



Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 217 (2016) 337 – 343

Procedia
Social and Behavioral Sciences

Future Academy®'s Multidisciplinary Conference

Anxiety, depression and stress in patients with rheumatoid arthritis

Madalena Cunha^a, Ana Ribeiro^b & Suzana André^{c*}

^aCI&DETS, Superior School of Health, Polytechnic Institute of Viseu;

^bCentro Hospitalar Tondela – Viseu, E.P.E. (Viseu); Av. Rei D. Duarte, 3504509 Viseu

^cRua D. João Crisóstomo Gomes de Almeida, Nº 102, 3500-843, Viseu, Portugal

Abstract

Problem Statement: Rheumatic diseases carries a high physical, psychological and social impact, with relevant multi-dimensional assessment of psychosocial functioning of these rheumatic patients, reasons for carrying out the present study.

Research Questions: What is the prevalence of anxiety, depression and stress in patients with rheumatoid arthritis?

Purpose of the Study: This aimed to identify the prevalence of anxiety, depression and stress in people with rheumatoid arthritis. These have in our population worse quality of life indicators, when compared with the general population.

Research Methods: The study observational was conducted with 80 participants, 82.5% were female, aged between 21 and 80 years, with an average of 58.16 years.

Was applied "Health Assessment Questionnaire" (Fries, 197, validated by Santos Reis, Rebelo, Days, Pink & Queiroz, 1996); "Anxiety Scale, Depression and Stress" (PF Lovibond and Lovibond SH, 1995, adapted by Ribeiro, Honored and Leal, 2004).

Findings: Moderate and high anxiety was found in 37.5% of the sample and severe depressive symptoms in 35%, which are higher in women (♀40,9%; ♂39,4%). Stress presented high in 42.5% of subjects.

The anxiety and depression are higher in the females participants, with increased pain and superior functional impairment. Stress increases with the low income and worsening of health status.

Conclusions: Nursing care to these people should include interventions aimed at screening, referral and treatment of these clinical outbreaks. These nosological entities should also be considered when planning educational activities / training of future health professionals.

© 2016 Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of Future Academy® Cognitive Trading

Keywords: Anxiety, Stress, Depression, Rheumatoid Arthritis.

* Corresponding author. Tel.: +351 -232- 419-100; fax: +351 -232 -428-343.

E-mail address: sandre@essv.ipv.pt

1. Introduction

Rheumatic diseases are amongst the most responsible for health charges, both direct and indirectly, being one of the most frequent disease groups in developed countries, constituting the leading cause of medical consultation, the leading cause of disability, the first reason for absenteeism from work and the fundamental cause of early retirement due to illness (DGS, 2013).

In most cases, there is an association with pain and disability, with consequent organ dysfunction, activity limitations and restrictions in social participation (Lucas & Monjardino, 2010), causing a high impact on the physical, psychological and social level, making a multidimensional assessment relevant, required and expected (Monjardino, Lucas & Barros, 2013).

In this group of diseases it is found the rheumatoid arthritis (RA), a chronic, systemic disease of unknown etiology which mainly affects joints, consisting of chronic synovial inflammation that leads to joint destruction and marked failure (Smith, 2005 ; Goldman, 2012). This nosological entity causes pain and deformities, and may progress to severe limitations, forcing people to depend on assistive devices and / or third parties to carry out their daily activities (Ribeiro, Schier, Ornelas, Oliveira, Nardi and Silva, 2013).

Although it can occur at any age, the onset is most frequent between 35 and 50 years of age (Goldman, 2012), with prevalence in women being two to three times higher than in men (Smith, 2005; Goldman, 2012, DGS, 2013).

In Portugal, it was estimated a prevalence of about 0.8% in 2001 with the incidence varying between 2-4 cases per 10,000 people each year "(Luke and Monjardino, 2010, p. 112).

