

Assessing the Quality of Life and Functional Disability in Some Musculoskeletal Disorders

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Abstract

Introduction: Low back pain, knee disorders and rheumatoid arthritis are the most common musculoskeletal diseases in Iran and throughout the world. The studies conducted in the developed countries have shown that this disease has considerable effect on the functional abilities and quality of life of patients. There are a few studies about this issue in Iran. Therefore, this study aims to evaluate the effect of knee and low back pain on the functional disability and quality of life of patients resident in Tehran. **Materials and Methods:** 220 musculoskeletal disorders (knee and low back pain and rheumatoid arthritis) from one hospital in Tehran, Iran participated in the study. Persian versions of Arthritis Impact Measurement Scale 2-short form (AIMS2-SF) and Short form health survey (SF-12) were used to measure the functional disability and quality of life. AIMS2-SF questionnaire that has been designed exclusively for rheumatoid arthritis patients measures the functional disability of patients in five dimensions: physical (upper and lower limbs), symptoms, feelings and social condition. **Results:** mean age and education of patients in this study was 53(low back pain), 45 (knee pain), and 58 (RA) years old, respectively. 59% of subjects were women. Mean of physical dimensions, upper limbs, lower limbs, symptoms, feelings, and social conditions were 1.46, 1.32, 2.12, 3.65, 3.40, and 3.78 (of 10), respectively. The mean of eight dimensions of quality of life based on the SF-12 questionnaire was 43 to 64 (of 100). **Conclusion:** The results of this study showed that the quality of life and functional abilities of musculoskeletal disorders are influenced significantly by diseases. Based on this, the increasing of physical activity and the intensive physiotherapy programs result in improvement of quality of life in these diseases.

Keywords: Functional Disability; Musculoskeletal Disorders; Quality Of Life

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Introduction

Some musculoskeletal disorders, such as back and knee pain and RA have a great impact on the quality of life of patients. Rheumatoid arthritis is a chronic inflammatory disease which involves 0.5 to 1% of adults' community. This disease is one of the major caused of functional disabilities in the developed countries (1-3). Rheumatoid arthritis emerges with the pain, progressive motor problems and increase in the functional disabilities. Among these, individual and social functional disabilities are a major part of patient's problems. This disease has become an essential problem in the developed countries such that in Canada, rheumatoid arthritis is compared to cancer, and in US, this disease is ranked with coronary artery diseases and cancer (4). The functional disabilities gradually

increase in this disease by increasing the pain and fatigue. Various research have shown that by controlling mental and social factors, these disabilities can be controlled and managed to the large extent. On the other hand, not controlling this diseases with intensify these disabilities (5). The problems caused by rheumatoid arthritis have various effects on individual, family, work and social relationships. Most of these patients lose the ability to participate in the recreations, voluntary and daily activities like taking bath or cooking. In families that the wife or the mother of family suffers rheumatoid arthritis, family members spend one hour more than other families with healthy housewife for home activities (6). In the past decade, the treatment of patients with rheumatoid arthritis has changed totally. For example, therapeutic methods have been moved toward the functional

activities of the patients, such as physical and social activities (7-8). Based on this, studying the role of the quality of life and functional disabilities in the clinical studies and related treatments is important. Some methods have been confirmed to study the functional disabilities of rheumatoid arthritis patients in the international level. Among this, we can refer to SF-36 (Short form health survey), EuroQol-5D, HAQ (Health assessment questioner), Rheumatoid Arthritis Quality of life and Arthritis impact measurement scale (AIMS) questionnaires (9-13). AIMS questionnaire and its modified versions i.e. AIMS2, have been widely used as the measurement tool to measure the quality of life of rheumatoid arthritis patients and their functional disabilities (13-14). It is necessary to mention that AIMS2-SF is the short-form of AIMS2 which has been designed by Guillemin et al. (15). Based on the HRQoL goals (Health-related Quality of Life Measurements), the number of AIMS2-SF questionnaire has reduced to 26 questions for saving time and energy. The value of this questionnaire has been confirmed in different researches (16-18). This questionnaire has been translated and validated into various languages (19-20). In 2009, this questionnaire translated into Persian language and validated it with 350 patients (21). Therefore, this study aims to evaluate the effect of some musculoskeletal disorders such as rheumatoid arthritis on the functional disability and quality of life of patients in Iran. Regarding that the social, economic and cultural differences in different communities can influence the quality of life and functional disability of patients, conducting this study in Iran is necessary.

Materials and Methods

The study population in this research was low back and knee pain and rheumatoid arthritis patients who referred to physiotherapy clinic in Milad hospital in Tehran, Iran. Research samples were selected after a pilot study and obtaining the consent of patient for participation in the research. The sampling was simple non-probability type. Exclusion criteria were: soft tissue rheumatoid like fibromyalgia, osteoarthritis, bursitis, tendonitis, coronary disease or severe neurology of lower limbs, new fracture in lower limb, severe impact to the knee and mental disorders.

