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# Assessment of Quality of Life of Rheumatoid Arthritis Patients

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***Abstract:*** **Rheumatoid arthritis is one of the commonest autoimmune disease. It affects about 1% of the population worldwide. Rheumatoid arthritis has significant impact on quality of life and ability to perform daily activities.**

**Aim: Assess the quality of life of rheumatoid arthritis patients.**

**Design: A cross sectional design was utilize.**

**Setting: This study was conducted in Kafer El Sheikh Governorate at the following hospitals that affiliated to Minastery of Health and Population rheumatoid outpatient clinic at Kafer El-Sheikh General Hospital, and orthopedic outpatient clinics at Central Hospital, and Desouk Central Hospital, Egypt.**

**Subjects: Convenient sampling technique was use to select 125 patients from rheumatoid outpatient clinic at Kafer El-Sheikh General Hospital, and orthopedic outpatient clinics at Central Hospital, and Desouk Central Hospital.**

**Tools: Data collection lasted 10 weeks by using Four structured interview questionnaires to assess socio demographic and economic characteristics, knowledge, health status, and quality of life of rheumatoid arthritis patients.**

**Results: The study showed that rheumatoid arthritis patients were less impaired in physical functioning, and emotional well-being, whereas they were more impaired in role limitations due to physical health, role limitations due to emotional problems, pain, and general health. Accordingly they were more impaired in total quality of life. Finally most of them had good total score levels of knowledge about the rheumatoid arthritis.**

**Recommendations: Evaluation the impact of rheumatoid arthritis on patients' quality of life by using different tools as short form 36 and health assessment questionnaire in outpatient clinics. And education program should be activated for nursing staff to equip them with knowledge and practice about rheumatoid arthritis, to rehaplitate rheumatoid arthritis patients.**

***Keywords:*** **assess, quality of life, rheumatoid arthritis.**

## 1. INTRODUCTION

Rheumatoid arthritis (RA) considers an inflammatory disease. It affects synovial joints. The small joints of the hands and the feet were affected and they affected in both sides equally and symmetrically, although any synovial joint can be affected. RA affect all body so it is a systemic disease, the heart, lungs and eyes may be affected also[1]. The etiology of RA is unknown [2].

The development of the disease include several mechanisms which are not understanding good. That different environmental factors, such as cigarette smoking, occupational and atmospheric agents acts as trigger stimuli for the developing of RA in genetically predisposed individuals, leading to hyperplasia of synovial and destruction of bone[3].

Over all the world 0.5–1 percent of the population affected by rheumatoid arthritis. Rheumatoid arthritis affects women Twice than men onset of the disease affect at any age[4]. The prevalence among the Egyptian population is 0.3 %[5]. Pain, fatigue, physical disability and deterioration of emotional state can associated with RA. Irreversible structural and functional damage can be occurred if RA not treated early[6].

The early recognition of symptoms and diagnosis is very important. Any person has persistent synovitis with an unknown cause should visit a rheumatologist[7]. Disease-modifying antirheumatic drugs (DMARDs) considered the first line of treatment for RA due to their affect in reducing disease activity and joint damages. With also biologic agents which are better treatment strategies[2].

Long term follow up needed for rheumatoid arthritis. The low self-esteem associated with the diagnosis of RA forces the patients to with draw from their family and social contacts. Fear, depression and negative perspective toward life considered the results[8].

The complications of RA are not limited to apparent restrictions in mobility and activities of daily living, but obscure systemic effects of such diseases can also lead to organ failure, death or serious health problems[9] .

The quality of life (QOL)defined as perception of people about life, values, goals, standards, and interests. Also an important outcome variable in patients with chronic diseases is now recognized as(QOL). 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 [10].

For the patients with chronic diseases quality of life assessment is very important[11]. The society has a lot of economic burden from the disease. Direct costs to governments are substantial while indirect costs owing to morbidity and mortality can be limiting for effective progress of a developing nation[2]. Physical and mental health were measured by Short form 36 **(**SF-36) on eight subscales**.** The Health Assessment Questionnaire (HAQ) were used to assess Limitations in activities of daily life. (HAQ) consist of eight categories[6]. RA impact quality of life on both physical and mental function[12].

