An-Najah National University

Faculty of Graduate Studies

Health-related quality of life and treatment satisfaction in patients with rheumatoid arthritis: a cross-sectional study from Palestine

By

Heba Abu Hamdeh

Supervisor

Dr. Sa'ed Zyoud

This Thesis is Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Clinical Pharmacy, Faculty of Graduate Studies, An-Najah National University, Nablus-Palestine

2020

Health-related quality of life and treatment satisfaction in patients with rheumatoid arthritis: a cross-sectional study from Palestine

By

Heba abu Hamdeh

This Thesis was Defended Successfully on 2/7/2020 and approved by:

Defense Committee Members	**Signature**
1. Dr. Sa'ed Zyoud / Supervisor	.....
2. Dr. Maher R. Khdour / External Examiner	.....
3. Dr. Rowa' J. Al-Ramahi / Internal Examiner	.....

Dedication

In the Name of Allah, the Most Merciful, the Most Compassionate all praise is to Allah, the Lord of the worlds; and prayers and peace be upon Mohamed His servant and messenger.

First and foremost, I must acknowledge my limitless thanks to Allah, the Ever-Magnificent; the Ever-Thankful, for His help and bless. I am totally sure that this work would have never become truth, without His guidance

It is my genuine gratefulness and warmest regard that I dedicate this work to those patients who struggle in almost every activity in their daily life, and still keep going on. You gave me the chance to learn how precious simple things that we have and that we take for granted.

I also would like to express my wholehearted thanks to my family for their generous support and sacrifices they provided me throughout my entire life.

Acknowledgement

I wish to express my deepest gratitude to my advisor Dr. Sa'ed Zyoud for his great help and guidance throughout my work on this thesis. I also would like to thank all the faculty members and my colleagues at the clinical pharmacy program at An Najah National University for their support and encouragement. Special thanks to Dr. Adnan Badran for his great help throughout the research. I'm indebted to dear Jehan Hammad who was a my main support in data gathering, not to forget Fadia al Akhras and Enas Odeh for their help in field work. I won't forget the wonderful nurses at al Watani hospital.

Finally, I wish to thank all the people whose assistance was a milestone in the completion of this project

الإقرار

أنا الموقعة أدناه، مقدمة الرسالة التي تحمل العنوان:

Health related quality of life and treatment satisfaction in patients with rheumatoid arthritis: a cross-sectional study from Palestine.

أقر بأن ما اشتملت عليه هذه الرسالة إنما نتاج جهدي الخاص، باستثناء ما تمت الإشارة اليه حيثما ورد، و أن هذه الرسالة كاملة، أو أي جزء منها لم يقدم لنيل أي درجة أو لقب علمي أو بحثي لدى أي مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's Name: **اسم الطالبة:**

Signature: **التوقيع:**

Date: **التاريخ:**

List of contents

List of Tables

List of Abbreviations

RA	Rheumatoid arthritis
NCD	Non communicable disease
LMIC	Low middle income countries
CVD	Cardiovascular diseases
cDMARDs	Conventional disease modifying anti-rheumatic drugs
bDMARDs	Biological disease modifying anti-rheumatic drugs
HRQoL	Health related quality of life
BMI	Body mass index
SF-36	Short form – 36 questionnaire
PCS	Physical composite scale
MCS	Mental composite scale
PF	Physical function
RP	Role physical
RE	Role emotional
VT	Vitality
MH	Mental health
SF	Social function
BP	Bodily pain
GH	Global health
SES	Socioeconomic status
ACR	American college of rheumatology
EULAR	European league against rheumatism
JD	Jordanian dinar
SD	Standard deviation
TSQM 1.4	Treatment satisfaction questionnaire for medication version 1.4

Health-related quality of life and treatment satisfaction in patients with rheumatoid arthritis: a cross-sectional study from Palestine

By
Heba Abu Hamdeh
Supervisor
Dr. Sa'ed Zyoud

Abstract

Background

Rheumatoid arthritis RA is one of the non-communicable diseases that significantly cause morbidity, but still they are neglected as they are not among the four main recognized non-communicable diseases NCD that contribute to mortality. It has an increasing burden in low and middle income countries. It was shown that rheumatoid arthritis affects significantly patients health related quality of life HRQoL and their satisfaction of medication.

