



Journal of Nursing

Revista de Enfermagem

UFPE On Line

ISSN: 1981-8963

ORIGINAL ARTICLE

PREVALENCE OF MENTAL DISORDERS COMMON IN MOTORCYCLE TAXI DRIVERS: FOCUS ON HEALTH WORKER

PREVALÊNCIA DE TRANSTORNOS MENTAIS COMUNS EM MOTOTAXISTAS: ENFOQUE NA SAÚDE DO TRABALHADOR

PREVALENCIA DE TRASTORNOS MENTALES COMUNES EN MOTO-TAXIS: ENFOQUE EN LA SALUD DEL TRABAJADOR

Maria Lydia Aroz D'Almeida Santana¹, Camila Rego Amorim², Vanildo Felix da Silva Junior³

ABSTRACT

Objective: to evaluate the prevalence of common mental disorders in motorcycle taxi drivers. **Method:** epidemiological and transversal study with 123 motorcycles taxi drivers of Jequié/BA, selected from information collected in the association of motorcycle taxi drivers. It was used a form with sociodemographic issues and the SRQ-20 questionnaire. The variables were tested by Chi-Square test, with significance level of 95% ($p < 0.05$). The research project was approved by the Ethics Committee in Research, Protocol No. 107/2010. **Results:** the prevalence of common mental disorders was 14.1% for the population predominantly male (100.0%), with a mean age of 37.11 ± 8.86 years. **Conclusion:** the prevalence of common mental disorders differs from other studies of informal workers and other labor classes. **Descriptors:** Common Mental Disorder; SRQ-20; Occupational Health; Motorcycle Taxi Drivers.

RESUMO

Objetivo: avaliar a prevalência dos transtornos mentais comuns em mototaxistas. **Método:** estudo epidemiológico de corte transversal com 123 mototaxistas de Jequié/BA, selecionados a partir de informações coletadas na associação de mototaxistas. Utilizou-se um formulário com questões sociodemográficas e o questionário SRQ-20. As variáveis foram testadas pelo teste do Qui-Quadrado, com nível de significância de 95% ($p < 0,05$). O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, sob o Protocolo nº 107/2010. **Resultados:** a prevalência de transtornos mentais comuns foi de 14,1% para a população predominantemente do sexo masculino (100,0%), com média de idade de $37,11 \pm 8,86$ anos. **Conclusão:** a prevalência de transtornos mentais comuns diverge de outros estudos com trabalhadores informais e outras classes trabalhistas. **Descritores:** Transtorno Mental Comum; SRQ-20; Saúde do Trabalhador; Mototaxistas.

RESUMEN

Objetivo: evaluar la prevalencia de trastornos mentales comunes en moto-taxistas. **Método:** estudio epidemiológico transversal con 123 moto-taxistas de Jequié/BA, seleccionados a partir de informaciones recogidas en la asociación de moto-taxistas. Se utilizó un formulario con cuestiones socio-demográficas y el cuestionario SRQ-20. Las variables se analizaron mediante el test Chi-Cuadrado, con un nivel de significación del 95% ($p < 0,05$). El proyecto de investigación fue aprobado por el Comité de Ética en Investigación, Protocolo Nº 107/2010. **Resultados:** la prevalencia de trastornos mentales comunes fue de 14,1% para la población predominantemente masculina (100,0%), con una edad media de $37,11 \pm 8,86$ años. **Conclusión:** la prevalencia de trastornos mentales comunes difiere de otros estudios con trabajadores informales y otras clases de trabajo. **Descriptor:** Trastorno Mental Común; SRQ-20; Salud Ocupacional; Moto-Taxistas.

¹Bachelor of Physiotherapy, University of Southwest Bahia. Jequié (BA), Brazil. Email: lyliaroz9@yahoo.com.br; ²Master Professor, State University of Southwest Bahia. Jequié (BA), Brazil. Email: camilaamorim30@hotmail.com; ³Bachelor of Physiotherapy, University of Southwest Bahia. Jequié (BA), Brazil. Email: vanildofelix16@yahoo.com.br

INTRODUCTION

Common mental disorders (CMDs), expression created in 1992¹, relates to non-psychotic disorders with symptoms characterized by insomnia, fatigue, irritability, forgetfulness, difficulty of concentration, and somatic complaints, but will not set a nosological category of ICD-10. Data of psychiatric epidemiology treat the association of CMDs to several factors such as individual attributes, social and family aspects and occupational aspects of individuals, considering such disorders as a public health problem, which high impact in health services and work absenteeism.²