Role of community health nurse has been shown to be effective in managing patients with rheumatoid arthritis, patient's outcomes sensitive to nursing interventions[13].In the management of rheumatoid arthritis the community health nurse has many roles, starting from giving specialist advice about how to manage the condition ending to caring with patients who are having replacement of joint because of the increased levels of pain and damage it can cause[14]**.**

**The aim of the study is to:**

Assess the quality of life of rheumatoid arthritis patients.

**Research questions**

1. What is the patients' knowledge regarding rheumatoid arthritis?
2. How is the rheumatoid arthritis affecting the patients' quality of life?

## 2. SUBJECTS & METHOD

**Design:**

A cross sectional design was used to conduct this study.

**Setting:**

This study was conducted in Kafer El Sheikh Governorate at the following hospitals that affiliated to Minastery of Health and Population rheumatoid outpatient clinicat Kafer El-Sheikh General Hospital, and orthopedic outpatient clinics at Central Hospital, and Desouk Central Hospital.

**Sampling:**

Kafer El Sheikh Governorate includes 10 hospitals. Three hospitals were included in this study where the high attendance rate of patients was found. Average attendance rate of patients was as the following: 70 per month at kafer El Sheikh General Hospital, 20 per month at Qualin Central Hospital and 15 per month at Desouk Central Hospital. The sample size required for this study was 110 patients. The sample size was increased to 125 patients to compensate for drop outs or any failures with incomplete data. Convenient sampling technique was use to select 125 patients from rheumatoid outpatient clinic at Kafer El-Sheikh General Hospital, and orthopedic outpatient clinics at Central Hospital, and Desouk Central Hospital.

**Tools and techniques of data collection:**

**Tool I: structured interview to assess socio demographic and economic characteristics**

A structured interview was used to assess socio demographic and economic characteristics of patients such as; age, gender, marital status, level of education. Occupation, residence, number of family members, economic state, and health care facilities.

**Tool II: Structured interview to assess patients' knowledge regarding rheumatoid arthritis (RA)**

This tool was used to assess patients' knowledge toward rheumatoid arthritis (RA) which includes: Definition of RA (It includes 6 items= 6 marks), Causes of RA (It includes 5 items= 5 marks) ,Risk factors of RA (It includes 4 items= 4 marks) .Sign and symptom of RA (It includes 7 items= 7marks)

Body organ affected by RA (It includes 1 item = 1 mark), Other disease similar with symptoms of RA (It includes 2 items=2 marks), Diagnosis of RA (It includes 5 items=5 marks), Goal of treatment of RA (it includes 3 items= 3 marks), Treatment of RA (It includes 6 items= 6 marks), Complications of RA (It includes 4 items=4marks), Ways for limiting of complications of RA (It includes 6 items= 6 marks) , Prevention of RA (it includes 3 items= 3 marks) and Effect of RA on quality of life (it includes 6 items=6 marks

**Tool III: Structured interview to assess patients' health**

This tool was adopted from **Kimber, (2007)** [15]**.** It was used to assess health status and cover the following 4 items: History and diagnosis of RA (4 items)**,** Effect of RA on the ability to carry out daily living activities (health assessment) (8 items)**,** General health (7 items) and Daily living changes (3 items)

**Tool IV: Structured interview to assess patients' quality of life by using (Short Form 36)**

This tool was adopted from **McHorney et al., (1994)** [16] It was used to assess health, function, social, psychological status of the patients and cover the following 8 items: Physical functioning (10 items) **,** Role limitations due to physical health problems (4 items)**,** Role limitations due to personal or emotional problems (3 items)**,** Energy/fatigue (4 items)**,** Emotional well-being (5 items)**,** Social functioning (2 items)**,** Pain (2 items)and General health (5 items)

**Preparation stage:**

**1-Administrative process**

An official letter was issued from the Faculty of Nursing, Mansoura University to the Director of Health Affairs in kafer El-Sheikh Governorate to permit the researcher to carry out the study.

**II Literature review**

Review of national and international literatures on the various aspect of quality of life of rheumatoid arthritis patients using scientific published articles, internet search, and textbooks. This review was a guide for developing the study tools.

**III -Development of study tools**

Tools of data collection; tool number I, and II were developed by the researcher while tool number III, and IV were adopted from **Kimber, (2006-2007)** [15]**,** and **McHorney (et al., 1994)** [16] respectively.

Tools were tested for their validity by five experts in the field of "community health nursing and one expert in the field of statistics" their recommended modifications were made.