The studied patients filled out the rheumatoid arthritis, AIMS2-SF and SF-1 questionnaires. General rheumatoid arthritis questionnaire includes the personal and demographic information of patient about the age, weight, height, education, occupation, pain and inflammation at the interview day and

past four weeks. AIMS2-SF questionnaire has 26 questions which examines the quality life in five health dimensions including physical conditions which consist of upper and lower limbs, symptoms, feelings and social status. In AIMS2-SF questionnaire that studies the conditions of patient in the abovementioned dimensions, patients select a number from 0 to 5 based on the disability intensity. The best state is 0 and the most disable state is 5. Then, the obtained numbers are coded based on the normalization formula with numbers 0 to 10 such that the most disabling condition score is 10 and the least disabling score is 0. SF-12 including seven sections and 12 questions which studies the condition of the patient in the given dimensions of AIMS2-SF. After obtaining the responses of the patients and normalizing them, we compared the results of both questionnaire and analyzed the functional disability of the patients in the abovementioned dimensions. In this section, the presence of a significant relationship between dimensions of functional disabilities with the age, weight and education of patients were studied.

Results

Mean age and education of patients were 53 (low back pain), 45 (knee pain), and 58 (RA) years old, respectively. 59% of the study subjects were women. Mean physical dimensions, upper limbs, lower limbs, symptoms, feelings and social conditions were 1.46, 1.32, 2.12, 3.65, 3.40, and 3.78 (of 10), respectively.

The mean of eight quality of life dimensions was 43 to 64 (of 100) based on the SF-12 questionnaire. The above findings showed that the lower limb involvement was more intense than upper limb involvement and has a larger share of physical disabilities. The lower limb disabilities emerge obviously in the daily activities of individuals. On the one hand, above findings confirm the presumption of effects of symptoms and physical involvement on the mental and social problems at the average level. The results of this study showed that the quality of life and the functional abilities of musculoskeletal patients are considerably influenced by this disease. Based on this, the increasing of physical activity and the intensive physiotherapy programs result in improvement of quality of life in these diseases.

Discussion:

Various studies have been conducted about the quality of life of in musculoskeletal patients. These studies were very diverse and different questionnaires were used to study the functional

disabilities of the patients. In addition, the researcher have studied this issue from different aspects (7, 8). In 2008, a study was conducted in US in order to study the quality of life of rheumatoid arthritis patients. In this study, HAQ (Health Assessment Questionnaire), modified HAQ, Arthritis impact measurement scale questionnaires were used to study the quality of life of patients and 26 questions were selected from short-form health survey.

In total, using this type of study and questionnaires provide a widespread view about the best therapeutic program selection for physicians and therapists (16). In 2000, a study was conducted on 32 rheumatoid arthritis patient in Brazil by using SRQ20, HAQ, and SF-36 questionnaires to evaluate the quality of life of patients. The disease diagnosis was measured by CB Scale. During this research which was based on the mental-social function level of patients, the effect of mental-social problems on the quality of life of patients was confirmed in the high level (22). In 2007, a study was conducted in Japan with a 75-subject control group on 136 patients. Who QoL questionnaire and disease evaluation methods like DAS28 were used. In this study, the main problem of the patient was physical disability and the high correlation was proved between physical disabilities and mental-social problems (23). A study was conducted in 2010 on the quality of life of rheumatoid arthritis patients which introduced pain and fatigue as the major cause of functional disability of patients (5). In different countries, the quality of life of patients is relatively different based on social welfare and socioeconomic factors. Brekke et al. carried out a study in this field and concluded that the individuals and societies with higher cultural-economic condition and education have better managed the disease and have high living standard (24). This is while there are relatively few researches in the countries with poor social condition. This issues has been confirmed in two studies in the South Africa. In a research by Mody et al. on the black race, the pain, joint and muscle stiffness along with low income were the major causes of disabilities of patients (25). In another research on the 60 African women, physical, social, occupational and mental dimensions were studied. These research estimated that factors like pain, joint and muscle stiffness along with low income as the major causes of the functional disabilities of patients. Besides, this research studied the social welfare and public transportation. According to this research, participation in the community was a mental problem due to the poor social welfare and it is considered as one of the causes for functional disabilities which reduces the quality of life of these patients (26).

The current research that studied the effect of some musculoskeletal disorders on the functional disabilities of patients in the physical, mental and social dimensions, obtained results similar to the results of previous studies. Therefore, unsuitable physical condition, especially lower limb disability, leads to the disorder in the mental-social condition of patients and negative trend of the disease. The bad economic condition, low culture level and education of patients lead to the unawareness of disease trend and lack of active presence in the society which progressed the process of the disease.

Conclusion

The results of the study showed that the quality of life and functional abilities of musculoskeletal patients were significantly influenced by this disease. Based on this, the increasing of physical activity and the intensive physiotherapy programs result in improvement of quality of life in these diseases.

Conflict of interest:

None

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Authors' contributions:

All authors made substantial contributions to conception, design, acquisition, analysis and interpretation of data.

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