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ORIGINAL ARTICLE

Quality of life assessment in Egyptian rheumatoid arthritis patients: Relation to clinical features and disease activity

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Abstract *Aim of work:* To assess the impact of rheumatoid arthritis (RA) on the health related quality of life (QoL) of patients, using the 36-item short form (SF-36) and to study the influence of different disease variables.

Patients and methods: Eighty-six RA patients were recruited from the Rheumatology and Rehabilitation outpatient of Assiut University Hospital. Forty-three, age and sex matched subjects were included as controls. The QoL was measured in all subjects using the SF-36 health survey. Disease activity was assessed in RA patients by the disease activity score (DAS28).

Results: All domains of the SF36 were significantly lower in the patients ($p < 0.0001$). Patients with a lower educational level and those unemployed had significantly lower SF36 components. Those with a disease duration > 5 years, positive rheumatoid factor and higher disease activity had a significantly lower SF36 physical component. Patients receiving hydroxychloroquine or prednisolone had significantly lower mental component. Significant negative correlation of the SF36 physical and mental components was found with both disease duration ($p = 0.01$ and $p < 00001$ respectively) and DAS28 ($p < 0.0001$ for both). Rheumatoid factor negatively correlated with the physical component ($p < 0.0001$). Regression analysis showed that disease duration was the most profound predictor of both SF36 components ($p < 0.0001$).

Conclusion: The quality of life is impaired in Egyptian RA patients and disease duration was the most significant predictor. Routine assessment of the health-related QoL in those patients is recommended to detect and monitor the impact of the disease and medications used on different aspects of their quality of life.

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1. Introduction

Rheumatoid arthritis (RA) is an autoimmune disease that typically affects the small joints of the hands and feet, often symmetrically. It is usually presented with constant pain, stiffness, progressive joint destruction and deformity with significant disability [1]. Impairment of the quality of life (QoL) has been reported in RA [2]. The underlying pathogenic processes of most rheumatic diseases start years before the clinical diagnosis is made and irreversible joint damage occurs, and as the long-term morbidities decrease with prompt, responsible and aggressive treatment with disease-modifying therapy; both forming core challenges [3].

The QoL is now recognized as an important outcome variable in patients with chronic diseases. The QoL goes beyond the impairment/disability and handicap continuum by asking what patients' health status prevents them from doing and also about their emotional response to these restrictions. It also reflects the influences of the personal social and economic resources that an individual has and the way in which these interact with health status. Therefore, QoL could be defined as perception of people about life, values, goals, standards, and interests [4].

In other studies on Egyptian patients with different rheumatic diseases as systemic lupus erythematosus [5,6], systemic sclerosis [7], juvenile idiopathic arthritis [8], ankylosing spondylitis [9], osteoarthritis [10], fibromyalgia syndrome [11], benign joint hypermobility syndrome [12] functional impairment and poor QoL were reported. The impaired functioning caused by RA can be debilitating, both physically and mentally. Reduced health related QoL (HRQoL) in RA patients is associated with increased use of healthcare resources and with increased level of depression. In addition to bad effects on patients' QoL and life expectancy, RA has a considerable financial impact on patients' family, health care payers, and society [1]. In other studies on Egyptian RA patients, impaired QoL was reported but using the health assessment questionnaire (HAQ) measures [13–15].

Generic and disease specific QoL instruments have been validated for assessment in RA. Disease-specific measures have the advantage that they have been designed to pick up health-related aspects particular to the specific disease. On the other hand, the main advantages of generic measures are their ability to detect changes in early disease [1], and the possibility of comparing disability in RA with other diseases [16]. Moreover, the Disease-specific instrument included to measure functional limitations, the HAQ in RA was closely correlated to the physical functioning dimension of the 36-item short form (36-SF) health survey [17], therefore SF-36 is considered a valid instrument for measuring physical functioning and comparing different aspects of HRQoL in patients with RA.

As current treatment neither prevents nor cures RA, the main management aim should be to reduce the impact of the disease on patients' lives by improving quality of life and reducing disability. The present study aimed to assess the impact of RA on HRQoL of patients using a generic instrument, and study the influence of different disease variables on HRQoL.

2. Patients and methods

2.1. Patients

In this cross-sectional study, we enrolled 86 consecutive patients (both male and female at a minimum age of 18 years) diagnosed with RA, confirmed by a rheumatologist based on the 2010 ACR/EULAR classification criteria [18]. Patients were recruited from those attended sequentially to the outpatient clinic of Physical Medicine, Rheumatology and Rehabilitation department, Assiut university Hospital, in the period between January and July 2014. Exclusion criteria were bed ridden patients and the presence of significant co-morbidity, such as malignancies or end stage organ failure. Pregnant ladies were excluded. The study was approved by the Ethics Committee on Human Research of Assiut University. Verbal informed consents were obtained from all participants. We enrolled 43 healthy age and sex matched volunteers as control.

2.2. Methods

A checklist containing questions on demographic data (age, gender, formal education level, and work status) was completed by all subjects and was collected upon enrollment. All patients performed laboratory investigations and underwent a medical examination by a single rheumatologist who also determined the disease duration and assessed the disease activity score in 28-joints (DAS-28) [19]. Patients were classified as in remission (<2.6), low ($\geqslant 2.6$ to <3.2), moderate ($\geqslant 3.2$ to $\leqslant 5.1$), and high (>5.1) disease activity. Extra-articular (EA) manifestations were identified clinically and confirmed using investigations when indicated. Current medication history was also collected. HRQoL was measured via the Medical Outcomes Study 36-SF health survey [20]. SF-36 is a generic multidimensional measure of HRQoL that contains eight subscales representing physical functioning (PF), social functioning (SF), role limitations due to physical health problems (RP), role limitations attributable to emotional problems (RE), mental health (MH), vitality (VT), bodily pain (BP), and general health perceptions (GH). Higher scores of each subscale (which range from 0 to 100) indicate a better HRQoL. The physical and mental components of the eight scales are combined into physical (PCS) and mental (MCS) component summary scale scores.

2.2.1. Statistical analysis

Statistical analysis of data was done by using the Statistical Package of Social Science (SPSS) version 16 software. Descriptive statistics were performed for all variables of the study. Mann–Whitney *U* test was used to compare means of demographic and clinical data between RA patients and the control group. Kruskal–Wallis test was used to compare the means of >2 independent variables as our data lack normal distribution in mean values and had considerable inequality in the number of patients per group. Spearman Correlation was measured between different demographic, clinical variables and PCS or MCS score. Multiple linear regression analysis using enter method was performed for QoL predictor determination. Significance was considered at p-value < 0.05.