**IV-A pilot study**

A pilot study was conducted on 10% of the sample (15 patients) from rheumatoid and orthopedic outpatient clinics that excluded from the studied sample to evaluate the clarity, applicability, and reliability of the research tools and estimate the approximate time required for data collection. Accordingly, the necessary modifications were done, some questions were added, and others were clarified or omitted. Reliability of the tools was tested by using Cronbach's alpha test, and it was as the following: Patients' knowledge = 0.98, Health assessment = 0.79 and Patients' quality of life by using (Short Form 36) = 0.30

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**2-Operational stage**

**Data collection**

-The duration of data collection was approximately 10 weeks from February to April 2017.

-The researcher visited rheumatoid and orthopedic outpatient clinics 6 days per week from Saturday to Thursday from 9 am to 12.30 afternoons.

-A structured interview was used to assess patients' socio-demographic and economic characteristics, knowledge, health assessment and quality of life by using tools I, II, III, and IV. Each patient was interviewed for about 25-30 minutes.

**Ethical consideration**

-An approval was obtained from Research Ethics Committee Faculty of Nursing, Mansoura University.

-The patients' verbal approval was obtained.

-The researcher introduces herself, and a simple explanation about the aim of the study was given to them. They were assured that their participation in the study was voluntary, and that collected data would be treated confidentially, and would be only used for the purpose of the study.

-Participants were informed that they had the right to withdraw at any time from the study without giving any reason.

**Statistical design:**

-Data were analyzed with SPSS version 22 (Stand for Statistical Product and Service Solutions).

-The normality of data was first tested with one-sample Kolmogorov-Smirnov test.

- Qualitative data were described using number and percent.

-Continuous variables were presented as mean (SD) (standard deviation) for parametric data and Median with minimum, and maximum for non-parametric data.

-Spearman correlation to correlate between continuous and non- parametric data

## 3. RESULTS

**Table (1) Socio-demographic characteristics of the studied patients (n=125)**

| Items | NO | % |
|---|---|---|
| **Age in years** | | |
| 30:<40 | 13 | 10.4 |
| 40:<50 | 82 | 65.6 |
| 50:<60 | 30 | 24.0 |
| **Mean (SD) = 44.79 (5.04)** | | |
| **Gender** | | |
| Female | 98 | 78.4 |
| Male | 27 | 21.6 |
| **Marital status** | | |
| Married | 104 | 83.2 |
| Divorced and widow | 11 | 8.8 |
| Single | 10 | 8.0 |
| **Educational Level** | | |
| Illiterate | 59 | 47.2 |
| Read and write | 10 | 8.0 |
| Primary and preparatory education | 13 | 10.4 |

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| | | |
|---|---|---|
| Secondary education | 14 | 11.2 |
| University and master | 29 | 23.2 |
| **Occupation** | | |
| Not working | 76 | 60.8 |
| Employee | 30 | 24.0 |
| Hand craft., worker and farmer | 16 | 12,8 |
| Dealer | 3 | 2.4 |
| **Residence** | | |
| Rural | 112 | 89.6 |
| Urban | 13 | 10.4 |
| **Number of family members** | | |
| Less than 5 | 90 | 72.0 |
| 5 or more | 35 | 28.0 |

Table (1) illustrates that 65.6% of studied patients aged from 40:<50 with mean age of 44.79 years (5.04). In relation to gender 78.4% of studied patients were females. Concerned with marital status 83.2% of studied patients were married. As for educational level 7.2%of studied patients were illiterate. In relation to occupation 60.8% of studied patients were not working. Concerned with residence 89.6% of studied patients were resident at rural area. Finally as for number of the family member 72.0% of studied patients were had less than 5 members