The treatment aims to reduce the impact of disease limiting symptoms, reducing inflammation and disability and improving the quality of life, being the main purpose of drug therapy the reduction of the swelling and ultimately the disease remission (Mcbain, Shipley and Newman, 2013; DGS, 2011), for the persistence of joint inflammation is the originator of structural damages, of functional impotence, disability and reduced life expectancy (DGS, 2011).

Given the characteristics of chronicity, pain, functional disability and deformity by the disease, the psychosocial implications are significant on people's lives and their families, and can cause psychiatric signs and symptoms, especially anxiety and depression (Ribeiro, Schiera, Ornelasa, Oliveira, Nardia e Silva, 2013; McBain, Shipley and Newman, 2013).

Higher levels of disease activity, pain and functional disability can lead to more behaviors of depression, anxiety and stress, leading consequently to an increased risk of suicide (Ho Fu, Chua, cheak and Mak, 2011).

2. Problem Statement

Rheumatoid arthritis is a crippling disease, which causes physical deformities and painful limitations, with an early beginning, affecting the most productive period of life, damaging professional realization, social and daily life activities, which becomes impacting on quality of life and people's mental health and can lead to negative changes in psychological parameters (Salaffi, Carotti, Gasparini, Intorcchia, & Grassi, 2009 quoted by Darius Kulkamp, Faraco, Gevaerd and Domenech, 2010). It was found in several studies an increased occurrence of some mental health disorders, particularly anxiety and depression, in people diagnosed with rheumatoid arthritis, with an average above the frequency typically found in the general population (Isik, Koca, Ozturk, & Mermi, 2007 Costa, Brazil, Papi, & Azevedo, 2008, quoted by Darius Kulkamp, Faraco, Gevaerd and Domenech, 2010). In this context, the occurrence of co-morbidities such as anxiety, depression and stress in people with rheumatoid arthritis constitute an important public health problem that imposes investigation.

3. Research Questions

Anxiety and depression have been linked to the epidemiological course of rheumatoid arthritis, and clinical practice also supports this nosological occurrence, hence emerges as the central research question for this study

What is the prevalence of anxiety, depression and stress in patients with rheumatoid arthritis?

4. Purpose of the Study

This study aimed to identify the prevalence of anxiety, depression and stress in people with rheumatoid arthritis, as the Portuguese population presents the worse psychosocial well-being indicators and quality of life when compared with the general population.

5. Research Methods

The quantitative study with descriptive-correlational and cross-sectional approach analysis was conducted with 80 participants with rheumatoid arthritis, followed in rheumatology consultation in a hospital in the central region of Portugal, with an average age of 58.16 years, 82.5 % female.

The data collection instrument included a sociodemographic and clinical questionnaire. It was also applied the Health Assessment Questionnaire Fries (1978), validated by Santos Reis, Rebelo, Days, Pink & Queiroz (1996) for the Portuguese population, and the Anxiety, Depression and Stress Scale by PF Lovibond & Lovibond SH (1995, adapted by Ribeiro, Honored & Leal (2004). Please note that the use of the respective scales was promptly authorized by their respective authors.

The study complied with the formal, legal and ethical procedures namely: obtained a favorable opinion from the Ethics Committee of the hospital and the completion of data collection was also authorized. After assent to conduct the study, it took place the data collection, always attending the self-determination and privacy of each participant, having obtained of each an informed consent.

The dependent variables were anxiety, depression and stress, and the independent variables included sociodemographic (age, sex, area of residence, educational background, employment status, household income and practice of religion) and clinical variables (CRP, VS, painful joints, swollen joints, pain experienced by the patient, overall disease activity, according to the patient, biological drugs and functional capacity).

Statistical analysis was processed through the SPSS 22.0 (Statistical Package for Social Sciences) for Windows.

Findings

The socio-demographic analysis of the sample showed that it was mostly made up of female participants (82.5%), aged between 21 and 80 years, with an average age of 58.16 years; 81.3% were married or living in de facto unions, living in rural areas (65.0%). As for literary qualifications \ Academic 53.8% held the 1st Cycle \ 4th class \ 4th year. The whole had a monthly household income similar to the national minimum wage (53.8%) and 42.6% are retired (42.6%).

