteristics of workers motorcycle taxis. ***Methodology:*** descriptive, correlational study, with quantitative approach conducted with 152 motorcycle taxi drivers of Uberlândia/MG, randomly selected, and applying a questionnaire. The study had the project approved by the Ethics Committee and Research, 1360/2011 Protocol. ***Results:*** it was found a profession time of 1 to 5 years (62.5%); subjects were working during the daytime and nighttime, with predominance of daily journey from 9 to 12 hours (48.7%), but also extensive journeys 16 to 18 daily hours (15.1%) have been identified. As for the Driver´s lisence category A (98.7%) possess and with long prevalent between 1 to 5 years (30%). ***Conclusion:*** the motorcycle taxi drivers knew little about personal protective equipment, required to avoid and/or minimize possible injury resulting from accidents, factor that put them at risk due to their work. ***Descriptors:*** Work; Worker; Worker's Health.

RESUMO

Objetivo: identificar as características ocupacionais dos trabalhadores mototaxistas. ***Metodologia:*** descritivo, correlacional, com abordagem quantitativa realizado com 152 mototaxistas de Uberlândia/MG, selecionados aleatoriamente, com os quais foi aplicado um questionário. O estudo teve o projeto aprovado pelo Comitê de Ética e Pesquisa, Protocolo 1360/2011. ***Resultados:*** constatou-se tempo de profissão de 1 a 5 anos (62,5%); os sujeitos trabalhavam durante o período diurno e noturno, com predominância de jornada diária de 9 a 12 horas (48,7%), mas, foram identificadas também, jornadas extensas de 16 a 18 horas diárias (15,1%) entre os trabalhadores. Quanto a Carteira Nacional de Habilitação categoria A (98,7%) a possuíam e com tempo predominante entre 1 a 5 anos (30%). ***Conclusão:*** os mototaxistas conheciam pouco sobre equipamentos de proteção individual, necessários para evitar e/ou minimizar possíveis lesões decorrentes de acidentes, fator que os colocavam em risco de sofrê-los em decorrência do trabalho desenvolvido. ***Descritores:*** Trabalho; Trabalhador; Saúde do Trabalhador.

RESUMEN

Objetivo: identificar las características ocupacionales de los trabajadores mototaxistas. ***Metodología:*** descriptivo, correlacional, con enfoque cuantitativo realizado con 152 mototaxistas de Uberlândia/MG, seleccionados al azar, con los cuales fue aplicado un cuestionario. El estudio tuvo el proyecto aprobado por el Comité de Ética e Investigación, Protocolo 1360/2011. ***Resultados:*** se constató tiempo de profesión de 1 a 5 años (62,5%); los sujetos trabajaban durante el período diurno y nocturno, con predominancia de jornada diaria de 9 a 12 horas (48,7%), pero, fueron identificados también, jornadas extensas de 16 a 18 horas diarias (15,1%) entre los trabajadores. Referente al documento de conducción categoría A (98,7%) a poseer y con tiempo predominante entre 1 a 5 años (30%). ***Conclusión:*** los mototaxistas conocían poco sobre equipamientos de protección individual, necesarios para evitar y/o minimizar posibles lesiones decorrentes de accidentes, factor que los colocaban en riesgo de sufrirlos debido al trabajo desarrollado. ***Descriptores:*** Trabajo; Trabajador; Salud del Trabajador.

[1]Work-related Nurse, PhD in Science, Federal University of Goiás/UFGO. Jataí (GO), Brazil. E-mail: enferluiz@yahoo.com.br; [2]Work-related Nurse, Professor, Nursing School of Ribeirão Preto, University of São Paulo/EERP/USP. Ribeirão Preto (SP), Brazil. Email: avmlccr@eerp.usp.br; [3]Work-related Nurse, Post-Doctorate student, Nursing Shool of Ribeirão Preto, University of São Paulo/EERP/USP. Ribeirão Preto (SP), Brazil. Email: ritacmbdalri@usp.br; [4]Nurse, PhD Professor in Science, Federal University of Alfenas/Unifal. Alfenas (MG), Brazil. E-mail: fabio.terra@unifal-mg.edu.br; [5]Nurse, Centro Universitário do Triângulo/UNITRi. Uberlândia (MG), Brazil. E-mail: josenatal@hotmail.com; [6]Nursing Graduation, Federal University of Goiás - Regional Jataí. Jataí (GO), Brazil. E-mail: mikael.gyn@hotmail.com