The work, as a source of achievement and satisfaction of personal values, can also have a negative aspect when it becomes a pathogen agent and causes health problems.³ The relationship between health, illness and work is the subject of concern to many scholars, and can be seen from the consolidation of the capitalist mode of production, initiated by the manufacturing division of labor, where their labor is opposed to the intellectual forces of the material process production.⁴

There is a growing interest in the study of the relationship between mental health and work due to the increasing prevalence of mental disorders and/or behavioral disorders among workers, a fact observed in developed or in development countries.^{3,5} Approximately 30-40% of workers in the world, have some kind of mental disorder.⁶ In this light, the occupational risks, when present in the daily work, can cause changes in their mental health, for example, neuroses, anxiety, sleep disorders, depression, Burnout Syndrome, performance failures, stress and outbreaks of violence, damaging the whole society where the affected professional is inserted.⁷

Among the workers, stood out the motorcycle taxi drivers, who are professionals exposed to risk situations to physical and emotional health due to long working hours and poor conditions of that service, a situation that is aggravated by the fact that most do not have the benefits of the protection afforded by labor law in case of illness.⁸

Not only physical health, but also mental health can be affected by wastage lived in daily professional practice of motorcycle taxi driver. In this context, one thinks in possible illness by CMDs, given the increase in its incidence among workers and, consequently, the increase in the number of removals from jobs.

OBJECTIVE

- To assess the prevalence of common mental disorders in motorcycle taxi drivers.

METHOD

A transversal and descriptive-analytical nature study, about health and work conditions of motorcycle taxi drivers in Jequié, Bahia, in the period of 2011 to 2012. Jequié had a population of 151,895 and a fleet of 20,742 motorcycles in October 2013.⁹ The population was composed of motorcycle taxi drivers registered in the Association of Motorcycle taxi drivers of Jequié (AMOJE) and who worked in the motorcycle taxi points located in the center of the city.

Data were collected from a questionnaire with sociodemographic data (gender, age group, schooling, presence or not of children; marital status and skin color) and data regarding the mental health of the respondent. Prior to collection, it was verified how many motorcycle taxi drivers worked at each point. Then, each professional was approached personally, requesting their participation in the project. Then, gave an Informed Consent Form (ICF) which should be signed by each one, and finally, the interviews were held.

Regarding CMDs, it was used the *Self-Reporting Questionnaire* (SRQ-20)¹⁰ to assess elements relating to the mental health of motorcycle taxi drivers. This instrument was developed through financing from the World Health Organization, in order to measure the level of suspicion of common mental disorders among workers in developing countries.¹¹ It is an instrument widely used for diagnostic suspicion of common mental disorders, but does not assume the character of a possible classificatory CMD in light, moderate or intense level, for example. In the Brazilian version, the four questions related to psychotic disorders were removed, keeping the version with 20 items. To categorize the presence of mental disorder, the cutoff point six affirmative answers was adopted, regarding the 20 questions of SRQ-20, used in the study of Braga¹², being of similar methodological basis.

After collection, the data were tabulated with the assistance of Epidata program, version 3.4¹³, and held a double typing with the correction of discrepancies. The analysis was done by describing the variables, calculating the absolute and relative frequencies, as well as the mean and standard deviation. The variables were tested using the Chi-Square test, with significance level of 95%

(p<0.05). The statistical analysis was performed using *The Statistical Package for Social Sciences for Windows* software (SPSS) version 11.5.¹⁴

The research project was approved by the Ethics Committee in Research of the State University of Southwest Bahia (CEP/UESB), under Protocol No. 107/2010.

123 motorcycle taxi drivers, all male (100.0%) were evaluated. The mean age was 37.1 ± 8.8 years. Most motorcycle taxi drivers had a high school degree (52.0%), had children (69.9%), consisting of married or in a stable relationship (62.6%) and brown skin color (52.8%). The prevalence was 14.1% for patients with CMD (Table 1).

RESULTS

Table 1. Sociodemographic characteristics of the motorcycle taxi drivers Jequié, BA (2012).