Clinical analysis of clinical parameters showed that the C-reactive protein (CRP) average value was 0.87, corresponding to 58.8% which did not show inflammatory activity, the average speed of sedimentation (VS) was 10.6, indicating that 90% did not present inflammation. Half the sample (50%) were under the influence of biological drugs, 47.5% had one or more painful joints and 58.7% one or more swollen joints. We found an average pain perception value of 50mm, similar to the general state of disease according to the patient, which was 52mm. Mild disability affected 60% of respondents, while 40% showed moderate to high disability.

It was found that 37.5% of people with RA had moderate and high anxiety, and 25% mild anxiety, having been noticed that men had more mild anxiety compared to women (50.0% vs 19.7%), revealing the residual adjusted values significant differences (res = 2.4).

The majority of people with RA had high levels of high depression (35%) and 33.8% mild depression, and men have less depressive symptoms when compared with women (64.3% vs 27.3%), with significant differences (res = 2.7).

The stress level evaluation patented that it was elevated in 45% of people with RA, being light in 42.5% and mild in 12.5%. Men scored lower stress scores (64.3%) and women had higher stress (48.5%), but without significant differences.

Considering the statistical results, it was inferred that the sociodemographic variables gender ($U = 298.5, p = .036$; $U = 271.5, p = .014$) monthly family income ($H = 10,972, P = .004$; $H = 7722; p = .021$) influenced significantly the anxiety and depression levels, and the stress only suffered influence of household income ($H = 7.905; p = .019$) (cf. Table 1 and 2).

Table 1. Gender influence on levels of anxiety, depression and stress.

Gender	Male (N=14)	Female (N=66)	UMW	p
	OM	OM		
Anxiety	28.82	42.98	298.5	.036*
Depression	26.89	43.39	271.5	.014*
Stress	30.43	42.64	321.0	.062

Table 2. Monthly household income influence on levels of anxiety, depression and stress.

Monthly household income	Similar to the national minimum wage (N=43)	Twice the similar to the national minimum wage (N=21)	Three times or more than the similar to the national minimum wage (N=16)	KW	p
	PM	PM	PM		
Anxiety	45.67	42.71	23.69	10.972	.004**
Depression	43.33	45.48	26.38	7.722	.021*
Stress	44.69	42.48	26.66	7.905	.019*

Clinical parameters: perception of pain and general condition of the disease have an effect on anxiety levels (** $p = .003, p = .000$ *** = Depression (** $p = .005, p = .000$ * **)) and stress ($p = .080, p = .005$ **), although in the latter only the general state of the disease has a significant impact (cf. Table 3)

Table 3. Results of simple linear regression between the pain, the general state of the disease and Anxiety, Depression and Stress.

Pain	r	r2(%)	t	p	General condition of the disease	r	r2(%)	t	P
Anxiety	.323	10.3	3.014	.003**	Anxiety	.446	19.9	4.404	.000***
Depression	.310	9.6	2.884	.005**	Depression	.462	21.3	4.601	.000***
Stress	.197	3.9	1.775	.080	Stress	.312	9.7	2.895	.005**

The study of people who take biological drugs have lower average order values in anxiety (OM = OM = 40.25 vs 40.75), depression (OM = 39.76 vs. 41.24) and stress (39.79 vs 41.21), this being the translator of less anxiety behaviors, depression and stress, but differences between groups were not statistically significant in these variables (anxiety: $p = .922$), (depression: $p = .773$) (stress: $p = .774$), i.e. the levels of anxiety, depression and stress that people with rheumatoid arthritis have, are independent of biological medication intake (cf. Table 4).

Table 4. U Mann Whitney results between anxiety, depression and stress and intake of biological medication.