**Table (2) Studied patients' knowledge about rheumatoid arthritis (n=125)**

| Items | Poor | | Fair | | Good | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Definition | 96 | 76.8 | 0 | 0.0 | 29 | 23.2 |
| Causes | 37 | 29.6 | 2 | 1.6 | 86 | 68.8 |
| Risk Factors | 1 | 0.8 | 63 | 50.4 | 61 | 48.8 |
| Sign and symptoms | 13 | 10.4 | 0 | 0.0 | 112 | 89.6 |
| Body organ affected by RA | 1 | 0.8 | 0 | 0.0 | 124 | 99.2 |
| Other disease similar with symptoms of RA | 48 | 38.4 | 0 | 0.0 | 77 | 61.6 |
| Diagnosis | 45 | 36.0 | 0 | 0.0 | 80 | 64.0 |
| Goal of treatment | 16 | 12.8 | 0 | 0.0 | 109 | 87.2 |
| Treatment | 17 | 13.6 | 0 | 0.0 | 108 | 86.4 |
| Complication | 6 | 4.8 | 0 | 0.0 | 119 | 95.2 |
| Ways for limiting of complications | 6 | 4.8 | 0 | 0.0 | 119 | 95.2 |
| Prevention of RA | 3 | 2.4 | 1 | 0.8 | 121 | 96.8 |
| Effect of RA on quality of life | 0 | 0.0 | 0 | 0.0 | 125 | 100 |
| **Total score levels** | **0** | **0.0** | **7** | **5.6** | **118** | **94.4** |
| **Median- Range Min-Max** | **67.0-20.062.0 - 82.0** | | | | | |

Table (2) shows that 76.8% of studied patients had poor knowledge about meaning of rheumatoid arthritis while 68.8% of them had good knowledge about causes of rheumatoid arthritis. As for studied patients' knowledge about risk factor of rheumatoid arthritis 50.4% had fair knowledge. Concerning with studied patients' knowledge about sign and symptom, body organ affected by, other disease similar with and, diagnosis, of rheumatoid arthritis 89.6%, 99.2 %, 61.6 %, and 64.0% had good knowledge about these items respectively.

As well table illustrates that 87.2 %, 86.4%, 95.2%, 95.2%, 96.8%, and 100% of the studied patients respectively had good knowledge about goal of treatment and treatment, complication, ways for limiting of complications, prevention of rheumatoid arthritis and effect of rheumatoid arthritis on quality of life. The studied patients revealed 94.4%. as good total score level of knowledge.

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**Table (3) Effects of rheumatoid arthritis on studied patients' abilities to carry out daily living activities of current week (health assessment) (n=125)**

| Items | Always | | Usually | | Sometimes | | Unable to do | |
|---|---|---|---|---|---|---|---|---|
| | NO | % | NO | % | NO | % | NO | % |
| Dressing and Grooming | | | | | | | | |
| Dressing self | 0 | 0.0 | 82 | 65.6 | 36 | 28.8 | 7 | 5.6 |
| Shampoo hair | 0 | 0.0 | 71 | 56.8 | 36 | 28.8 | 18 | 14.4 |
| Total level of dressing and grooming | 0 | 0 | 76 | 60.8 | 36 | 28.8 | 13 | 10.4 |
| Arising | | | | | | | | |
| Stand up from a straight chair | 4 | 3.2 | 82 | 65.6 | 39 | 31.2 | 0 | 0.0 |
| Get in and out of bed | 4 | 3.2 | 114 | 91.2 | 7 | 5.6 | 0 | 0.0 |
| Total level of arising | 4 | 3.2 | 98 | 78.4 | 23 | 18.4 | 0 | 0.0 |
| Eating | | | | | | | | |
| Cut meat | 4 | 3.2 | 85 | 68.0 | 36 | 28.8 | 0 | 0.0 |
| Lift a full glass to your mouth | 4 | 3.2 | 111 | 88.8 | 7 | 5.6 | 3 | 2.4 |
| Open a new milk carton | 4 | 3.2 | 82 | 65.6 | 36 | 28.8 | 3 | 2.4 |
| Total level of eating | 4 | 3.2 | 93 | 74.4 | 26 | 20.8 | 2 | 1.6 |
| Walking | | | | | | | | |
| Walk outdoors on flat ground | 4 | 3.2 | 111 | 88.8 | 7 | 5.6 | 3 | 2.4 |
| Climb 5 steps | 4 | 3.2 | 49 | 39.2 | 29 | 23.2 | 43 | 34.4 |
| Go down five steps | 4 | 3.2 | 78 | 62.4 | 29 | 23.2 | 14 | 11.2 |
| Walk on uneven ground | 4 | 3.2 | 78 | 62.4 | 22 | 17.6 | 21 | 16.8 |
| Total score of walking | 4 | 3.2 | 79 | 63.2 | 22 | 17.6 | 20 | 16.0 |
| Hygiene | | | | | | | | |
| Wash and dry your body | 0 | 0.0 | 112 | 89.6 | 10 | 8.0 | 3 | 2.4 |
| Take a tub bath | 0 | 0.0 | 72 | 57.6 | 39 | 31.2 | 14 | 11.2 |
| Get on and off the toilet | 0 | 0.0 | 86 | 68.8 | 10 | 8.0 | 29 | 23.2 |
| Total level of hygiene | 0 | 0 | 90 | 72.0 | 20 | 16 | 15 | 12.0 |
| Reach | | | | | | | | |
| Reach above your head and get down a 5 lb bag of sugar items | 0 | 0.0 | 50 | 40.0 | 24 | 19.2 | 51 | 40.8 |
| Bend down to pick up clothing from the floor | 0 | 0.0 | 75 | 60.0 | 10 | 8.0 | 40 | 32.0 |
| Total level of reach | 0 | 0 | 63 | 50.4 | 17 | 13.6 | 45 | 36.0 |
| Grip | | | | | | | | |
| Open car doors | 0 | 0.0 | 115 | 92.0 | 10 | 8.0 | 0 | 0.0 |
| Open previously opened jars | 0 | 0.0 | 112 | 89.6 | 13 | 10.4 | 0 | 0.0 |
| Turn faucets on and off | 0 | 0.0 | 112 | 89.6 | 10 | 8.0 | 3 | 2.4 |
| Total level of grip | 0 | 0 | 113 | 90.4 | 11 | 8.8 | 1 | 0.8 |
| Activities | | | | | | | | |
| Run errands and shop | 0 | 0.0 | 83 | 66.4 | 10 | 8.0 | 32 | 25.6 |
| Get in and out of a car | 0 | 0.0 | 12 | 9.6 | 0 | 0.0 | 113 | 90.4 |
| Do chores such as vacuuming and yard | 0 | 0.0 | 83 | 66.4 | 10 | 8.0 | 32 | 25.6 |
| Prayer | 0 | 0.0 | 122 | 97.6 | 3 | 2.4 | 0 | 0.0 |
| Total level of activities | 0 | 0 | 75 | 60.0 | 6 | 4.8 | 44 | 35.2 |
| **Total score Median- Range Min-Max** | **70.0-74.0 48-122** | | | | | | | |