INTRODUCTION

The motorcycle, besides the utilities for leisure, it has become an instrument of work, particularly for the "motoboy" or motorcycle taxi driver. The work of these people have gain space in contemporary times by agility in performing services in a shorter time. On the other hand, this worker is labelled as irresponsible, particularly because during his work, he is very fast and in many times, not obeying traffic laws. Study conducted in the city of Fortaleza (CE) sought to understand the risks of traffic accidents they are exposed and one of the characteristics presented was the work for production, without a fixed income and risks in traffic are accidents, assaults, among others. With this, they speed up their motorcycles to increase wage income and guarantee subsistence.[1]

According to data from the Brazilian Association of Motorcycles, there are in the country about 500 thousand motorcycle taxi drivers working, being the majority in informality situation.[2] This fact becomes a worrying factor, since the more increases the number of professional motorcycle drivers, there are not implemented and preventive action, either developed research relating to the risks inherent in this occupation, but the chances of occurrence of accidents at work increase (AW) and other problems to health. Therefore, undoubtedly, the statistical data related to accidents with this category of workers are likely to be high.

Study on traffic violence held in Sangari Istitute, through the analysis of a million death certificates worldwide, showed that Brazil is the second country in the world in fatality accidents involving motorcycles, with 7.1 deaths per 100 thousand inhabitants. Only in Paraguay there are more death, with 100 deaths per 7.5 thousand inhabitants; Thailand has 4.6 deaths per 100 thousand inhabitants, while Colombia appears in fourth, with 4.2 deaths and Cyprus takes the fifth place, with 3.7 deaths. The index in the United States, the tenth placed on the list, is 1.7 death every 100 thousand inhabitants. In the last 15 years, the mortality rate growth in motorcycle accidents in Brazil increasing 846.5%, while for cars the rate have increased to 58.7%. The level of traffic violence is so high that it condemns to death at the scene of the accident about 40% of those involved in the incidents. In 2010, there were 13,452 fatalities recorded against 1,421 in 1996. Among the victims, 75% were men and 40% were between 21 and 35 years old.[3]

The motorcycle taxi drivers´ work is performed on the streets and therefore it is very risky. This risks are caused by factors arising from the intense movement of vehicles and there are harms that possibly can occur to these workers by nature of this activity, such as transit and exposure to environmental factors, especially environmental pollution, since the various pollutants produced by the action of automotive engines and industries are harmful to human health, when the exposure is prolonged. The cluster of vehicles provides the increased environmental pollution, since most of the vehicles use as fuel gasoline and diesel, producing important sources of pollutants.

Because these workers do not have fixed hours of work, they are exposed for long hours in extensive journeys, more susceptible to accidents at work (AW) that can leave them in many cases, incapacitated for work for a determined period or indeterminate and even to death.

Assim, o presente estudo objetiva:

On those facts, generators of precarious work of these individuals, the environmental risks they are exposed such as environmental pollution, noise pollution with high levels of noise and AW risk, reaffirmed the interest in performing this study investigating some occupational characteristics of motorcycle taxi drivers.

Thus, the present study aims to:

- Identify the occupational characteristics of workers motorcycle taxi drivers.

METHOD

This study had the work presented at the III Forum of Integration of Professional Masters in Nursing, held on 27, 28 and 29 of November, 2013 in a Nursing School of Ribeirão Preto, SP, Brazil.

This is a descriptive, correlational study, with quantitative approach, carried out with 152 motorcycle taxi drivers of Uberlândia/MG, city in the "triângulo mineiro", chosen randomly, to perform the activities in mototaxi central/fixed points.

As selection criteria there were: being a motorcycle taxi driver for at least one year, regardless of gender; be working without medical licenses in the past two months when data collection. For obtaining occupational data, a questionnaire was used.

For the insertion of data after collection, a database was elaborated, using Microsoft Excel 2000 Worksheet, Windows series, inserted in double typing and subsequently transferred to computerized program SPSS version 17.0.

The study was carried out according to ethical principles of research with human beings advocated in Resolution 196 of October 10, 1996 of the National Health Council. The research project was duly submitted to the Ethics Committee in Research of the Nursing School of Ribeirão Preto of the University of São Paulo-EERP-USP, having received approval with the Protocol 1360/2011.

RESULTS

The table 1 presents some occupational aspects related to work of the motorcycle taxi drivers.