Variable (n)	n	%
Age group (123)		
≤ 37 years	68	55,3
> 37 years	54	44,7
Schooling (123)		
Illiterate	6	4,9
Primary School	53	43,1
High School	64	52,0
Have children (123)		
yes	86	69,9
No	37	30,1
Marital Status (123)		
Single	39	31,7
Married	57	46,3
Stable union	29	16,3
Separate/widower	7	5,7
Skin color (123)		
White	30	24,4
Brown	65	52,8
Black	23	19,7
Others	5	3,1

Table 2 presents the results found by SRQ-20, being the most significant to the idea of ending life (43.1%), crying more than usual (20.3%), difficulty to making decisions

(20.3%), presence of frequent headache (19.5%), hand tremors (19.5%) and the fact of feeling nervous, tense or worried (23.6%).

Table 2. Characteristics of common mental disorders, according to the SRQ-20 in motorcycle taxi drivers of Jequie, BA (2012).

Variable	n	%
Frequently headaches (123)		
Yes	24	19,5
No	99	80,5
Lack of appetite (123)		
Yes	9	7,3
No	114	92,7
Badly sleep (123)		
Yes	6	4,9
No	117	95,1
Scares easily (123)		
Yes	9	7,3
No	114	92,7
Hand tremors (123)		
Yes	24	19,5
No	99	80,5
Feels nervous, tense or worried (123)		
Yes	29	23,6
No	94	76,4
Indigestion (122)		
Yes	9	7,4
No	113	92,6
Difficulty to think clearly(123)		
Yes	12	9,8
No	111	90,2
Have been feeling sad lately (123)		
Yes	5	4,1
No	118	95,9
Have been crying more than usual (123)		
Yes	25	20,3
No	98	79,7
Finds difficult to perform, satisfactorily, daily tasks (123)		
Yes	2	1,6
No	121	98,4
Difficulty to making decisions (123)		
Yes	25	20,3
No	98	79,7

Daily work causes suffering (122)		
Yes	6	4,9
No	116	95,1
Unable to perform a useful role in your life (122)		
Yes	10	8,2
No	112	91,8
Have lost interest for things (123)		
Yes	2	1,6
No	121	98,4
Feels a useless person in your life (122)		
Yes	16	13,1
No	106	86,9
Have had the idea of ending life (122)		
Yes	53	43,1
No	70	56,9
Feels tired all the time (123)		
Yes	6	4,9
No	116	95,1
Have unpleasant sensations in the stomach (123)		
Yes	18	14,6
No	105	85,4
Get tired easily (123)		
Yes	15	12,2
No	108	87,8

Table 3 shows the correlation between marital status and CMD, presenting variables with significant statistical values, which are: frequent headaches; feels sad lately; difficulties in performing daily tasks; loses interest in things; idea of ending life and unpleasant sensations in the stomach.

Table 3. Common mental disorder, according to marital status, in motorcycle taxi drivers of Jequié, Bahia (2012).										
Variable	Single		Married		Union		Widower		X2	0
	n	%	n	%	n	%	n	%		
Frequently headaches.										
Yes	3	12,5	11	45,8	8	33,3	2	8,3	9,182	<0,05
Lack of appetite.										
Yes	2	22,2	3	33,3	0	33,3	1	11,1	2,872	0,412
Badly sleep.										
Yes	3	50,0	3	50,0	1	0,0	0	0,0	2,060	0,558
Scares easily.										
Yes	2	22,2	5	55,6	5	11,1	1	11,1	1,113	0,774
Hand tremors.										
Yes	9	37,5	9	37,5	5	20,8	1	4,2	1,324	0,723
Nervous, tense or worried.										
Yes	8	27,6	14	48,3	3	17,2	2	6,9	0,353	0,950
Indigestion.										
Yes	2	22,2	3	33,3	4	33,3	1	11,1	2,811	0,422
Difficulty to think clearly.										
Yes	3	25,0	3	25,0	3	33,3	2	16,7	6,694	0,080
Have been feeling sad lately.										
Yes	1	20,0	1	20,0	7	60,0	0	0,0	7,435	<0,05
Have been crying more than usual.										
Yes	6	24,0	10	40,0	0	28,0	2	8,0	3,814	0,282
Finds difficult to perform daily tasks										
Yes	0	0,0	0	0,0	8	0,0	2	100,0	33,961	<0,05
Difficulty to making decisions.										
Yes	6	24,0	9	36,0	1	32,0	2	8,0	6,387	0,094
Their work causes suffering.										
Yes	3	50,0	1	16,7	4	16,7	1	16,7	3,131	0,372
Unable to perform a useful role in your life.										
Yes	3	30,0	3	30,0	0	40,0	0	0,0	4,941	0,176
Have lost interest for things.										
Yes	1	50,0	0	0,0	5	0,0	1	50,0	8,501	<0,05
Feels a useless person in your life.										
Yes	1	6,3	9	56,3	10	31,3	1	6,3	6,714	0,080
Have had the idea of ending life.										
Yes	11	20,8	26	49,1	1	18,9	6	11,3	9,247	<0,05
Feels tired all the time.										
Yes	3	50,0	2	33,3	8	16,7	0	0,0	1,251	0,741
Unpleasant sensations in the stomach.										
Yes	2	11,1	6	33,3	3	44,4	2	11,1	14,980	<0,05
Get tired easily.										
Yes	6	40,0	4	26,7		20,0	2	13,3	3,698	0,296