Table (3) illustrates that 60.8% of studied patients were usually able to dress and groom with some difficulties. In relation to arising, 78.4% of studied patients were usually arising with some difficulties. Concerned with eating 74.4% of studied patients were usually eat with some difficulties. As for walking 63.2% of studied patients were usually walked with some

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difficulties. In relation to hygiene 72.0% of studied patients were usually able to hygiene with some difficulties. Concerned with reach things 50.4% of studied patients were usually reached things with some difficulties. As for griped 90.4% of studied patients were usually griped with some difficulties. Finally 60.0 %of studied patients were usually practice of activities (e.g. prayer) with some difficulties.

**Table (4) Studied patients' quality of life (n=125)**

| Items | Less impaired in quality of life (Less disability) | | Partial impaired in quality of (Partial disability) | | More impaired in quality of (More disability) | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Physical functioning | 125 | 100 | 0 | 0.0 | 0 | 0.0 |
| Role limitations due to physical health | 0 | 0.0 | 0 | 0.0 | 125 | 100 |
| Role limitations due to emotional problems | 0 | 0.0 | 0 | 0.0 | 125 | 100 |
| Energy/ Fatigue | 2 | 1.6 | 29 | 23.2 | 94 | 75.2 |
| Emotional well being | 125 | 100 | 0 | 0.0 | 0 | 0.0 |
| Social functioning | 0 | 0.0 | 29 | 23.2 | 96 | 76.8 |
| Pain | 0 | 0.0 | 0 | 0.0 | 125 | 100 |
| General health | 7 | 5.6 | 0 | 0.0 | 118 | 94.4 |
| Total | 0 | 0.0 | 0 | 0.0 | 125 | 100 |

Table (4) shows that all of studied patients had less disability, due to physical functioning and emotional wellbeing, as well all of studied patients had more disability in role limitations due physical health, and emotional problems, and pain. While, 75.2%. 76.8%, and 94.4% of studied patients were more disability regarding to energy (fatigue), social function, and general health respectively. Finally 100% of studied patients were more impaired in quality of life.

