ORIGINAL ARTICLE

Prevalence of low back pain and interference with quality of life of pregnant women

Prevalência de lombalgia e a interferência na qualidade de vida de gestantes

Ana Carolina do Nascimento Lima[1], Flavio Boechat de Oliveira[1,2], Gabriela Pereira Avolio[1], Giselly Dias da Silva[1], Paula Soares da Silva[1], Rodrigo Gomes de Souza Vale[1,2]

DOI 10.5935/1806-0013.20170024

ABSTRACT

BACKGROUND AND OBJECTIVES: Pregnancy is characterized by a period when women's body suffers different changes. Between 50 and 80% of pregnant women refer low back pain, which may directly interfere with their quality of life. This study aimed at determining the prevalence of low back pain and its interference with quality of life of pregnant women assisted in the Family Health Strategy of the City of Cabo Frio.

METHODS: Field cross-sectional study with pregnant women between the 13th and 36th week of gestation, with low back pain, assisted in a low risk pre-natal program. A demographic questionnaire, Roland Morris and WHOQOL-bref questionnaires were applied to evaluate low back pain and quality of life, respectively. Descriptive statistics and Spearman correlation tests were used and p<0.05 was considered statistically significant.

RESULTS: Participated in the study 139 pregnant women assisted by the pre-natal assistance program. Mean age of 24.4±7.65 years. There has been significant correlation between quality of life domains questionnaire (physical domain p<0.000, psychological domain p<0.004, environmental domain p<0.022; social relations domain p<0.0025 and overall quality of life p<0.000 and Roland Morris questionnaire. There has been correlation between weeks of gestation and Roland Morris questionnaire (p<0.005). As to weeks of gestation and quality of life questionnaire there has only been correlation in the social relation domain (p<0.025).

CONCLUSION: Low back pain interferes with quality of life of studied pregnant women.

Keywords: Low back pain, Pregnant women, Quality of life.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A gravidez é caracterizada por um período em que o organismo da mulher sofre diversas alterações. Entre 50 e 80% das gestantes referem dor na região lombar, podendo interferir diretamente sobre a sua qualidade de vida. O objetivo deste estudo foi determinar a prevalência de lombalgia e a interferência na qualidade de vida de gestantes atendidas na Estratégia de Saúde da Família da Cidade de Cabo Frio.

MÉTODOS: Pesquisa de campo, transversal realizada com gestantes, entre a 13ª e 36ª semana de gestação, que apresentavam dor na região lombar, assistidas em um programa de pré-natal de baixo risco. Foi aplicado um questionário sócio demográfico, questionários de Roland Morris e WHOQOL-bref, para avaliar a lombalgia e a qualidade de vida, respectivamente. Foi utilizada estatística descritiva e o teste de correlação de Spearman e o valor de p<0,05 foi considerado para significância estatística.

RESULTADOS: Participaram do estudo 139 gestantes assistidas no programa de atendimento pré-natal. Idade média de 24,4±7,65 anos. Houve correlação significativa entre os domínios do questionário de qualidade de vida (domínio físico p<0,000; domínio psicológico p<0,004 domínio meio ambiente p<0,022; domínio relação social p<0,0025 e qualidade devida geral p<0,000) com o questionário Roland Morris. Houve correlação entre as semanas de gestação e o questionário Roland Morris (p<0,005). Quanto as semanas de gestação e o questionário de qualidade de vida só houve correlação com o domínio relação social (p<0,025).

CONCLUSÃO: A lombalgia interfere na qualidade de vida das gestantes pesquisadas.

Descritores: Dor lombar, Gestantes, Qualidade de vida.

INTRODUCTION

Pregnancy is characterized by a period in which the woman's organism undergoes several hormonal, metabolic and musculoskeletal changes to adapt the body to her new condition of pregnant woman[1]. Changes during pregnancy are visible, like weight gain, fluid accumulation, breasts enlargement, abdominal circumference enlargement, greater anterior pelvic tilt and greater joint instability[2]. Therefore, approximately 50 to 80% of pregnant women report pain in the low back region at some moment during pregnancy[3].