Biological Medication	Yes (N=40)		UMW	p
	OM	OM		
Anxiety	40.25	40.75	790.0	.922
Depression	39.76	41.24	770.5	.773
Stress	39.79	41.21	771.5	.774

The functional capacity of people with RA was associated positively with the dependent variables, ie, when increasing the inability of people to carry out some activities it also increases the anxiety behaviours ($r = .253$, $p = .023$), depression ($r = .337$, $p = .002$) and stress ($r = .046$, $p = .683$) (cf. Table 5).

Table 5. Results of simple linear regression between functional capacity and anxiety, depression and stress.

Functional Capacity	r	r2(%)	t	p
Anxiety	.253	6.4	.023*	2.313
Depression	.337	11.4	.002**	3.162
Stress	.046	.2	.683	.409

To determine the variables that in this study were constituted as predictor factors of the anxiety, stress and depression level, it was calculated the multiple linear regression analysis to test the predictive value of some independent variables considered of greater clinical interest such as: age, PCR, VS, pain, overall disease activity and functional capacity, this way investigating its contribution to the variability of the psycho-emotional state of people with rheumatoid arthritis.

The final predictive model illustrated by this AMOS in figure 1, established that only the general state of illness, exerts influence on people with rheumatoid arthritis, being responsible for the variance of about 20% of anxiety, 21% of depression and 10% of stress.

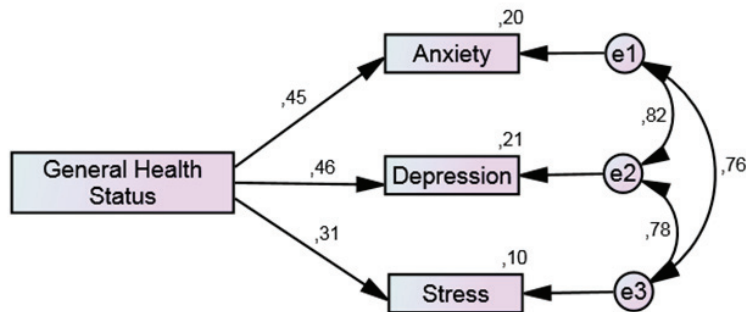


Fig. 1 - Final model of the influence of the independent variables in anxiety, depression and stress

6. Conclusion

Pain, general disease state and functional capacity are increased in chronic diseases such as rheumatoid arthritis, and there is no possibility of healing over time, and improvements in many cases are difficult to reach (Ribeiro, Schier, Ornelas, Oliveira e Silva Nardi, 2013; Mcbain, Shipley and Newman, 2013), because, inevitably, they will be influenced by the very disfigurement of the disease (Mcbain, Shipley & Newman, 2013). In this sense, it is naturally found in these patients increased levels of anxiety, depression and stress. On the other hand, symptoms of anxiety and depression aggravate the severity of pain, disease activity and the risk of suicide (Ribeiro, Schier, Ornelas, Oliveira, Nardi and Silva, 2013).

The results of this study support other studies conducted, being extremely important to invest in a effective prevention to achieve health gains. It is therefore required a greater investment in the prevention and diagnosis of anxiety, depression and stress in rheumatoid arthritis, in order to lessen the severity of disease, reduce functional impairment and improve quality of life, wherein health care assistance must include interventions directed to screening and treatment of these clinical outbreaks. It is also important to consider these nosological entities in the planning of educational / training activities of health professionals, and as such favor a coordinated intervention program between the various professionals in the multidisciplinary health team in order to monetize synergies and achieve shared goals.

It is important to stress the need for future research to study other variables including personal representation, "disfigurement", coping, self-concept, so that the possession of knowledge can meet best strategies to mitigate / eliminate the behaviours of anxiety, depression and stress, avoiding potentiation in worsening health status of people with rheumatoid arthritis, also contributing to a better quality of life related to health.

Acknowledgements

We appreciate the support of the ESSV, CI&DETS, Instituto Politécnico de Viseu.