DISCUSSION

Health and disease are present in the everyday work of humans and often, such relationship is not noticeable in everyday life.¹⁵ This could be observed in the accounts

of professional motorcycle taxi drivers, that when approached about their health at work, part reported hardly think about it, claiming to have little time to think about health at work, due to the extensive journey and overloading function.

The profession of motorcycle taxi refers to passenger service in the area of a municipality. It is a profession of low cost and compensation, which reflects, in most cases, in double work journey. It was regarded as an illegal activity until the year 2009, when Law 12.009 (of July 29, 2009) regulates the professions of motorcycle taxi driver, motorcycle courier and motorcycle shipping service. The law established standards for the exercise of these professions, such as: having a minimum age of 21 years, license at least two years in the category of bikes and approval the course conducted by the National Traffic Council (CONTRAN), plus the proper use of safety equipment. Despite the existence of this law, is the responsibility of each municipality regulating such professional class. In the city of Jequié, the occupational class in question has not yet been regulated. Moreover, because it is a recent professional class, there are few scientific studies that take as their object of study, so it was also necessary to relate the findings of this research to works related to the other occupational classes.

By observing the sociodemographic data, we see that the population is composed entirely of men, similar to the evidence of the city of Feira de Santana⁸, also in Bahia, which showed 99.3% of male motorcycle taxi drivers, in addition to demonstrating an annual incidence of accidents at work of 10.5% in those professionals. Therefore, we can infer that this occupation do not attracts women due to the real danger of the craft, in addition to negative cultural image that motorcycles have, since the rebellion and violence prevailed among the bikers of the past decades. The mean age was similar, 37.1% in the present study and 37.4% for the population mentioned above, which can infer that, for the execution of this activity, younger people and therefore, with greater physical vigor, have greater adaptation to routine work.

The prevalence of CMDs of 14.1% found in the studied sample can be classified as similar to the finding obtained for another class of workers¹⁸, of 9.9% for employees of a public institution of Higher Education. Different results were observed in a population of informal workers², when there was a prevalence of 28%, and in workers of basic health network¹², with 42.6%. Regarding the different studies, the first to be cited correlates living conditions and occupational structure to search the incidence of CMD in Area II of the city of Olinda/PE. The second study¹² showed that this high percentage was

not related to sociodemographic characteristics, explaining the need to investigate the association through other aspects, such as conditions of life and work of the study population. An global prevalence of CMDs of 21.3% was reported for the class of nursing workers¹⁹, but most professionals with suspicion for CMD were female (30.7%) and aged 22.2 years, which differs profoundly from the study in question.

Some characteristics of TMCs show significantly association with marital status. Married individuals showed a statistically significant manner 'more headaches frequently' (45.8%), 'idea of ending life' (49.1%) and 'loss of interest in things' (50.0%) superior results to other groups of marital status for these variable. Professionals in stable relationships presented more positive responses to the variable 'feels sad lately' (60.0%) and 'unpleasant sensations in the stomach' (44.4%). Widowed/separated (100.0%) reported 'more difficulty performing daily tasks' and 'loss of interest in things' (50.0%).