Low back pain complaints are also related to other factors, such as postural changes, which are often factors responsible for ge-

1. Universidade Estácio de Sá, Departamento de Fisioterapia, Cabo Frio, RJ, Brasil.
2. Universidade do Estado do Rio de Janeiro, Rio de Janeiro, RJ, Brasil.

Submitted in November 21, 2016.
Accepted for publication in April 11, 2017.
Conflict of interests: none – Sponsoring sources: none.

Correspondence to:
R. General Alfredo Bruno Gomes Martins, s/n - Manoel Corrêa
28909-800 Cabo Frio, RJ, Brasil.
E-mail: fisioboechat@gmail.com

nerating an irregular biomechanical and compensatory process. In the period between the 13th and 36th week of pregnancy, the woman begins to change her ambulation, which changes the center of gravity, causing an overload on muscles and ligaments. As a result, there may be a degree of discomfort, causing partial or total impairment for daily activities[4].

Low back pain means a symptom of pain, located between the lower region of the last coastal arc and the gluteal fold, that may radiate to the lower limbs. If not properly treated, it can preclude a pregnant woman from having a normal life, causing insomnia, depression, functional disability, and may interfere directly with her quality of life (QOL)[5.6].

QOL is defined as an individual's understanding in the face of his/her socio-cultural life condition, considering their expectations, objectives, standards and responsibilities. The personal well-being is related to aspects of personal fulfillment, habits, health, lifestyle and leisure and is related to the conditions of the individual's way of life[7.8].

The Family Health Program (*Programa Saúde da Família - PSF*) was created in 1994, as a strategy of the Ministério da Saúde (MS) to redirect the care model of the Unified Health System (*Sistema Único e Saúde - SUS*), from the basic care approach[9]. In 2006, the PSF was called the Family Health Strategy (*Estratégia da Saúde da Família - ESF*) and aimed to expand people's access to healthcare services, providing full service, encouraging popular participation and creating intersectoral partnerships[10].

ESF is composed of a multidisciplinary team, with the goal of favoring a greater advance to the health of the population, developing a relationship of co-responsibility with the professionals of the sector, simplifying the identification and the solution of the community's health problems[11.12].

The Family Health Support Centers (*Núcleos de Apoio à Saúde da Família - NASF*) aim to expand basic care actions, provide broader assistance, have better results and full individual service to SUS, identifying the needs of each person in their territory of basic care, supporting ESF and increasing the responsibility of community health agents (*Agentes Comunitários de Saúde - ACS*) in creating links between the community and the healthcare system[13].

NASF is composed of professionals from different health fields, and their actions are based on reciprocity of experiences and knowledge, through technical support and pedagogical practices of the teams relevant to the selected population[14].

The inclusion of physiotherapy in basic care is a recent fact[15]. The physiotherapist develops different actions in basic care. One of these actions is to work with groups of pregnant women. In this setting, they learn about body postures, stretching exercises, relaxation, aid to venous return, breathing exercises and incentives to breastfeeding and baby care guidelines[16]. Based on actions for disease prevention and health promotion, and when necessary, refer to the secondary and tertiary care services[17].

Based on the presented assumption, it turns out that low back pain is an important cause of disability that impacts the QOL of pregnant women.

Based on the above, the objective of this study was to determine the prevalence of low back pain, and its impact on the QOL of pregnant women cared for in the ESF of the municipality of Cabo Frio.

METHODS

Field cross-sectional study, with data collection held in the 1st District of the city of Cabo Frio, specifically in the primary care network registered at DATASUS. The total number of pregnant women registered in this district was 267 patients. In this way, the sample size was estimated in an amount exceeding 20% of the population, since this size is enough to represent the population[18]. However, after visiting the participating units, the sample size was greater than this value (52% of all pregnant women). Thus, the sample was composed of women in their gestational period participating in the low-risk prenatal care program.

The inclusion criteria were pregnant women in the 13th to 36th week of gestation, with a report of low back pain (LBP), literate and oriented as to time and place. The exclusion criteria were a history of fracture, spine surgery, gynecological and urinary diseases, amputations, mental disability, and non-attendance to the interview.

Pregnant women who were awaiting the prenatal appointment were informed about the purpose of the study and invited to participate. Pregnant women who agreed to participate in the study signed an Free and Informed Consent Term (FICT) as provided for in resolution 466/12.