Table 1. Distribution of motorcycle taxi drivers according to the variables working time, working period, daily working hours, breaks, number of days off. Uberlândia-MG, Brasil. 2012.

Variáveis	n	%
Working time (in years)(n=152)		
1-5	95	62,5
6-10	27	17,8
10-15	28	18,4
>15	2	1,3
Working period (n=152)		
Only daytime	62	40,8
Daytime and nighttime	90	59,2
Daily hours worked (n=152)		
≤ 8	24	15,8
9-12	74	48,7
13-15	26	17,1
16-18	23	15,1
>18	5	3,3
Breaks- Period of 6 hours (n=152)		
No	27	17,8
Yes	125	82,2
Weekly days off* (n=125)		
1	9	7,2
2	102	81,6
4	14	11,2

*Only for the workers reporting days off

Working time as a motorcycle taxi driver, showed that most of them, 95 (62.5%) work from 1 to 5 years, followed by 28 (18.4%) working between 10 and 15 years and only two (1.3%) working for more than 15 years, in this type of job.

Related to the period of work exercised by motorcycle taxi drivers, 90 (59.2%) reported working during the daytime and nighttime periods, while 62 (40.8) work only during the day.

With reference to hours worked, 74 (48.7%) stated that performs daily journey from 9 to 12 hours and 26 (17.1%) from 13 to 15 hours; only five (3.3%) were performed daily journey in excess of 18 hours.

Regarding to breaks, 125 (82.2%) reported that they have a day off during the week; 102 (81.6%) reported two days off weekly, being 24 hours without working.

The descriptive statistics of the variables working time and daily working hours is presented in table 2.

Table 2. Descriptive statistics of the variables working time and daily working hours. Uberlândia-MG, Brazil. 2012.

Descriptive statistic	Variables	
	Working time (in years)	Daily working hours
Average	5,4432	12,61
Median	3,0000	12,00
Standard deviation	4,62609	3,652
Minimum	1,00	6
Maximum	17,00	24

Working time showed a median of 3 years in the motorcycle taxi drivers; as for the daily journey, there was a median of 12 daily hours and a maximum of 24 daily working hours.

Table 3 shows variables of dual employment, motorcycle use for other activities, having Dricer´s License (DL), time of DL, traffic tickets, quantity of tickets, defensive driving course and frequency of preventive motorcycle review.

Table 3. Distribution of motorcycle taxi drivers according to variables of dual employment, motorcycle use for other activities, having Dricer´s License (DL), time of DL, traffic tickets, quantity of tickets, defensive driving course and frequency of preventive motorcycle review. Uberlândia-MG, Brasil. 2012.

Variables	n	%
Dual emplyment (n=152)		
No	120	78,9
Yes	32	21,1
Other type of job* (n=32)		
Use motorcylce	6	18,8
Others	26	81,2
Having DL (n=152)		
Yes	150	98,7
No	2	1,3
Time of DL in years** (n=150)		
1 to 5	45	30,0
6 to 10	31	20,6
11 to 15	35	23,4
16 to 20	8	5,4
≥ 21	25	16,6
Not Informed	6	4,0
Traffic tickets in the last 12 mounts (n=152)		
Yes	79	52,0
No	73	48,0
Quantity of tickets*** (n=79)		
Up to 2	58	73,4
3-5	21	26,6
Defensive driving course (n=152)		
Yes	53	34,9
No	99	65,1
Frequency of preventive motorcycle review (n=152)		
Monthly	49	32,2
Every 3 months	35	23,0
Every 6 months	33	21,7
Annualy	16	10,5
Not review performance	19	12,5

*Only for the ones having other type of job/ **Only for the ones having DL/ ***Only for the ones having traffic tickets in the last 12 months/ Note: DL- Driver´s License.

Regarding the existence of dual employment, even with extensive journeys, 32 (21.1%) workers still have another job, while 120 (78.9%) reported exclusively as motorcycle taxi driver. Those who have other labor activity, six (18.8%) use the motorcycle in other activities, staying more time exposed to the polluted environment.

When questioned about the fact that they are entitled to exercise the profession with DL category A, 150 (98.7%) declared having DL, only two (1.3%) had not DL. Enabling time showed that most of the subjects, 45 (30%) presented 1 to 5 years, 31 (20.6%) 6 to 10 years, 35 (23.4%) 11 to 15 years, eight (5.4%) 16 to 20 years, 25 (16.6%) more than 21 years and six (4%) did not report.