Objectives

We want to assess the association between treatment satisfaction and HRQoL, to determine the influence of socio-demographic and clinical factors on the quality of life, and to determine the influence of socio-demographic and clinical factors on the treatment satisfaction.

Methods

This cross sectional was performed during July till October 2018; the sample was from four hospitals in the northern part of Palestine. Short form 36 questionnaire SF-36 was used to assess the health related quality of life

HRQoL and treatment satisfaction questionnaire for medication version 1.4 TSQM to evaluate treatment satisfaction among the group of the study. The Kruskal-Wallis test followed or Mann-Whitney test was used to test for differences in the means between categories. In addition, Spearman's correlation coefficient was used to assess the correlation between the reported SF-36 scores and TSQM scores.

Results

A total of 283 patients were included. Gender was negatively associated with role physical RP and mental health MH, (p-value 0.046 and 0.049) respectively, age was negatively associated with physical function PF and RP, (p-value <0.001 and 0.043) respectively, education level was positively associated with PF, RP, social function SF and bodily pain BP (p-value 0.009, 0.020, 0.016, and <0.001) respectively. Employment was also positively associated with PF, RP, and global health GH, the (p-value <0.001, 0.013, and 0.015) respectively. Place of residence was significant with RP (p-value 0.046), those who lived in urban areas were positively affected. Household income was positively associated with FP, RP, vitality VT, MH, BP, and GH, (p-value <0.001, 0.003, 0.038, 0.014, 0.012, 0.002) respectively. Disease activity was negatively associated with all subscales, FP, RP, role emotional RE, VT, BP and GH, (p-value <0.001), while for MH, SF (p-value 0.001 and 0.002) respectively. Disease duration was also found to be in negative relation with RP and GH (p-value 0.007 and 0.026) respectively. Total number of co morbid diseases was also negatively

associated with all subscales except the MH. The PF, RP, and BP (p-value <0.001) and RE, VT, SF and GH (p-value 0.015, 0.007, 0.004 and 0.003) respectively. Total number of medications taken by the patient was also negatively associated with PF, RP, BP and GH, (p-value <0.001, 0.001, 0.010 and 0.021). While PCS was negatively associated with age (p-value 0.007), but positively affected by educational level (p-value 0.003), employment (p-value 0.001), and household income (p-value <0.001), but it was negatively associated with disease activity (p-value <0.001), duration of disease (p-value 0.018) and total number of medications (p-value <0.001). While for MCS, it was negatively associated with o disease activity and with total number of comorbid diseases (p-value <0.001) for both.

Treatment satisfaction (side effects) was found to be positively affected by household income (p-value 0.016), and all satisfaction subscales were negatively associated with disease activity (p-value <0.001), and for side effects p-value <0.004). Also the number of co morbid diseases was negatively associated with the effectiveness of medication (p-value 0.006).

There was modest positive correlation between HRQoL and treatment satisfaction. The r with physical composite scale PCS was .347, .425, .272, .390 for effectiveness, side effects, convenience and overall satisfaction respectively (p-value <0.001). The r with mental composite scale MCS was .372, .458, .337, and .456 for effectiveness, side effects, convenience and overall satisfaction (p-value <0.001).

Conclusions

The physical HRQoL of RA patients is affected more than the mental one. Gender, age, , education, employment, place of residence, household income, disease duration and activity, number of comorbid diseases, and number of medications taken by the patient are all factors affecting HRQoL of RA patients. Satisfaction of medication is positively affected by HRQoL.