**Table (5) Correlation between studied patients' knowledge, health assessment and their quality of life (n=125)**

| Items | Sig | Items | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1-TKS | 2-HAQ | 3-PF | 4-RLP | 5-RLM | 6- E/F | 7- EWB | 8- SF | 9-P |
| 1-Total knowledge score (TKS) | r | | | | | | | | | |
| | P | | | | | | | | | |
| 2-Health assessment (HAQ) | r | .172 | | | | | | | | |
| | P | .056 | | | | | | | | |
| 3-Physical functioning (PF) | r | .064 | -.050 | | | | | | | |
| | P | .476 | .581 | | | | | | | |
| 4-Role limitations due to physical (RLP) | r | 0.0 | 0.0 | 0.0 | | | | | | |
| | P | 0.0 | 0.0 | 0.0 | | | | | | |
| 5-Role limitations due to emotional (RLM) | r | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| | P | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| 6-Energy/ Fatigue (E/F) | r | -.029 | -.762 | -.198 | 0.0 | 0.0 | | | | |
| | P | .749 | <.001 | .027 | 0.0 | 0.0 | | | | |
| 7-Emotional wellbeing (EWB) | r | -.063 | .585 | .225 | 0.0 | 0.0 | -.889 | | | |
| | P | .485 | <.001 | .012 | 0.0 | 0.0 | <.001 | | | |
| 8-Social functioning (SF) | r | -.129 | -.396 | -.477 | 0.0 | 0.0 | .499 | -.483 | | |
| | P | .153 | <.001 | <.001 | 0.0 | 0.0 | <.001 | <.001 | | |
| 9-Pain (P) | r | -.134 | -.109 | -.399 | 0.0 | 0.0 | -.202 | .318 | .199 | |
| | P | .137 | .228 | <.001 | 0.0 | 0.0 | .024 | <.001 | .026 | |
| General health (GH) | r | .228 | .824 | .092 | 0.0 | 0.0 | -.661 | .568 | -.314 | -.177 |
| | P | .010 | <.001 | .310 | 0.0 | 0.0 | <.001 | <.001 | <.001 | .048 |

P significant at level of 5%

P= Spearman test

Table (5) illustrates that there was no statistically significant correlation between total knowledge score with health assessment score, physical functioning, energy/ fatigue, emotional wellbeing, social functioning and pain score p=.056, .476 ,.749 ,.485, .153. and 137 respectively. As well there was no statistically significant correlation between health assessment score with physical functioning score and pain score p =.581, and 228 respectively, also there was no statistically significant correlation between physical functioning score with general health score p=.310.

On the other hand there was positive significant correlation between knowledge score and general health score p=.010, emotional wellbeing score with health assessment score p<.001, social functioning score with energy/ fatigue score p <.001, and pain score with social functioning score P<.001.

While there was negative significant correlation between health assessment score with energy/fatigue score and social functioning score p<.001, and <.001 respectively, physical functioning with energy/fatigue score, social functioning score and pain score p=.027<.001 and, <.001. Ass well, there was negative significant correlation between energy/ fatigue score with emotional wellbeing score, and pain score p<.001, .024, and <.001 respectively.

## 4. DISCUSSION

A quality of life assessment is of great importance for patients with RA because problems caused by disease impact specific areas of their lives[11]. In relation to sociodemographic characteristics of the studied patients **table (1)**shows that. The present study presented that the age of the studied patients range from 30 to less than 60 years with a mean age of 44.79 (5.04) less than two thirds of them lie in age category from 40 to less than 50 years. These results were slightly in line with study conducted in Turkey by [17], who reported that a mean age of studied patients was 46.5 (9.2).The most predisposing factor of rheumatoid arthritis is old age rheumatoid arthritis observed around age 50 years [5].

Predominance of rheumatoid arthritis is two to three times higher in females[18]. The present study showed that in **table (1)** more than three fourths of the studied patients were females. These results were slightly in line with study conducted in Turkey by [19], who reported that the majority of them were females.

The current study showed that majority of the studied patients were married in **table (1)**. These results were in line with study conducted in Egypt by [20], who reported that majority of the studied patients were married. On the other side this study was in contrast with the finding of study carried in San Antonio by [21], who reported that there was more than half of studied patients weren't married.

The present study presented that less than half of the studied patients were illiterate in **table (1)**. These results were in line with study conducted in Saudi Arabia by [22], who reported that more than one third of the studied patients were illiterate. On the other side this study was in contrast with the finding of study carried in Kosovo by [23], who reported that there was less than two thirds of studied patients had secondary education.