With regard to the occurrence of tickets in the last 12 months 79 of workers (52%), had traffic tickets during labour activity. As for the quantity of these tickets, 58 (73.4%) were to two times, while 21 (26.6%) three to five times in the last 12 months prior to the collection of data from this study.

On the realization of the defensive driving course for motorcycle driving, 99 (65.1%) reported they did not do any course and 34.9% had already done.

Regarding to habit and frequency performing preventive review on motorcycle, 49 (32.2%) reported performing it monthly, followed by 35 (23.0%) quarterly. Of the surveyed, 19 (12.5%) did not perform preventive maintenance, corrective only.

Table 4. Distribution of motorcycle taxi drivers according to the use of personal protective equipment. Uberlândia-MG, Brasil. 2012. (n=152).

PPE	Sim		Não	
	n	%	n	%
Helmet	152	100,0	-	-
Gloves	18	11,8	134	88,2
Boots	12	7,9	140	92,1
Blouse	9	5,9	143	94,1
Goggles	3	2,0	149	98
Cover	2	1,3	150	98,7
Elbow pads	2	1,3	150	98,7
Shin protector	1	0,6	151	99,4
Protector Anttena	1	0,6	151	99,4
Knee pads	1	0,6	151	99,4
Protection Clothes	1	0,6	151	99,4

*PPE- Personal protective equipment

During the labor activity, all respondents reported wearing a helmet, however, only 18 (11.8%) wore gloves and 12 (7.9%) protective boots. Protective antennas, which are set out on the motorcycle, were mentioned by only one of the workers (0.7%).

DISCUSSION

Among the motorcycle taxi drivers, it was found that most of them (62.5%) has working time of 1 to 5 years; works during the daytime and nighttime, with predominance of daily journey of 9 to 12 hours (48.7%), but there were also identified extensive journeys of 16 to 18 daily hours (15.1%) among workers. With regard to days off, 82.2% reported to have them and most of them (81.6%) remains only two periods of 6 hours, which equals a day off and seven days working during the week; the reporting exercising more than an employment relationship was identified by 32 (21.1%), and six using the motorcycle in another activities, which possibly increases exposure to traffic and the risk of accidents.

As for variable working hours, considering the activities of motorcycle taxi originated in mid-1995, this mode has in the year 2012, a total of 17 years of existence. The workers have mostly from 1 to 5 years of experience, with a median of 3 years, a fact that can be justified by their large turnover, changing of positions and functions in which are not regulated and searching for better opportunities for integration into the labour market.

Review study that sought to identify publications on motorcycle taxi drivers, showed that the motorcycle, though it is in great use, mainly for work as a new instrument, is a vulnerable mean of transportation, a fact shown by high levels of AW with injury, disability and death. Its security conditions are minimal, the pilot and passenger are always exposed to environmental changes, double risk of accidents occuring.[4]

In Fortaleza (CE), in the year of 2008, most of the motorcycle taxi drivers (64%), which were regulated by the municipality exercised this kind of work in the period of not less than seven years.[5] In Feira de Santana (BA) most motorcycle taxi drivers (68.9%) had time working in this profession five or more years.[6]

Study of the motorcycle taxi drivers in Rio de Janeiro showed that most of them (27.9%) was in the activity less than a year ago and 28.1% possessed of 3 to 5 years of experience.[7] The informality of the work field generates insecurity and, consequently, turnover among employees.

Case study performed with motorcycle taxi drivers in the municipality of Sobral (CE) showed that they work in the profession for 16 years and had also dual emplyment, working as a nursing assistant,[8] showing the need of salary complementation with other types of work.

As regards the daily working day, there was a predominance of those who worked from 9 to 12 hours (48.7%), while 15.1% reported 16 to 18 hours and 5 (3.3%) above 18 hours daily, with median of 12 hours, characterizing these journeys as extensive and reduced weekly break, since most of them, 102 (81.6%) reported that they have day off for only 12 hours weekly, and 27(17.8%) worked around the clock. Such data indicate a precarious activity, of competition for space in traffic in search of greater number of runs, risking daily threats crowded the streets, exposing themselves to accidents and illness. The daily average of job found among the subjects was 12 hours, in addition to the seven days a week, it is get a weekly workload of 84 hours, which is at odds with the Brazilian laws, through the 1988 Federal Constitution approving the reduction of working hours from 48 to 44 hours a week and 8 hours daily to national workers.[9]