Chapter One
Introduction

1.1 Definition and Background

Rheumatoid arthritis RA is one of the progressive musculoskeletal conditions that affect the joints, connective tissues, muscle, tendons, and fibrous tissue. It is associated with pain and deformities which leads to physical disability and morbidity [1].

1.1.1 Rheumatoid arthritis worldwide

RA prevalence varies between 0.3% and 1%, it is more predominant among females more than males in the developed countries. RA rises mainly at the productive age between 20s and 40s, and in the developed countries at least 50% of those with RA will not be able to hold a full time job after 10 years of disease onset [1].

Nowadays, the burden of NCD has increased in low and middle income countries (LMIC), while it decreased in developed countries. These LMIC now has double of both communicable and non-communicable diseases (NCD) [2].

RA is one of the NCD that significantly causes morbidity, but still it is neglected as it is not among the four main recognized NCD that contribute to mortality. The burden of RA can be direct through economical expenditures (costs of medication, hospitalization, visits and care-givers and helpers). The indirect burden of RA can be seen in its negative effect

on productivity through absenteeism and early retirement; and intangible costs that are estimated through the impact of the disease upon the patient's quality of life [2].

In the developing countries, RA patients face more challenges than those in the developed countries, such as the lack of infrastructure e.g. electricity, hot water, inadequate public transportation that will force patients to walk longer distances. Patients also in the developing countries have lower educational level than those in developed countries which will negatively affect the patients psychology, and lower chances to modify employment to suit their disabilities, moreover the patient will have lower chances to have an active role in problem solving [3].

Moreover, the limited resources in these countries will make it more difficult to patients to get an access to biological treatment or joint replacement surgery. All of this will cause significant functional disability among those patients and they will probably lose their employment within 2 years only of symptom onset [3].

1.2 Problem statement

Treatment satisfaction and HRQoL concepts are commonly used in clinical and policy research to improve treatment outcomes related to pharmaceutical care [4, 5]. It has been found that higher patient treatment satisfaction was associated with improving HRQoL [6-8]. In addition, HRQoL refers to self-reported measures of physical and mental health that

are affected by a person's beliefs, perceptions, experiences, and expectations [9]. Although many studies were done to evaluate of the relationship between HRQoL and treatment satisfaction [4, 5, 7, 10-18], no study in the Arab world has been conducted to assess the association between treatment satisfaction and HRQoL among patients with RA.

1.3 Aim of the Study

The aims of the current study will be designed

- To assess the association between treatment satisfaction and HRQoL in a sample of RA from Palestine.

- To determine the influence of socio-demographic and clinical factors on the quality of life.

- To determine the influence of socio-demographic and clinical factors on the treatment satisfaction.

1.4 Significance of the study

1. Assessment of the association between treatment satisfaction and HRQoL may help healthcare providers to recognize the causes that affect quality of life and to identify the aspects of RA management that needs to be enhanced to improve treatment outcomes

2. Assessment of treatment satisfaction and HRQoL provides an opportunity to incorporate patient perspectives into clinical decision-

making, which should ultimately improve the quality and value of health care.

3. This is important, because it is thought that religion and culture may play a significant role in health-related issues. Healthcare workers should co-operate with patients to build strategies and plans that will improve patients' HRQoL, like minimizing depression as their disease progresses. Emphasis on the need to help healthcare workers to concentrate on improving knowledge, understanding, motivation, experience, self-trust for RA patients by designing interventions and empowerment programmers for this purpose.

Chapter Two
Literature Review

2. Literature Review

Rheumatoid arthritis is a well-defined disease that can be diagnosed by a universally accepted classification [19]. RA is a chronic, progressive inflammatory autoimmune disease [20-22]; it does not only affect symmetrical peripheral joints, but also has a wide range of systemic manifestations [21]. Both will eventually destroy joints and lead to disability, which will affect patient's quality of life as a consequence of pain, fatigue, and physical disability [21]. It also increases mortality through developing cardiovascular diseases CVD with accelerated atherosclerosis [23].

