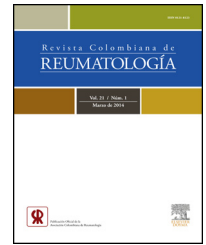


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Review Article

Impact of educational level on rheumatoid arthritis: A systematic review



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ABSTRACT

Objectives: To assess the impact of educational level on rheumatoid arthritis through a systematic review of the literature and assessing the age at onset, the educational level as risk factor, and to identify outcomes related to educational level and rheumatoid arthritis.

Methods: A systematic review was performed using PubMed, SciELO and LILACS as data bases in order to identify original articles written in English, Portuguese or Spanish that used accepted classification criteria for rheumatoid arthritis and a comparison was made between educational level and outcomes of rheumatoid arthritis. Final articles were identified by two independent reviewers and three blinded reviewers created a new list and extracted data from selected studies. Each record was classified based on the quality score of the studies.

Results: Through the systematic review of the literature, the factors and outcomes related to educational level and rheumatoid arthritis identified were: the risk of developing the disease, radiographic progression, depression and anxiety, work disability, functional disability, quality of life, and mortality.

Conclusion: The information available in the literature about the impact of the educational level in several outcomes related to rheumatoid arthritis variable. Only work disability is an outcome related to a low education level in all the articles reviewed.

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Impacto del nivel educativo en artritis reumatoide: una revisión sistemática

RESUMEN

Objetivos: Evaluar el impacto del nivel educativo sobre la artritis reumatoide a través de una revisión sistemática de la literatura analizando la edad de inicio, el nivel educativo como factor de riesgo e identificando los desenlaces relacionados con el nivel educativo y la artritis reumatoide.

Palabras clave:

Nivel educativo

Artritis

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Métodos: Se realizó una revisión sistemática en PubMed, SciELO y LILACS como bases de datos con el fin de identificar artículos originales en inglés, portugués o español, que utilizaban criterios de clasificación aceptados para artritis reumatoide y comparaban el nivel educativo con diferentes desenlaces de la enfermedad. Los artículos finales fueron identificados por 2 revisores independientes. Tres revisores ciegos crearon una lista y extrajeron los datos de los estudios seleccionados. Cada registro fue clasificado en función de la calidad de los estudios.

Resultados: Los factores y desenlaces identificados relacionados con el nivel educativo y artritis reumatoide fueron el riesgo de desarrollar la enfermedad, la progresión radiográfica, depresión y ansiedad, incapacidad laboral, incapacidad funcional, calidad de vida y mortalidad.

Conclusión: La información disponible en la literatura sobre el impacto del nivel educativo en la artritis reumatoide en los diferentes desenlaces encontrados es variable. Solo la discapacidad funcional es un desenlace relacionado con bajo nivel educativo en todos los artículos encontrados.

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Introduction

Rheumatoid arthritis (RA) is a systemic, multifactorial autoimmune disease (AD) with an end-stage of chronic inflammation in which there is a response directed toward the diarthrodial joints. Genetic, epigenetic and environmental factors have been implicated, and because of its multifactorial etiology, there is a lot of interest in elucidating factors that could be involved in disease predisposition, onset and outcomes. All of this explains the growing interest in modifiable risk factors.¹

During the last few years, several studies have been done to determine the effect of formal educational level on the course of RA. Some studies have found a negative association between a low educational level (LEL) and some outcomes of RA. In a nine-year study of a group of patients with RA, Pincus et al.² reported that LEL was a significant risk factor for mortality. Leight et al.³ demonstrated that 1 year of schooling is associated with a 0.29% average increase in length of survival.

In other reports, LEL has been associated with a poorer clinical status (e.g., higher erythrocyte sedimentation rate [ESR], higher ratings of pain, greater number of painful joints).⁴ Wallenius et al.⁵ showed that LEL was associated with work disability (WD). Rodriguez et al.⁶ demonstrated more aggressive disease based on findings of increased erosion rate in patients with LEL.

The educational level influences the course of the disease just as it does in other contexts, such as osteoarthritis (OA). Slatkowsky-Christensen et al.⁷ found that knee OA was more prevalent among people with LEL even after controlling for known risk factors such as age, knee injury, race, obesity and occupation.

A preventive effect of high educational level (HEL) has been reported. In one case-control study done in Sweden, HEL was associated with a decreased risk of RA.⁸ However, some studies have shown the opposite association, which is that HEL is related to a more severe form of the disease as well as to an earlier onset as shown by Rodriguez et al.⁶

Consequently, positive and negative effects on the course of RA have been associated with a patient's educational level.

However, there is no a paper that synthesizes such evidence. Thus, the aim of this study was to assess the impact of educational level on rheumatoid arthritis (RA) through a systematic review of the literature.

Materials and methods

Systematic literature review

The guidelines proposed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were followed.⁹ A systematic review was done in the following databases: PubMed, SciELO and LILACS, and included articles published up until September, 2013. The review was performed during October 2013. The last date of search was October 25, 2013.

In PubMed the search was done with the following Medical Subject Headings (MeSH) terms: "Education," "Arthritis, Rheumatoid," "Educational Status," "Information Literacy," "Health Literacy," "Minority Health," "Early Intervention (Education)." Also we searched using [Majr] terms, which included "educational level," "rheumatoid arthritis," "literacy," "low educational level," "education level," "rheumatoid arthritis erosive," "education," "rheumatoid arthritis activity," and "formal education."

In addition, MeSH terms were translated into DeCS (Health Sciences Descriptors), the tool that makes it possible to navigate between records and sources of information through controlled concepts and is organized in Portuguese, Spanish and English, in order to search LILACS and SciELO. The terms used were: "Education," "rheumatoid arthritis," "Educação," "artritis reumatoide," "Educação," "Artrite Reumatóide," "Alfabetización."

Study selection, data extraction, and quality assessment

First, articles were identified through a systematic search done by two independent reviewers (CALC and RGR) applying the same selection criteria. Based on the abstracts and titles, we selected references from the articles that seemed to be

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