The prevalence of CMD 9%²⁰, was observed in a population of university servers and was associated with gender, income and marital status. In the state of Pernambuco²¹, it was found a prevalence of CMDs for a population of residents of a rural community of 36%, in which women, individuals aged 40 to 59 years, illiterate, income per person under \$ 50,00 per month and divorced, separated or widowed, had a higher chance of having CMD. Prevalence of 42.6% of CMDs was described in informal workers¹², but not related to sociodemographic factors such as gender, age, schooling and marital status, as well as to study the association between housework overload and common²² mental disorders in women, the analyzed sociodemographic characteristics (age, schooling, migration, skin color, marital status and having children) revealed no statistical interaction.

It was verified that none of the groups of married individuals, in stable and/or widowed marriage, i.e., those who have maintained marital relationships reached the cutoff of six positive responses for one $p < 0.05$ on the SRQ-20 questionnaire. This fact enables to state that marital status was not related to common mental disorders in this study.

It was found as limitations of the study, the fact of being transversal and the difficulty to perform the interviews, because professionals did not interrupt their work to answer the questions, fact recommended by staff, to not harm financially the respondents.

CONCLUSION

The prevalence of CMD differs from other studies of informal workers and other professional classes; however, these results provide visibility for this class of workers and, consequently, more investment in the care of their health, since working conditions impel on these professionals, physical, mental and emotional overloads, that need more care.

It was found that the sociodemographic variable 'marital status' was not associated with common mental disorders in this study.

It is important that this work will serve as a basis for other studies, deepening this theme of recurring character in society. It is also important to conduct studies that seek to better understand the professional category of motorcycle taxi driver, being an occupational class expanding in Latin American countries, especially in Brazil.

REFERENCES

1. Goldberg D, Huxley P. Common mental disorders - a bio-social model. 2nd ed. London: Tavistock/Routledge; 1993.
2. Ludermir AB, Melo Filho DA. Condições de vida e estrutura ocupacional associadas a transtornos mentais comuns. Rev Saude Publica [Internet]. 2002 [cited 2013 Apr 15];36(2):213-21. Available from: <http://www.scielo.br/pdf/rsp/v36n2/9214.pdf>.
3. Delcor NR, Araújo TR, Reis EJFB, Porto LA, Carvalho FM, Oliveira e Silva M et al. Condições de trabalho e saúde dos professores da rede particular de ensino de Vitória da Conquista, Bahia, Brasil. Cad Saude Publica [Internet]. 2008 [cited 2013 Apr 15];20(1):187-96. Available from: <http://www.scielo.br/pdf/csp/v20n1/35.pdf>.
4. Gradella Júnior O. Sofrimento psíquico e trabalho intelectual. Cad Psicologia Social do Trabalho [Internet]. 2010 [cited 2013 Apr 16];13(1):133-48. Available from: <http://www.revistas.usp.br/cpst/article/view/25743>.
5. Gasparini SM, Barreto SM, Assunção AA. Prevalência de transtornos mentais comuns em professores da rede municipal de Belo Horizonte, Minas Gerais, Brasil. Cad Saude Publica [Internet]. 2006 [cited 2013 Apr 16];22(12), 2679-91. Available from: <http://www.scielo.br/pdf/csp/v22n12/16.pdf>.
6. Jacques MGC. Abordagens teórico-metodológicas em saúde/doença mental & trabalho. Psicologia Sociedade [Internet]. 2003 [cited 2013 Apr 21];15(1):97-116. Available from:
7. Caran VCS, Freitas FCT, Alves LA, Pedrão LJ, Robazzi MLCC. Riscos ocupacionais psicossociais e sua repercussão na saúde de docentes universitários. Rev Enf UERJ [Internet]. 2011 [cited 2013 Apr 21];19(2):255-61. Available from: <http://www.facenf.uerj.br/v19n2/v19n2a14.pdf>.
8. Amorim CR, Araújo EM, Araújo TM, Oliveira NF. Acidentes de trabalho com mototaxistas. Rev Bras Epidemiol [Internet]. 2012 [cited 2013 May 5];15(1):25-37. Available from: <http://www.scielo.br/pdf/rbepid/v15n1/03.pdf>.
9. IBGE. Instituto Brasileiro de Geografia e Estatística. Censo nacional. 2013 [cited 2013 May 5]. Available from: <http://www.ibge.gov.br>.
10. Mari JJ, Williams PA. A validity study of a psychiatric screening questionnaire (SRQ-20) in primary care in the city of Sao Paulo. Br J Psychiatry [Internet]. 1986 [cited 2013 May 10];148(1):23-6. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/3955316>.
11. Santos KOB, Araújo TM, Pinho PS, Silva ACC. Avaliação de um instrumento de mensuração de morbidade psíquica: estudo de validação do Self-Reporting Questionnaire (srq-20). Rev Baiana Saude Publica [Internet]. 2010 [cited 2013 May 20];34(3):544-60. Available from: <http://inseer.ibict.br/rbsp/index.php/rbsp/article/viewFile/54/54>.
12. Braga L, Carvalho L, Binder M. Condições de trabalho e transtornos mentais comuns em trabalhadores da rede básica de saúde de Botucatu (SP). Cien Saude Colet [Internet]. 2010 [cited 2013 May 23]; 15(1):1585-96. Available from: <http://www.scielo.br/pdf/csc/v15s1/070.pdf>.
13. Lauritsen JH, Bruss M, Myatt MA. EpiData [software]. Programa para criar banco de dados. EpiData Association, Odense Denmark 2002. (v3.0). Versão para o português (Brasil) por João Paulo Amaral Haddad.
14. SPSS (Statistical Package for the Social Sciences) for Windows [software]. Release 11.5. Chicago 2002.
15. Mariano MS, Muniz HP. Trabalho docente e saúde: o caso dos professores da segunda fase do ensino fundamental. Estud. Psicol [Internet]. 2006 [cited 2013 Aug 05];6(1):76-88. Available from: <http://www.revispsi.uerj.br/v6n1/artigos/PDF/v6n1a07.pdf>.