In order to obtain the socio-demographic data, it was used a structured questionnaire, prepared by the researchers, with questions about weeks of gestation, age, race, marital status, education and profession/occupation of every pregnant woman.

To evaluate functional impairment of the individual with low back pain, we used the *Roland Morris Disability Questionnaire* (RMDQ), validated in Brazil in 2001[19]. The questionnaire is easy to apply and used in evaluations of low back pain. It consists of 24 closed self-report questions, the sum of the yes answers given by the individual can be from zero to 24, being zero without complaints and 24 the maximum value, which represents more severe limitations[20.21].

To finalize data collection pregnant women were subjected to the WHOQOL-bref, a short questionnaire of quick application, validated in Brazil in 2006. It consists of four QOL domains. The purpose of each domain is to verify the physical domain (DomFis) – seven questions, psychological domain (DomPsic) – six questions, social relationships domain (DomRS) – three questions and the environmental domain (DomMA) – eight questions, totaling 24 questions and two more questions about global QOL. Assessment scores are calculated for each of the four domains. The minimum value of the scores for each domain is four and the maximum twenty. The score of each domain is obtained on a positive scale, that is, the higher the score, the better the QOL in that domain[22.23].

The study was authorized by the City Department of Health of Cabo Frio and accepted by the Ethics and Research Committee of the Universidade Estácio de Sá, with CAAE registry number 47922515.1.0000.5284.

Statistical analysis

Data were handled by the software SPSS *Statistics* 20 for Windows and presented as mean, standard deviation, minimum and maximum values and absolute and relative frequencies. The Spearman correlation test was used to verify the possible associations

between the variables low back pain, time of gestation and QOL of pregnant women. The value of $p<0.05$ was considered statistically significant.

RESULTS

Of the 17 units visited, one had no pregnant women registered and, at one unit, pregnant women did not turn up on the day of the interview. Thus, 15 units took part in the study. In these 15 units, 267 pregnant women were registered, of which 9 did not accept to participate in the survey, 50 pregnant women were in the exclusion criteria, 69 did not show up on the days of the interview, leaving 139 that were included in the study.

Table 1. Demographic characteristics

Characteristics	N	%
Race		
White	37	26.60
Pardo	68	48.90
Black	34	24.50
Marital Status		
Single	65	46.80
Married	70	50.40
Divorced	4	2.90
Educational Level		
Elementary school	57	41.00
High School	67	48.20
Higher Education	15	10.80
Employed		
Yes	54	38.80
No	85	61.20

The average age of pregnant women was 24.4±5.88 years, being the youngest 13 years old and the oldest 41. As for gestation period, the average was 24.3±7.65 weeks.

Table 1 shows a higher number of Pardo Brazilians (mixed-race), pregnant women. There is a balance between single and married women and with elementary and high school educational level. It should be noted that most of these pregnant women do not have professional activity.

Figure 1 Refers to the number of pregnant women who were included in this study. Notice that Manoel Corrêa, Jacaré, and Tangará Health Centers have the highest number of registered pregnant women since they are the most populous neighborhoods in the city of Cabo Frio.

In the QOL questionnaire, there was uniformity among the respondents. The lowest score was in the physical domain, and all domains showed a satisfactory score (Table 2).

Observing table 3 we see that there is a significant correlation between the analyzed variables, except for weeks of gestation, with the physical, psychological and general QOL domains.

Table 2. Descriptive analysis of the study variables

	Mean	Standard deviation	Minimum	Maximum
DomFis	12.46	2.23	7.43	18.86
DomPsic	14.35	2.4	5.6	20
DomRS	14.44	3.18	6.67	20
DomMA	12.88	2.14	6.5	17.5
General QOL	14.75	2.57	8	20
Roland Morris	7.23	5.04	0	20
Weeks of gestation	24.3	7.65	13	36

DomFis = physical domain; DomPsic = psychological domain; DomRS = social relationship domain; DomMA = environmental domain; General QOV = general quality of life.