Prevalence among population ranges from 0.5%-2.0% [23]. The exact cause of RA is still unknown, but it is thought to a result of multiple factors [24]. Risk factors of RA include gender; prevalence among females is three folds than males[21, 23], older age (peak incidence at 55-64 for females and for men it is 65-74) are at higher risk [23], smoking [23, 24], infection, and genetic predisposition [24].

The clinical manifestations of RA includes morning stiffness, joint swelling and pain, fatigue and reduced mobility [25].

Disease is aggravated by several factors, infections, physical, psychological trauma, and cold weather [22].

Till nowadays there is no cure for RA, treatment focuses on relieving symptoms, reducing the adverse effect of the disease e.g. joint damage and deformity, which will in return prevent disabilities [24].

Treatment options for RA can be categorized into 3 groups: 1. complementary therapy that includes, analgesics, non-steroidal anti-inflammatory drugs, and corticosteroids, they are used only to relieve symptoms [24] 2. Conventional disease modifying antirheumatic drugs (cDMARDs) that is considered the cornerstone in treating (RA), it includes methotrexate (MTX), sulfasalazine, hydroxychloroquine, and leflunomindeare [21, 24], among which MTX is the most prescribed one [26] 3. Biological disease modifying antirheumatic drugs (bDAMARDs) which is expensive, and is used when patient does not respond to the previous group, or the patient suffered from adverse effects to cDMARDs, this group is divided based on mechanism of action. The first group is tumor necrosis factor inhibitors such as Adalimumab, certolizumab, pegol, etanercept, golimumab and infliximab. The second one has another mechanism of action and includes (abatacept, anakinra, rituximab, and Tocilizumab) [21, 24].

As mentioned before RA affects joints and other systems in the body, which will affect all aspects of life. RA cause physical disabilities that is caused by joint pain, swelling, stiffness and fatigue will lead to functional disabilities [27-29] , that will lead to limitations in activities of a daily life such as walking, dressing, climbing stairs, work roles, manipulating objects

[24], and in return will lead to psychological morbidities, so patients with (RA) will suffer from depression, anxiety, helplessness and emotional stress [27-30], also patients will suffer from social morbidities [27, 31].

All of this will have a substantial negative effect on patient's overall health-related quality of life HRQoL [23, 24, 28].

WHO defines Quality of Life as ''an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concern''[32], while the HRQoL indicates the portion of quality of life that is affected by the disease and/or its treatment[24] .

HRQoL is reduced by several factors, they include: increased levels of pain and disease activity, reduced physical function, increased body mass index (BMI), other factors that are also linked to HRQoL such as gender, disease severity and age. When these factors are targeted through some interventions, then we will be able to improve both HRQoL and physical health [29].

It is important to study these factors as: 1. Patient can sense the impact of HRQoL on their lives more than the biomarkers of the disease, so normalization of quality of life and relief of symptoms is patients' priority [29, 31]. 2. Health outcomes are not only determined by the clinical state of the patient. 3. Targeting these factors will promote HRQoL, and in return will reduce the resources used to treat RA [29].

In all studies it was found that RA caused a decrease in the level of all domains of the SF-36 in so both PCS and MCS are lower than other conditions [24, 27-29], but the influence was greater on the physical HRQoL than the mental one [24, 29]. Bodily Pain BP is an important determinant of QoL in the early course of the disease, there is a significant increase in BP compared to other population [27]. HRQoL is negatively affected by age and indirectly by the increasing functional disability in aging population [24].

On the other side, the general population's mental health will be negatively affected with increasing age, but with RA it was linked with improved mental health. The same results were found with chronic diseases like cancer, COPD, and diabetes. This can be explained through the effect of the chronic disease on all aspects of life especially vital aspects for the youth or the younger age such as employment, self-esteem, plans for the future and development and maintenance of relationships [29]. While Abu Al-Fadl et al. found that age regards QoL [27].