A survey conducted in Uberlândia (MG), in 2006, showed that 61% of motorcycle taxi drivers worked for 9 to 12 daily hours, 17% from 13 to 15 hours and 11% practiced daily

journeys above 16 hours, which was also considered as a factor that raises the risk of traffic accidents in this population.[10]

In Ituiutaba (Minas Gerais State), it was found that 78.8% of motorcycle taxi drivers worked between 10 and 12 hours and 80.8% could have only one day off per week.[10] In Feira de Santana (BA), most of these workers worked six to seven days per week (92.1%) during 8 hours or more per day (82.8%) showing a group of workers with high daily load of work and extensive workdays.[6] In Rio de Janeiro in 2004, it was evidenced that the motorcycle taxi drivers, (51.6%) most of them worked between 10 and 12 hours and 34.4% enjoyed only a day off during the week.[7]

In dual employment, even exercising daily extensive journeys, 32 subjects (21.1%) have another working activity and only six (18.8%) use the motorcycle on another activity which makes them have more hours of work and, consequently, are more exposed to environmental pollutions and AW risk.

In another investigation,[5] 5.6% of the studied motorcycle taxi drivers, had another remunerated activity, such as salesmen, construction worker, delivery men and vigilant.

In the present study, in the fact that they have DL category A, the majority (98.7%) were reported to have license and with long prevalent of 1 to 5 years (30%); as the occurrence of traffic tickets, 52% had already a ticket at least once over the period of one year; with respect to defensive driving course, which in synthesis, it teaches the biker to avoid accidents, 65.1% never performed this type of course; regarding the frequency of preventive motorcycle review, 49 (32.2%) reported performing it monthly.

With regard to the driver's license to drive motorcycles, it was observed that even the Brazilian legislation disallowing driving vehicles without specific license, two (1.5%) of study participants drove motorcycles without proper permission. Regarding the occurrence of tickets in the last 12 months prior to collection, 79 (52%) of subjects declared that had tickets. From them, 58 (73.4%) were reported to have up to two tickets, 21 (26.6%) from 3 to 5 tickets; the main causes of tickets have configured as inappropriate behavior in traffic, factor that is worrying since it was identified in many workers.

In the motorcycle taxi drivers surveyed in Feira de Santana (BA), most of them (85.4%) motorcycle driver's license five or more years.[6] In Fortaleza (CE), 50.4% have had their DL category A dispatched from 1996 and up; as regards infringement, 25.2% confirmed that had tickets; of them, 63.5% received a ticket, 25.4% two tickets and 9.5% three tickets.[5]

Because most of them were not enrolled in defensive driving course, there are high possibilities of irresponsible behaviour in traffic, since they were not educated on ways to prevent accidents. The behavior in traffic is one of the determining factors for contribution on occurrence of accidents involving motorcycles, once their work is composed of several contributory factors that are added to personal taxpayers.[12]

The transit involves a working environment called "open" and to work in this environment, the worker needs to face bad weather and be in good mental and physical condition, but also have good working conditions, with instruments and protection within the parameters required by law for their protection, as well as of the users and the general public.

Study conducted in Fortaleza, found 177 (70.8%) motorcycle taxi drivers who made defensive driving course in 2006 and/or 2007, prevailing 2007 with 35.6% of the courses conducted; emphasizing that, although there was not a relationship with occurrences in traffic, this course must be done and renewed periodically, seeking a change in behaviour and reduction of accident rates of traffic[5].

Regarding the variable preventive motorcycle review, 49 (32.2%) reported performing it monthly, followed by 35 (23%) on every 3 months, 33 (21.7%) on every six months and 16 (10.5%) annually; as a disturbing factor, it was found that 19 (12.5%) did not perform preventive review, only corrective review, being a risky behavior. When such care is not performed, the motorcycle usually presents problems in movement, which raises the risks of accidents and chances of serious injury.

Study conducted in the city of Fortaleza (CE) concluded that motorcycle taxi drivers that perform preventive motorcycle review quarterly or semi-annually present a higher risk of suffering AW than those who make this procedure more frequently. Thus, the larger the interval time between a review and another, the greater the possibility the driver suffering traffic accident.[5] This fact allows to infer that the motorcycle taxis drivers of this study not performing preventive review are more exposed to the occurrence of AW.