16. Denatran.gov.br/contran [Internet] Brasília. [cited 2013 Sept 15] <http://www.denatran.gov.br/contran>.
17. Rocha SV, Almeida MMG, Araújo TM, Virtuoso Júnior JS. Prevalência de transtornos mentais comuns entre residentes em áreas urbanas de Feira de Santana, Bahia. Rev Bras Epidemiol [Internet]. 2010 [cited 2013 Sept 19];13(4):630-40. Available from: <http://www.scielo.br/pdf/rbepid/v13n4/08.pdf>.
18. Pie AC, Pinto LLT, Rocha SV, Cardoso, JP, Amorim CR, Carneiro LRV. et al. Nível de atividade física e transtornos mentais comuns entre trabalhadores de uma instituição de ensino superior da Bahia. Arq Cien Esp [Internet]. 2012 [cited 2013 Oct 8];1(1):46-53. Available from: <http://www.uftm.edu.br/revistaeletronica/index.php/aces/article/view/293/365>
19. Silva JLL da, Nóbrega ACR da, Brito FGF, Gonçalves RC, Avanci BS. Humanização do cuidar em uma unidade de terapia intensiva adulto: percepções da equipe de enfermagem. Rev enferm UFPE on line [Internet]. 2011 Jan/Feb [cited 2014 Jan 04];5(1):1-9. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/1106/pdf_270.
20. Lopes CS, Faerstein E, Chor D. Eventos de vida produtores de estresse e transtornos mentais comuns: resultados do Estudo Pro-Saude. Cad Saude Publica [Internet]. 2003 [cited 2013 Oct 28];19(6):1713-20. Available from: <http://www.scielo.br/pdf/csp/v19n6/a15v19n6.pdf>.
21. Costa AG, Ludemir AB. Transtornos mentais comuns e apoio social: estudo em comunidade rural da zona da Mata de Pernambuco, Brasil. Cad Saude Publica [Internet]. 2005 [cited 2013 Nov 01];21(1):73-79. Available from: <http://www.scielo.br/pdf/csp/v21n1/09.pdf>.
22. Pinho PS, Araújo TM. Associação entre sobrecarga doméstica e transtornos mentais comuns em mulheres. Rev Bras Epidemiol [Internet]. 2012 [cited 2013 Nov 04];15(3):560-72. Available from: <http://www.scielo.br/pdf/rbepid/v15n3/10.pdf>.

Submission: 2014/01/27

Accepted: 2014/05/2*

Publishing: 2014/08/01

Corresponding Address

Maria Lydia Aroz D'Almeida Santana
Rua Salvador, 44
Bairro Vivendas Costa Azul
CEP 45820-650 – Eunápolis (BA), Brazil