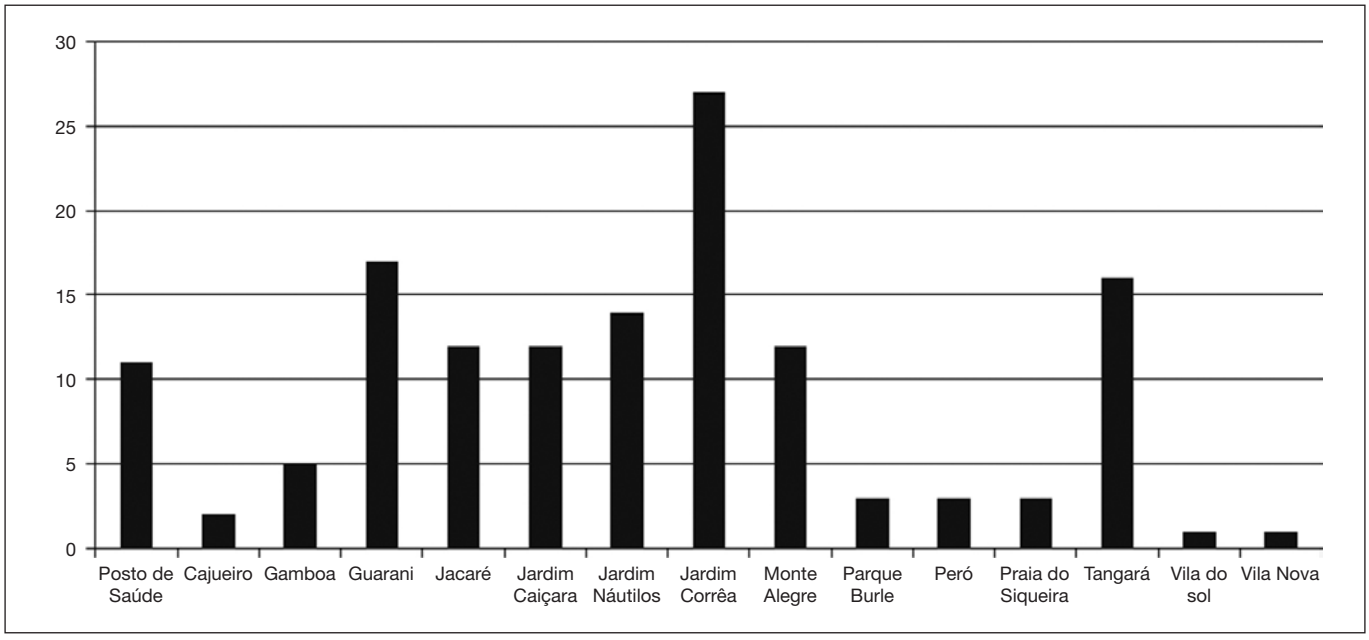

Figure 1. Health Units included in the study and number of pregnant women in each unit

Table 3. Spearman's correlation among variables: low back pain, week of pregnancy and quality of life of the sample

		Dom1	Dom2	Dom3	Dom4	GQOL	RM
Dom2	r	0,383					
	p-value	0.000					
Dom3	r	0.389	0.416				
	p-value	0.000	0.000				
Dom4	r	0.445	0.417	0.345			
	p-value	0.000	0.000	0.000			
GQOL	r	0.380	0.327	0.220	0.346		
	p-value	0.000	0.000	0.009	0.000		
RM	r	-0.430	-0.243	-0.194	-0.190	-0.319	
	p-value	0.000	0.004	0.022	0.025	0.000	
Weeks of gestation	r	-0.147	-0.028	-0.190	-0.095	-0.034	0.236
	p-value	0.083	0.742	0.025	0.267	0.689	0.005

Dom1 = physical domain, Dom2 = psychological domain, Dom3 = social relationship domain, Dom4 = environmental domain, GQOL = general quality of life, SemGest = week of gestation; RM = Roland Morris.

DISCUSSION

In this study, we could see that low back pain interferes negatively on the QOL of pregnant women, and in all domains of the WHOQOL bref questionnaire.

In a performed study[24], half of the pregnant women reported that the intensity of pain increased as weeks went by, especially between the 8th and the 9th months, with a range between 'little pain' and 'reasonable pain.' At the 7th month of pregnancy (week 29th) the uterus of the woman enlarges, producing peaks of pain due to the overload on the lumbar spine, but according to another study[23], the scale can remain between 'little pain' and 'reasonable pain.' In this study, however, as the gestational period progressed, pain intensity increased.