References

- Dario, A.B., Küllkamp, W., Faraco, H.C., Gevaerd, M.S., & Domenech, S.C.. (2010). Alterações psicológicas e exercício físico em pacientes com artrite reumatóide. *Motricidade*, 6(3), 21-30. Retirado de: http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S1646-107X2010000300004&lng=pt&lng=pt, consultado a 30 de Março de 2015.
- DGS (2011). Prescrição de Agentes Biológicos nas Doenças Reumáticas. Retirado de: <http://www.dgs.pt/directrizes-da-dgs/normas-e-circulares-normativas/norma-n-0672011-de-30122011.aspx>, consultado a 22 de Outubro de 2014.
- DGS (2013). Rede de Referência Hospitalar de Reumatologia. Retirado de: <http://www.dgs.pt/upload/membro.id/ficheiros/i006184.pdf>, consultado a 09 de Novembro de 2013.
- Goldman, C. (2012). Rheumatoid Arthritis. Copyright. Pp 1981-1689. Retirado de: www.clinicalkey.com, consultado a 11 de Novembro de 2013.
- Ho, R. M., Fu, E. Y., Chua, A. C., Cheak, A. C., & Mak, A. (2011). Clinical and psychosocial factors associated with depression and anxiety in Singaporean patients with rheumatoid arthritis. *International Journal Of Rheumatic Diseases*, 14 (1), 37-47. Retirado de: <http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=19&sid=ee16b3c8-f03e-46d3-9cea-55f89e63fc2%40sessionmgr110&hid=105>, consultado a 22 de Outubro de 2014.
- Lucas, R. & Monjardino, T (2010). O Estado da Reumatologia em Portugal. Retirado de: http://ondor.med.up.pt/uploads/pdf/ONDOR_Estado_Reumatologia_Portugal-1.pdf, consultado a 09 de Novembro de 2013.
- Monjardino, T; Lucas, R.; Barros, H (2013). Dez anos de observatório nacional da Doenças Reumáticas: 2003-2013. Retirado de: <http://ondor.med.up.pt/uploads/cap1.pdf>, consultado a 11 de Novembro de 2013.
- Mcbain, H., Shipley, M., & Newman, S. (2013). The impact of appearance concerns on depression and anxiety in rheumatoid arthritis. Retirado de: <http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=22711333&lang=pt-br&site=ehost-live>, consultado a 22 de Outubro de 2014.
- Pereira da Silva, J. (2005). *Reumatologia Prática*. Diagnóstico, Lda. Coimbra.
- Ribeiro, J. P., Honrado, A. e Leal, I. (2004). Contribuição para o estudo da adaptação portuguesa das escalas de ansiedade, depressão e Stress (EADS) de 21 itens de Loviond e Lovibond. *Psicologia, Saúde & Doenças*, 2004, 5 (2), 229-239. Retirado de: <http://www.scielo.oces.mctes.pt/pdf/psd/v5n2/v5n2a07.pdf>, consultado a 05 de Janeiro de 2014.

- Ribeiro, N., Schier, A., Ornelas, A. C., Oliveira, C. M., Nardi, A. E., & Silva, A. C. (2013). Anxiety, depression and suicidal ideation in patients with rheumatoid arthritis in use of methotrexate, hydroxychloroquine, leflunomide and biological drugs. *Comprehensive Psychiatry*, 54(8). Retirado de: <http://www.sciencedirect.com/science/journal/0010440X>, consultado a 22 de Outubro de 2014.
- Santos, R. A., Reis, P., Rebelo, L., Dias, F., Rosa, C.M., Queiroz, M.V. (1996). "Health Assessment Questionnaire" (versão curta): Adaptação para a língua portuguesa e estudo da sua aplicabilidade. *Ata Reumatológica Portuguesa* 1996;76:15-20. Retirado de: http://www.actareumatologica.pt/repositorio/pdf/1996_Vol%20XXI_n%2076_Jan-Mar.pdf, consultado a 5 de Janeiro de 2014.