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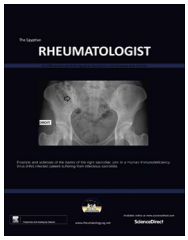

ORIGINAL ARTICLE

Assessment of health-related quality of life, anxiety and depression in patients with early rheumatoid arthritis

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Short-form SF-36;
Hamilton Anxiety Rating Scale;
Disease activity score (DAS28)

Abstract *Aim of the work:* To assess the effect of clinical manifestations, disease activity and medications on health-related quality of life (HRQoL) among patients with early rheumatoid arthritis (RA).

Patients and methods: Twenty-six early RA patients (mean age 43.31 ± 10.51 years, disease duration: 16.5 ± 5.2 months) diagnosed according to the 2010 RA classification criteria were recruited from the outpatient clinic of the Rheumatology and Rehabilitation Department, Sohag University, and 22 age and sex matched healthy persons participated in a case control study. Demographic data were taken from all participants in the study. The 36-item short-form health survey (SF-36) and Hamilton Anxiety Rating Scale (HAM-A) were assessed as measures of HRQoL and psychiatric comorbidity for both patients and controls. Disease activity in RA was assessed using the disease activity score (DAS28). Scoring algorithms were applied to produce the physical and mental component scores (PCS and MCS).

Results: There was statistically significant difference in the total SF36 score, anxiety and depression scores of HAM-A scale between patients and controls. The PCS showed the highest significant difference ($p < 0.0001$), followed by SF36 ($p = 0.01$) and MCS ($p = 0.024$). There were no significant differences according to the age, gender, occupation or level of education of the patients. Anxiety and depression scores significantly correlated with the bodily pain and DAS28 scores and inversely with the

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PCS and MCS. The DAS28 strongly negatively correlated with the PCS and MCS.

Conclusion: Rheumatoid arthritis has a major impact on many areas of an individual's life and tends to have a profound impact on the health-related quality of life.

1. Introduction

Rheumatoid arthritis (RA) is a chronic disabling multisystem autoimmune disease. It can lead to serious consequences regarding functional abilities of patients. The physical disability caused by RA is usually evident at clinical level; however, the psychological and social morbidities very easily evade the eyes of the clinician [1]. Health-related quality of life (HRQoL) questionnaires for patients are usually used to numerically quantify the effect of disease morbidity on patient's daily living.

HRQoL is important for measuring the impact of the disease, and for evaluating the effects and cost-effectiveness of the treatment. Some studies have assessed the HRQoL in patients with RA and its improvement with early treatment [1–3]. The medical outcome study with 36-item short-form (SF-36) is one of the widely used tools that evaluates HRQoL due to an underlying illness [4].

Monitoring of people's health at the national level has traditionally focused on morbidity and mortality measures, reportable infectious diseases, chronic conditions, and behavioural risk factors. However, these measures do not take in consideration the HRQoL which provides a broader view of daily living activity and subjective well being [5,6].

Quality of life is a multi-dimensional concept which is used to describe the individual's perceptions, satisfaction, and evaluation of different areas of their own lives, such as physical health and functioning, psychological and emotional well being, social roles and relationships. The complex, subjective, and dynamic nature of the concept presents methodological challenges to its measurement and interpretation [7].

There are no studies from this region assessing the HRQoL in patients with early RA. The aim of our study was to assess the effect of clinical manifestations, disease activity and medications on HRQoL among patients with early RA.

2. Patients and methods

Twenty-six early RA patients (8 males and 18 females; mean age of 43.31 ± 10.51, [range 23–60] years) diagnosed according to the American college of Rheumatology (ACR)/European League against rheumatism (EULAR) 2010 RA classification criteria [8] were recruited from the outpatient clinic of the Rheumatology and Rehabilitation Department, Sohag University and 22 age and sex matched healthy persons (4 males and 18 females; mean age of 39.64 ± 9.01 [range 21–60] years) participated in a case-control study. Patients had early RA with disease duration of 16.5 ± 5.2 months (ranging from 3 months up to two years). All patients were >18 years and gave informed written consent before inclusion in the study. This study was approved by the local ethics committee of Sohag Faculty of Medicine.

Patients who suffer past or current history of chronic inflammatory diseases (e.g. gout, reactive arthritis, or psoriatic arthritis), other autoimmune rheumatic diseases (e.g. systemic lupus erythematosus, mixed connective tissue disease, scleroderma, or polymyositis), neuropsychiatric disorders (e.g. fibromyalgia) and disease duration of more than 2 years were excluded from the study.

Demographic data (age, sex, job, marital state and education) were taken from all participants in the study. The short-form SF-36, and Hamilton Anxiety Rating Scale (HAM-A) were assessed as measures of HRQoL and psychiatric co-morbidity for both patients and controls respectively. Disease activity in RA patients was assessed using the disease activity score in 28 joints (DAS28) which included an assessment of the visual analogue scale (VAS) for pain, number of tender joints (Notj), number of swollen joints (Nosj) and the erythrocyte sedimentation rate (ESR). Patients with DAS28 score higher than 5.1 were considered to have high disease activity, whereas a DAS28 below 3.2 indicates low disease activity. A patient is considered to be in remission if they have a DAS28 lower than 2.6. Items and scales of SF-36 questionnaire [9] were constructed using the Likert method of summated ratings. Answers to each question are scored, then these scores were summed to produce raw scale scores for each health concept which were then transformed to a 0–100 scale. Scoring algorithms can then be applied to produce the Physical Component Score (PCS) and Mental Component Score (MCS).

The 14 items' HAM-A was scored from 0 to 4 (no to very severe or grossly disabling anxiety) on each item of the scale. The total anxiety score range from 0 to 56. The seven psychic anxiety items elicit psychic anxiety score that ranges from 0 to 28. The remaining seven items yield somatic anxiety score that also ranges from 0 to 28. Patients having scores ranging from 15 to 28 were considered to have mild anxiety, those who have score range from 29 to 42 were considered to have moderate anxiety, and those who have scores >42 were considered to have severe anxiety [10–11].

Statistical analysis: Data were analysed and expressed in tables and figures as mean values ± standard deviations (SD). Student's *t*-test was used to compare differences between RA and controls. Pearson correlation test was used to study correlation between different quantitative variables with each group. Values were considered significant when *p*-values were $\leqslant 0.05$. IBM-SPSS program (version 19) was used for statistical analyses.

3. Results

Patients and controls were age and sex matched, no significant statistical difference was found ($t = 1.28$; $p = 0.21$, and $x^2 = 1.01$; $p = 0.32$). All patients had early RA with mean disease duration of 16.5 ± 5.2 (range 6–24) months.