The current study presented that less than two thirds of the studied patients were not working in **table (1)**. These results were slightly in line with study conducted in Egypt by [24], who reported that two thirds of the studied patients not working. This may be rheumatoid arthritis attributed to affect patient's ability to perform their works.On the other side this study was in contrast with the finding of study carried in Brazil **by** [18], who reported that there was less than half of studied patients were working.

In relation to studied patients' knowledge **table (2)**shows that The current study represented that the majority of the studied patients had good knowledge about signs and symptoms and treatment of RA. This result was in agreement with the finding of a study carried out in Pakistan by [8], who reported that the majority of the studied patients had good knowledge about signs and symptoms and treatment of RA. Probably their knowledge about signs, symptoms and treatment was due to health education at the outpatient clinic of rheumatology.

In relation to total score level of studied patients' knowledge **table (2)**shows that the current study represented that the most of the studied patients had good total score level of knowledge. This result was contracted with the finding of a study carried out in Netherlands by [25],who reported that the knowledge of the studied patients was moderate

Rheumatoid arthritis reduce physical function of patients [26]. Concerned with the effects of rheumatoid arthritis on studied patients' abilities to carry out daily living activities of current week **Table (3)**shows that the present study presented that more than three fourths, less than two thirds and less than two thirds of the studied patients were usually able carried out daily living activities of current week in relation to arising, eating and walking respectively (HAQ).These results were in

agreement with study conducted in Brazil by [27], who reported that the studied patients were usually perform eight domains of HAQ with low scores. This may be rheumatoid arthritis affecting the studied patients' abilities to carry out arising ,eating and walking always.

On the other side this study was in contrast with the finding of study carried in Sweden by [26], who reported that there was high scores of HAQ in **table (3)**. This may be troubles occur patients after occurrence of disease and affect daily life.

The patients with rheumatoid arthritis had reduction of quality of life [28]. As for studied patients' quality of life, the finding of this study revealed that as in **table (4)** all of the studied patients had less disability in physical function and emotional wellbeing these results were in agreement with study conducted in London by [12] who reported that the studied patients were less disabled in physical function and emotional wellbeing impairment in physical functioning has its impact on patients' emotional

The present study presented that all of the studied patients had more disability in role limitations due to physical health and emotional problem in **table (4)**. These results were in agreement with a study conducted in London by [12], who reported that, the studied patients were more disabled in role limitations due to physical health These results were in line with study conducted in USA by [29], who reported that the studied patients had more disability in role limitation due to physical health and emotional problem.

The present study illustrated that three fourths of the studied patients had more disabled in energy / fatigue in **table (4)**. These results were in agreement with study conducted in London by [12], who reported that the studied patients were more disability in energy / fatigue. This may due to patients had fatigue due to impaired in physical function.

On the other side this study was in contrast with the finding of study carried in Taiwan by [30], who reported that there was improvement in quality of life showed in improvement in domains of the SF-36 in **table (4)**. Related to correlation between physical function with social function, energy/ fatigue and pain (items of short form 36) indicates that there was significant negative correlation between physical function with social function, energy/ fatigue and pain, the present study was in agreement with study conducted in Turkey by [31], who reported that there was negative correlation between physical function with social function, (energy /fatigue) and pain. This may be the patients with impaired in physical function complained with more pain and fatigue.

The present study indicated correlation between physical function and mental function of SF36as in **table (5)**. These results were in agreement with study conducted in Australia by [32], who reported that correlation between physical function and mental function.

## 5. CONCLUSION AND RECOMMENDATIONS

Based on findings of the present study. It can be concluded that rheumatoid arthritis patients were less impaired in physical functioning, and emotional wellbeing, whereas they were more impaired in role limitations due to physical health, role limitations due to emotional problems, pain, and general health. Accordingly they were more impaired in total quality of life. Finally most of them had good total score levels of knowledge about the rheumatoid arthritis.

- **Accordingly, the study recommended that:**
- Evaluation the impact of rheumatoid arthritis on patients' quality of life by using different tools as short form 36 and health assessment questionnaire in outpatient clinics.
- Education program should be activated for nursing staff to equip them with knowledge and practice about rheumatoid arthritis, to rehaplitate rheumatoid arthritis patients.

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