Being a female was protective factor against poor physical HRQoL, while other studies showed a negative relation between female and levels of pain and physical functioning [24, 29]. While other studies found that there is no ender difference in QoL [27].

Disease activity significantly affects both physical and mental HRQoL, as the activity of the disease increases, the HRQoL decreases [27, 28]. This shows the importance of early diagnosis of the disease and the regular

treatment and management of the disease [28]. Some studies showed Low / middle low socioeconomic status suffer more active disease and worse functional capacity which will in return negatively affect HRQoL

Disease duration was found to be positively linked with MCS, as the duration increases, the acceptance of the disease increases, and in return this will reduce depression, anxiety and improve the patient's well-being [29].

Low socioeconomic status (SES) is at increased risk of RA, moreover it is usually under-represented in studies, and it is only addressed through level of education or monthly income [29]. Low SES was found to be linked with reduced HRQoL [24, 29], Living in rural areas was found to be negatively and indirectly linked to HRQoL [24]. Having comorbidities was found to be indirectly negatively related to HRQoL [24].

Some studies found that highly educated patients have lower HRQoL in comparison to non-educated patients in PCS, MCS and Physical function [27].

Being employed was associated with higher levels of HRQoL [24, 33], as it gives social support; inter personal relations, income and health insurance that all have a positive impact on HRQoL [24]. Moreover paid work will make patient to perceive himself as a normal person and that he has a purpose in his life [33].

Patient satisfaction with treatment is a predictor of adherence with his medication over time [5, 34], not only that, it also affects using medications correctly, and in return it affects his quality of life [4, 35]. When the association between patient's satisfaction and quality of life is studied, it will help to identify the causes that affect quality of life [18].

Patient satisfaction is important issue as it affects the quality of long term comprehensive care, also it affects patient's adherence with their treatment [19].

Qualitative studies created a conceptual framework to study medication satisfaction that was refined to Treatment Satisfaction Questionnaire for Medication version 1.4 (TSQM 1.4) that is composed of 4 scales, they are: effectiveness (3 items), side effects (5 items), convenience (3 items) and global satisfaction (3 items). It is a valid tool to measure medication adherence across different types of medication and patient populations [36].

On the other side there are other factors that affect patient's satisfaction that can be related to the patient himself e.g. his norms, expectations, earlier experiences and current emotional state [19]. The unmet need of these patients will affect their satisfaction negatively [37], so it is important to spot their unmet needs in order to improve their quality of health care [37]. Another study showed the positive close relation between the perceived involvement in health care and satisfaction with care and high education level, good mental health and the health services provided by the

rheumatologist, so special attention should be paid to those with poor education, patients with poor mental health and low self-efficacy [19].

Some studies showed a high satisfaction percentage among RA patients who receives SC biological medications, despite the moderate or severe impact of the disease on their lives [31].

If we target the modifiable variables, then we can optimize treatment regimen in RA, also we need to focus on the less modifiable health domains in RA [24].

Chapter Three
Methods

3.1 Study Design and Setting

To study the research question we conducted a cross sectional study, and recruited patients that are diagnosed with RA according to American college of Rheumatology (ACR)/European League against rheumatism (EULAR) 2010 RA classification criteria [27] were included. The study was carried out at rheumatology clinics in Northern West-Bank, Palestine. The clinics included in the study were Alwatani Hospital – Nablus, Khalil Suleiman Hospital – Jenin, Thabet Thabet Hospital – Tulkarem, and Darwesh Nazzal Hospital – Qalqilia. Data was gathered from 30th july till the 10th Septmeber 2018