In a previous study[25] on low back pain in pregnant women, it was used the epidemiological questionnaire, validated and adapted from the *Quebec Back Pain Disability Scale* (QBPDS) to assess the level of functional impairment of pregnant women, emphasizing questions about LBP in the gestation period. The result shows that the pain interferes with the daily life of pregnant women, causing some limitations in their activities. In this study, however, it was used the RM questionnaire to evaluate functional impairment of pregnant women, obtaining the same result. It is believed that the prevalence of painful symptoms in the lower back region is still present in this segment of the population in the gestation period and, depending on the degree of pain, it can persist a few years after delivery if treatment is not provided[26].

In this regard, treatment and guidelines for four weeks during the pregnancy period proved to be effective to improve the functionality of pregnant women[27].

In a study[28] with 21 pregnant women to determine the presence of pain and the types of LBP in a health unit in the city of Petrolina, the authors observed that 92.23% of pregnant women had LBP during pregnancy and, in 66.65% of the cases a combination of LBP and pelvic pain. In another paper[29] of similar design, 45 pregnant women assisted in a Prenatal Program, were evaluated using a numerical visual scale of pain. The results showed that the prevalence of LBP was 73%. In both studies, the characteristics of the sample were similar to those of this current work. Despite no specific test to determine pain having been applied, Roland Morris questionnaire is a valid measure of good reliability for chronic pain in the Brazilian population[30].

In some units, not 100% of the sample was surveyed. Many pregnant women were impatient and uncomfortable about the size of the questionnaires and intimate questions about their life.

CONCLUSION

From the results found in this study, we notice that in the group of pregnant women of the Health Units of the city of Cabo Frio, there is a correlation between the LBP and general QOL.

REFERENCES

1. Santos AL, Radovanovic CA, Marcon SS. Assistência pré-natal: Satisfação e Expectativas. Revista Rene. 2010;11(n. esp):61-71.
2. Moreira LS, Andrade SR, Soares V, Avelar IS, Amaral WN, Vieira MF. Alterações posturais, de equilíbrio e dor lombar no período gestacional. Femina. 2011;39(5):241-4.
3. Côrrea TC, Angeli RB, Cancian BA, Silvério CP, Galli N, Digiovani RA. Efeitos da fisioterapia na qualidade de vida e lombalgia de paciente gestante. Colloquium Vitae. 2012;4(n. esp.):151-8.
4. Quimelli MA. Acupuntura Sistêmica para Lombalgias de Gestantes. Silvério-Lopes (Ed.). 2013.
5. Sousa VP, Ribeiro SO, Aquino CM, Viana ES. Análise da relação entre dor lombar, idade gestacional e qualidade de vida durante a gravidez. Ter Man. 2011;9(46):769-73.
6. Madeira HG, Garcia JB, Lima MV, Serra HO. Incapacidade e fatores associados à lombalgia durante a gravidez. Rev Bras Ginecol Obstetr. 2013;35(12):541-8.
7. Buss PM. Promoção da saúde. Cien Saúde Colet. 2000;5(1):163-77.
8. Pucci GC, Rech CR, Fermino RC, Reis RS. [Association between physical activity and quality of life in adults]. Rev Saúde Pública. 2012;46(1):166-79. English, Portuguese.
9. Rocha DM, Carvalho EL, Cruz MA. Benefícios do Programa de Saúde da Família – PSF para a melhoria da qualidade de vida dos moradores do bairro São Pedro, em Teresina – PI. Rev Inova Ação. 2012;1(1):1-14.
10. Alves GG, Aerts D. [Health education practices and Family Health Strategy]. Cien Saude Colet. 2011;16(1):319-25. Portuguese.
11. de Rezende M, Moreira MR, Amâncio Filho A, Tavares Mde F. ['Family health' multiprofessional teams: a reflection on the physiotherapist's role]. Cien Saude Colet. 2009;14(1):1403-10. Portuguese.
12. Santos KT, Saliba NA, Moimaz SA, Arcieri RM, Carvalho ML. [Community Health Agent: status adapted with Family Health?] Cien Saude Colet. 2011;16(Suppl 1):1023-8. Portuguese.