Related to the use of PPE, all motorcycle taxis drivers reported wearing a helmet, which is certainly one of the most important

equipment for the severity of injuries resulting from traffic accidents. An important factor is that the other PPE, which are also essential for the protection of the worker as protective gloves, boots, leather sweaters, goggles, covers, elbow pads, shin protector, antenna and knee pads are used by the minority. This fact shows that the subject have low awareness about the real needs of PPE to prevent gravity of injuries arising from the occurrence of AW.[13]

Reality similar to the present study, was identified among the motorcycle taxis participants, 100% reported using the helmet and 14.4% know about the necessity of the use of proper footwear, not being reported the use of any other PPE[5].

The legislation in force, which regulated the mototaxi as a profession, requires minimum safety conditions are followed both for workers and for users. Requirements as owning a license for a period exceeding 2 years, use retro reflective vests, helmets and protective device antennas identified for legs and motor in case of tipping, were not covered by them; many of the workers even had knowledge of these requirements that are already with deadline to enter in force[14].

There was little concern of subjects regarding the use of PPE and when questioned, informally, if they did not know the other existing equipment for their safety, they reported that the equipment bothers them and they were not important. In the event of AW between these workers, in the absence of PPE, the lesions become inevitable, which leads us to believe that the employee has incorporated a risk his job as inevitable and before it leaves the prevention sidelined.

It is known that the antennas are mandatory requirement in the legislation that is already in force, which protects workers from suffering serious injury in the neck by lines with abrasive, since depending on the speed at which the vehicles are, can cause serious injuries or even fatal to drivers[15].

Study carried out in Mar Del Plata, Argentina, showed that wearing a helmet has become a kind of individual responsibility and in observational research with 451 motorcyclists, it was found that the larger index using this equipment was concentrated in the central region, while, on the outskirts, the use was reduced[16].

Research carried out in Porto Alegre (RS), in 2009 with professional motorcycle drivers, showed that the use of PPE, in the sample analyzed, 100% used the helmet and 93% have special clothes for rain protection. A reasonable number uses gloves (54%), a few uses elbow pads (32%) and only 17% use knee pads[17].

These data show that the knowledge about the real need of the use of PPE between motorcycle taxi drivers and motorcyclists workers, is still incipient and there is need for implementation of joint efforts aimed at raising awareness and monitoring of the use of such equipment by motorcycle drivers, thus reducing the severity of injuries.

CONCLUSION

In this study there was predominance, among workers, motorcycle taxi drivers working hours of up to 5 years, and most work in daytime and nighttime periods of 9 to 12 hours, with time off once a week. Participants have DL, with time up to 5 years, have already tickets, perform preventive review on motorcycle monthly, but there is a portion that do not carry them out, use personal protective equipment, but they know little about such equipment needed to avoid and/or minimize possible injury, factor that puts them at high risk of suffering accidents at work.

With this, it is suggested the insertion of the nurse working in research with this category of workers, in order to know their working environment, as well as the possible harms to health caused as a result of industrial activities.

REFERENCES

1. Gondim AA. Compreendendo o sofrimento decorrente do trabalho nos motoboys de Fortaleza-CE. [dissertação de mestrado]. Fortaleza (CE): Universidade Federal do Ceará, Fortaleza: 2009. 106 p.

2. Mosca J. O serviço de mototaxista deve ser legalizado em São Paulo? Associação Brasileira de Motociclistas [Internet]. 2009 [cited 2014 June 20]. Availablefrom: http://www.abrambrasil.org.br/not_10.01.19_mototaxi.html

3. Moreira T. Brasil é o segundo no ranking de vítimas fatais em acidentes de motos. Motor Dream [Internet] 2012 [cited 2014 June 22]. Availablefrom: http://motordream.uol.com.br/noticias/ver/2012/05/07/brasil-e-o-segundo-no-ranking-de-vitimas-fatais-em-acidentes-de-motos-

4. Silva LA, Martins JT,Freitas FCT, Dalri RCMB, Robazzi MLCC. Algumas características do trabalho e do trabalhador mototaxista: revisão bibliográfica. J Nurs UFPE on line [Internet]. 2009 July-Sept [cited 2014 June

22];3(2):678-86. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/180/pdf_921

5. Lira SVG. Comportamento preventivo e de risco no trânsito, referido por mototaxistas regulamentados em Fortaleza-CE [dissertação de mestrado]. Fortaleza (CE): Universidade de Fortaleza; 2008. 68 p.