3.2 Sample size and sampling technique

According to the hospital records and to the unpublished data from An-Najah National University [38], approximately 1042 RA patients were referred to the rheumatology clinics in Northern West-Bank, Palestine in year 2012. Thus a convenience sample of 281 RA patients was taken. Number of visits to each hospital was calculated according to the percentage of visits to the specific hospital from the total number of visits to the 4 hospitals. The distribution of patients was as follows, Alwatani Hospital - Nablus received approximately 31.2% of the total visits, followed by Khalil Suleiman Hospital – Jenin (30.8%), Thabet Thatbet Hospital- Tulkaram (24%), and Darweesh Nazzal Hospital – Qalqilia

(14%). Thus the 281 RA patients were taken as the following: 88 RA patients from Alwatani Hospital – Nablus, 87 patients from Khalil Suleiman Hospital – Jenin, 67 patients from Thabet Thatbet Hospital-Tulkaram, and 39 patients from Darweesh Nazzal Hospital – Qalqilia. The required sample size for this study was calculated using an automated software program, (Raosoft sample size calculator: (http://www.raosoft.com/samplesize.html). In addition, in order to minimize erroneous results and increase the study reliability, the target sample size was increased 5% to 10%.

3.3 Inclusion and exclusion criteria

The study included those patients older than 18 years old, who were able to provide informed written consent. It excluded those with cognitive impairment or current severe diseases e.g. cancer and stroke. Patients who suffer from chronic inflammatory diseases (gout, reactive arthritis, and psoriatic arthritis), other autoimmune rheumatic diseases (e.g. systemic lupus erythematous, scleroderma, mixed connective tissue or polymyositis), and neuropsychiatric disorders (e.g. fibromyalgia) were excluded [27].

3.4 Data Collection and Ethical Consideration

This study was presented to institutional review board of An-Najah University. The approval letter was issued on the 9th May 2018, which can be found in the appendix 2. A questionnaire was distributed to the eligible

participants. They were informed about: 1. The aim and the importance of the study. 2. Their confidentiality will be a top priority, as they were identified as numbers marked at the top of the questionnaire. 3. They were told that they can withdraw from the study any time they want without any consequences.

3.5 Measurements

Demographic characteristics and Disease Characteristics age, disease duration, gender (1 = male, 2 = female), marital state (1 = married, 2 = single, 3 = divorced or widowed), employment status (1 = employed, 2 = unemployed), education (1 = below primary education, 2 = primary education, 3 = junior high school, 4 = senior high school 5 = college or above), household income (1 = low lower than 400 JD, 2 = moderate between 400 and 1000 JD , 3= higher than 1000 JD), residency (1 = rural area , 2 = urban area, 3= refugee camp), disease activity (1 = remission period, 2 = stable period, 3 = intensified period), treatment status (1 = newly diagnosed, 2 = regular treatment, 3 = non formal treatment), and comorbidities and medications were taken by a demographic data questionnaire developed for this study.

3.6 Instruments and data collection forms

Health-Related Quality of Life: In this cross sectional study, the Rand 36 item short form Health Survey (SF-36) was used to assess the HRQoL [24, 25, 33, 37, 39]; The SF-36 is a valid and reliable generic tool that is

capable of measuring the impact of the disease on the HRQoL, it can also compare healthy and unhealthy population [24, 25, 39], was used in our study.

The Arabic version of this tool is reliable one according to other studies that were conducted in the Arabic world, especially in Jordan[40] In the current study, Cronbach's alpha for all subscales ranged from 6.72 - 7.34.

The SF-36 assesses both the physical and psychological HRQoL domains. It consists of 8 parts, 4 of them will calculate the physical component summary (PCS), which is the combination of the Physical Function (PF), Role Physical (RP), Bodily Pain (BP) and Global Health (GH). The Mental component Summary (MCS) was calculated by the summation of the other 4 parts and they are: Vitality (V), Social Function (SF), Role Emotional (RE), and Mental Health (MH) [24, 27-29, 37]. The scores were summed and the result ranged from 0-100, where 0 indicates the worst health status, and 100 indicates the best health status. Scoring algorithm was applied to get both the PCS and MCS [27]. A Cronbach's alpha was calculated for the scores from the eight domains to calculate reliability.