13. Ribeiro MD, Bezerra EM, Silva JC, Campelo GO, Freitas CA. A visão do Agente Comunitário de Saúde (ACS) acerca do serviço de fisioterapia no núcleo de apoio à saúde da família (NASF) em Parnaíba, Piauí. SANARE. 2013;12(2):14-20.
14. Santos SF, Benedetti TR. Cenário de implantação do Núcleo de Apoio a Saúde da Família e a inserção do profissional de Educação Física. Rev Bras Ativ Fís Saúde. 2012;17(3):188-94.
15. Souza MC, Bomfim AS, Souza JN, Franco TB. Fisioterapia e Núcleo de Apoio à Saúde da Família: conhecimento, ferramentas e desafios. O Mundo da Saúde. 2013;37(2):176-84.
16. Bispo Júnior JP. [Physiotherapy and collective health: challenges and new professional responsabilities]. Cien Saude Colet. 2010;15(Suppl 1):1627-36. Portuguese.
17. Linhares JH, Albuquerque IM, Freitas CA. Análise das ações da fisioterapia do NASF através do Sinai no município de Sobral – CE. Cad Esc Saúde Pública. 2010;4(2):32-41.
18. Triola MF. Introdução à estatística. 11ª ed, Rio de Janeiro: Livros Técnicos e Científicos Editora; 2013.
19. Monteiro J, Faísca L, Nunes O, Hipólito J. [Roland Morris disability questionnaire – adaptation and validation for the Portuguese speaking patients with back pain]. Acta Med Port. 2010;23(5):761-6. Portuguese.
20. Stefane T, Santos AM, Marinovic A, Hortense P. Dor lombar crônica: intensidade de dor, incapacidade e qualidade de vida. Acta Paul Enferm. 2013;26(1):14-20.
21. Falavigna A, Teles RA, Braga GL, Barazzetti DO, Lazzaretti L, Tregnago AC. Instrumentos de avaliação clínica e funcional em cirurgia da coluna vertebral. Coluna/Columna. 2011;10(1):62-7.
22. Kluthcovsky AC, Kluthcovsky FA. O WHOQOL-bref, um instrumento para avaliar qualidade de vida: uma revisão sistemática. Rev Psiquiatr Rio Gd Sul. 2009;31(3):1-12.
23. Chazan AC, Campos MR, Portugal FB. Quality of life of medical students at the State University (UERJ), measured using Whoqol-bref: a multivariate analysis. Cien Saude Colet. 2015;20(2):547-56. English, Portuguese.
24. Nakawatase D, Alves VL, Filoni E. Prevalência de dor lombar e qualidade de vida no terceiro trimestre de gestação Rev Bras Qual Vida. 2014;7(2):89-102.
25. Rodrigues WF, Giani TS, Figueiredo NM, Porto F, Dantas EH. Lombalgia na gravidez: impacto nas atividades de vida diárias. Rev Pesq Cuid Fundam. 2012;4(2):2921-6.
26. Mota MJ, Cardoso M, Carvalho A, Marques A, Sá-Couto P, Demain S. Women's experiences of low back pain during pregnancy. J Back Musculoskelet Rehabil. 2015;28(2):351-7.
27. Ozdemir S, Bebis H, Ortabag T, Acikel C. Evaluation of the efficacy on an exercise program for pregnant women with low back and pelvic pain: a prospective randomized controlled trial. J Adv Nurs. 2015;71(8):1926-39.
28. Gomes MR, Araújo RC, Lima AS, Pitangui AC. Lombalgia gestacional: prevalência e características clínicas em um grupo de gestantes. Rev Dor. 2013;14(2):114-7.
29. Santos MM, Gallo AP. Lombalgia gestacional: prevalência e características de um programa pré-natal. Arq Bras Ciên Saúde. 2010;35(3):174-9.
30. Sardá Júnior JJ, Nicholas MK, Pimenta CA, Asghari A, Thieme AL. Validação do Questionário de Incapacidade Roland Morris para dor em geral. Rev Dor. 2010;11(1):28-3