6. Amorim CR, Araújo EM, Araújo TM, Oliveira NF. Acidentes de trabalho com mototaxistas. Rev bras epidemiol [Internet]. 2012 Mar [cited 2014 June 27];15(1):25-37. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1415-790X2012000100003&lng=en

7. Fonseca NRR. Sobre duas rodas: o mototaxi como uma invenção de mercado. Democracia viva [Internet]. 2006 June [cited 2014 July 11];31:1-9. Available from: Trabalhos encaminhados à publicação na REUOL 2014 - 1.doc

8. Albuquerque MES, Morais RS, Ximenes JM, Moura CCB, Freitas Junior RO, Ximenes Neto FRG.Qualidade de vida no trabalho e riscos ocupacionais dos mototaxistas: um estudo de caso. Revista CPAQV – Centro de Pesquisas Avançadas em Qualidade de Vida [Internet]. 2012 [cited 2014 June 21]; 4(3):1-9. Available from: http://www.cpaqv.org/revista/CPAQV/ojs-2.3.7/index.php/Revista/article/view/36/35

9. Dal Rosso S. Jornada de trabalho: duração e intensidade. Ciência e Cultura, São Paulo [Internet] 2006 [cited 2014 June 22];58(4):31-34. Available from: http://cienciaecultura.bvs.br/scielo.php?script=sci_arttext&pid=S0009-67252006000400016&lng=en&nrm=iso

10. Silva RJ, Bonito RF, Ferreira DL. Envolvimento de motociclistas em acidentes de trânsito em Uberlândia. In: Ferreira DF, Ribeiro LA. Acidentes de trânsito em Uberlândia: ensaios da epidemiologia e da geografia. Uberlândia: Aline; 2006.

11. Almeida EG. A mobilidade urbana nos enredos do serviço de motataxi em Ituiutaba - MG. [dissertação de mestrado em Geografia]. Uberlândia (MG): Universidade Federal de Uberlândia; 2010. 132 p.

12. Oshima R, Fukuda A, Fukuda T, Satiennam T. Study on regulation of motorcycle taxi service in Bangkok. Proceedings of the Eastern Asia Society for Transportation Studies [Internet]. 2007 Out [cited 2014 June 27];6:1828–43. Available from: http://home.kku.ac.th/sthaned/J6.pdf

13. Teixeira JRB, Santos NA, Sales ZN, Moreira RM, Boery RN SO, Boery EN et al . Utilização dos equipamentos de proteção individual por mototaxistas: percepção dos fatores de risco e associados. Cad. Saúde Pública [Internet]. 2014 Apr [cited 2014 July 12] ; 30(4): 885-890. Available from: http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0102-311X2014000400885&lng=en.

14. Brasil. Denatran. Departamento Nacional de Trânsito. Resolução nº 356, de 2 de agosto de 2010. Estabelece requisitos mínimos de segurança para o transporte remunerado de passageiros (mototáxi) e de cargas (motofrete) em motocicleta e motoneta, e dá outras providências [Internet]. 2010 [cited 2014 June 22]. Available from: http://www.denatran.gov.br/download/Resolucoes/RESOLUCAO_CONTRAN_356_10.pdf

15. Brasil. Denatran. Departamento Nacional de Trânsito. Frota de veículos por tipo e com placa segundos os municípios da federação – DEZ/2010. [Internet]. 2010 [cited 2014 June 20]. Available from: http://www.denatran.gov.br/frota.htm

16. Ledesma RD, Peltzer RI. Helmet use among motorcyclists: observation al study in the city of Mar del Plata, Argentina. Rev Saúde Pública [Internet]. 2008 Feb [cited 2014 June 24];42(1):143-5. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S003489102008000100019&lng=en

17. Ferreira FF, Albano JF. Motociclistas profissionais: a percepção da categoria quanto ao risco de acidentes de trânsito [Internet]. 2009 [cited 2014 June 20]. Available from: http://www.anpet.org.br/ssat/interface/content/autor/trabalhos/publicacao/2009/350_AC.pdf

Submission: 2014/07/12
Accepted: 2014/08/20
Publishing: 2014/10/01

Corresponding Address

Luiz Almeida da Silva
Universidade Federal de Goiás - Campus Jataí
Departamento de Enfermagem
BR 364, Km 193, nº 3800
Cidade Universitária
CEP 75801-615 – Jataí (GO), Brazil