Medications received were documented (not any, MTX only, MTX + antimalarial, MTX + SSZ, Antimalarials only, biological medications) will be taken [27].

Satisfaction of medication was measured by an Arabic version of Treatment Satisfaction Questionnaire for Medication (TSQM 1.4) that

contains 14 items that measured 4 domains which are effectiveness (questions 1-3), side effects (questions 4-8), convenience (questions 9-11) and overall satisfaction (questions 12-14) [4, 18, 41]. Its score ranges from 0 to 100, higher scores indicates higher satisfaction [4, 41]. An approval has been granted to An-Najah University to use this questionnaire by Quintiles Strategic Research Services [18].

3.7 Pilot study

A pilot study (6 participants) had been conducted to test the tool, ensured the availability of the required data, estimate the time and modify the data collection form as appropriate. The patients participating in the pilot study were not included in the final analysis.

3.8 Statistical analysis

Data was analyzed using the Statistical Package for Social Sciences program version 15 (SPSS). Data was expressed as means ± SD continuous variables and as frequencies (percentages) for categorical variables. Variables that are not normally distributed were expressed as medians (lower-upper quartiles). Variables were tested for normality using Kolmogorov-Smirnov test. Either the chi-square or the fisher exact test, as appropriate, was used to test significance between categorical variables. The Kruskal-Wallis test or Mann-Whitney test were used to test for differences in the mean rank and medians [interquartile range] between categories. In addition, Spearman's correlation coefficient was used to

assess the correlation between the reported SF-36 scores and TSQM scores. The significance level was set at p-value< 0.05.

Chapter Four
Results

4.1 Socio-demographic characteristics of the sample

Table 1 show the socio-demographic characteristics of the sample, which consisted of 285 patients with rheumatoid arthritis from 4 hospitals of the northern area of the West Bank. 89 patients from Al watani hospital in Nablus which is 31.2% of the sample, 87 patients from Khalil hospital in Tulkarm which is 24.6 % of the sample and 39 patients from Dareesh Nazzal hospital in Qalqilia which is 13.7% of the sample.

The majority of the sample was females (231, 81%), so the female: male ratio is 4.28:1. The mean (±SD) of patients' age was 51.95 ±13.73, with range from 18 to 86 years old. The majority of patients are from 50-59 years old which were 87(30.5%),while the least were those less than 30 years old, they were 21(7.4%) patients.

The majority of the sample is non-smokers 235(82.5%), so this leaves only 50 (17.5%) smoker patients.

About the third of the sample has an educational level of collage or more, they were 85(29.8%). About the marital status, the majority is married 199(69.8%).

Unemployment was high, 199(69.8%) were unemployed, while 67(23.5%) were employed, and those who stopped because of RA were 19(6.7%) patients.

Patients' majority resides in villages 169(59.3%). Half of the sample'shousehold income is less than 400 JD 145(50.9%).

The mean (±SD) of the BMI 28.79 ± 5.65, high percentage of patients were overweight 129(45.3%), BMI scores ranged from 16.3 to a maximum of 49.1.

Table 1: Socio-demographic characteristics of the study group

Variable		**Frequency (%) N =285 Or Mean ± SD (Range)**
Hospital	Qalqilia	39(13.7)
	Tulkarm	70(24.6)
	Jenin	87(30.5)
	Al Watani	89(31.2)
Gender	Male	54(18.9)
	Female	231(81.1)
Age (Years)		51.95 ± 13.73 (18 – 86)
Age Group	Less than 30	21(7.4)
	30 years - 39 years	26(9.1)
	40 years - 49 years	69(24.2)
	50 years - 59 years	87(30.5)
	≥60	82(28.8)
Smoking	Smoker	50(17.5)
	Non smoker	235(82.5)
Educational Background	below Primary Education	13(4.6)
	Primary Education	57(20)
	Junior High School	73(25.6)
	Senior high School	57(20)
	Collage or more	85(29.8)
Marital status	Single	53(18.6)
	Married	199(69.8)
	Divorced/ Widowed	33(11.6)

