JUVENILE IDIOPATHIC ARTHRITIS IN PORTUGAL AND BRAZIL: A COMPARATIVE STUDY

INTRODUCTION:

Juvenile Idiopathic Arthritis (JIA) is the most common chronic rheumatic condition of childhood and a major cause of short-term and long-term disability[1,2].

Several studies from different geographic areas have been performed aiming to characterize JIA population. Wide differences regarding demographic and clinical features of JIA patients have been noted, which may be related to environmental, ethnic and genetic factors. For example, a higher frequency of oligoarticular subtype has been reported in some european countries[3-6], while polyarthritis seems to predominate among north american or black patients[6,7]. Nonetheless, contradictory findings have been found across different studies.

During the last decade, with the advent of new therapies, there has been a major improvement in JIA treatment, allowing for a better disease activity control and, thus, preventing long-term joint damage and other complications. However, due to the lack of worldwide accepted guidelines concerning the management of JIA, therapeutic approaches may not be homogeneous between clinicians of different countries. Furthermore, disparities in availability and costs of biologic drugs may increase differences in clinical care and, probably, in disease outcomes.

Most studies regarding characterization of JIA patients involve single countries. This study aims to compare JIA patients from two different countries, Portugal and Brazil, by examining demographic, clinical and treatment features of each of them.

OBJECTIVES:

1. To compare the demographic, clinical and therapeutic characteristics between JIA patients from Portugal and Brazil.
2. To determine whether differences in these characteristics have an impact on disease outcomes.

METHODS:

Study Design:

This is a prospective international multicenter comparative study, using data from Rheumatic Diseases Portuguese Register (Reuma.pt).

Reuma.pt is a national clinical register developed by the Portuguese Society of Rheumatology to record data from patients with various rheumatic diseases, including JIA. Partnerships have been done with other countries, namely Brazil, that has the same version of the database for their own use. A standardized database containing a uniform set of instruments increases study feasibility and will strengthen the comparability of results between both countries.

Population:

Inclusion criteria: patients aged less than 18 years with diagnosis of JIA according to ILAR, registered in Reuma.pt database in Portugal and Brazil.

Variables

The following variables will be collected from the Reuma.pt database at baseline (the first appointment) and at the last visit.

- Demographic and social characteristics (age, gender, ethnicity, weight, height, education level, current and previous employment status, smoking and drinking habits)
- JIA category
- Age at disease onset
- Age at diagnosis
- Disease duration
- Presence of ANA, Rheumatoid Factor, anti-CCP, HLA-B27
- Erythrocyte Sedimentation Rate (ESR) and C-reactive protein (CRP)
- Disease Activity, measured by JADAS10 and JADAS27
- Articular and extra-articular damage, measured by JADI-A and JADI-E, respectively
- Number of swollen or tender joints
- Physician Global Assessment, measured on a 10cm Visual Analog Scale
- Parent/Patient Global Assessment, measured on a 10cm Visual Analog Scale
- Pain Visual Analog Scale
- JAMAR (patient and parent versions)

- Childhood Health Assessment Questionnaire (C-HAQ) for children aged < 16 years; Health Assessment Questionnaire (HAQ) for patients aged between 16 and 18 years
- Extra-articular manifestations
- Comorbidities
- Surgical procedures
- Family history of rheumatic diseases
- Treatments (previous and current medications)
- Tuberculosis screening (including data of results of the Mantoux test, chest radiograph and IGRA; use of antibacillar therapies and number of visits to the pneumologist)

Statistical Analysis

Categorical variables will be described as frequencies and percentages. Continuous variables will be presented as mean and standard deviation; or in case of skewed distribution as median and interquartile range. Normal distribution will be evaluated using Shapiro-Wilk test or skewness and kurtosis.

Bivariate analysis will be used to examine differences in patient characteristics and treatment practices. Categorical variables will be compared with the use of Fisher's exact test or the chi-square test, while t-test or Mann-Whitney U test will be used to compare continuous variables. A *p* value of less than 0.05 indicates statistical significance.

Differences in outcomes between the two countries will be studied using multivariable regression models.

Statistical Package for Social Science (SPSS) version 23 will be used for analysis of data.

Expected size sample:

There were 1851 JIA patients registered in Reuma.pt (1295 in Portugal and 556 in Brazil) in December 2017. All of them are potentially eligible for this study.

EXPECTED RESULTS AND LIMITATIONS:

We expect to provide further evidence of differences in patient characteristics, treatment approaches and disease outcomes across two different geographic areas.

The main limitation is the possibility of missing data that could lead to bias. An effort will be done to collect and introduce missing data in Reuma.pt.

CALENDAR OF TASKS:

	June - December 2018	December 2018	January – March 2019
Data collection	✓		
Data analysis		✓	✓
Final report/ Abstracts Submission			✓

PROPONENT: Agna Neto

RESEARCH TEAM: Agna Neto, Daniela Piotto, Clovis Artur Silva, Aline Alencar, Ana Filipa Mourão, Helena Canhão, Maria Teresa Terreri

FUNDING AND CONFLICTS OF INTEREST

There are no conflicts of interest or external funding to declare in this study.

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