Employment	Employed	67(23.5)
	unemployed	199(69.8)
	stopped because of RA	19(6.7)
Place of residence	City	101(35.4)
	Village	169(59.3)
	Refugee Camp	15(5.3)
Household Income	Low: Less than 400 JD	145(50.9)
	Moderate: Between 400-1000 JD	119(41.8)
	High: More than 1000 JD	20(7)
BMI		28.788 ± 5.65(16.3 – 49.1)
BMI category	Underweight / Normal	52(18.2)
	Overweight	129(45.3)
	Obese	104(36.5)

4.1.1 Clinical Characteristics of RA patients

Table 2 presents the clinical characteristics of RA patients, about disease activity, high percentage of patients 124(43.5%) had stable disease activity, while the third of them of them 98(34.4%) had unstable disease activity, and 61(21.4%) patients had intensified period.

Disease duration mean (±SD) was 9.06 ± 8.21. It was over 5 years for 150(52.6%) patients, then 73(25.6%) patients had RA for 1-3 years, then those who had it for 4-5 years were 52(18.2%) patients, while those who had it for less than one year were 9(3.2%) patients.

Concerning the treatment status of the patients, the majority of them 239(83.9%) was on regular treatment, while 46(16.1%) patients had non-formal treatment.

About total number of comorbid diseases in the sample, the mean (±SD) was 1.65 ± 1.78, the median (IQR) was 2(1-4).About the quarter of patients 69(24.2%) had one comorbid disease, 53(18.6%) had two comorbid diseases, while the third of the sample had zero comorbid diseases were 91(31.9%) patients, those who had 3 comorbid diseases were 37(13%) patients, and finally those who had 4 or more comorbid diseases were 35(12.3%) patients. The minimum and maximum number of comorbid diseases was zero – 10.

Table 2: Clinical Characteristics of patients

Variable		**Frequency (%) N =285 Or Mean ± SD (Range)**
Disease Activity N	Stable Period	124(43.5)
	unstable Period	98(34.4)
	Intensified Period	61(21.4)
Treatment Status	Regular treatment	239(83.9)
	non formal treatment	46(16.1)
Duration of disease (years)		9.06 ± 8.21 (0.5-40) 6 (3-12.75) Median Q
Duration of disease	<1	9(3.2)
	1-3 years	73(25.6)
	4-5 years	52(18.2)
	>5 years	150(52.6)
Total number of Comorbid diseases		1.65 ± 1.78 (0-10)
Total number of comorbid diseases (categorical)	zero	91(31.9)
	One Comorbid Disease	69(24.2)
	two Comorbid Disease	53(18.6)
	Three Comorbid Disease	37(13)
	≥ 4 Comorbid Disease	35(12.3)

Total number of medications		6.54 ± 3.44 (1-30)
Total number of medications (categorical)	1-3 medications	41(14.4)
	4-6 medications	122(42.8)
	≥7	122(42.8)
Total number of RA medications		2.03 ± .853 (0-5)

Table 3 shows the co-morbidities these patients have. The most prevalent co-morbidity among the study group was hypertension, hypertensive patients were 97(34%), then those who have diabetes 52(18.2%), heart burn 25(8.8%), Constipation 24(8.4%), desk displacement 23(8.1%), irritable bowel disease 21(7.4), eye dryness 18(6.3%), Cholecystectomy 16 (5.6%), Osteoporosis 12(4.2%)

Table 3: Co morbidities in patients

Comorbidities	Frequency (%) N =285
Hypertension	97(34%)
Diabetes	52(18.2%)
Heart burn	25(8.8%)
Constipation	24(8.4)
Disk displacement	23(8.1%)
Irritable bowel disease	21(7.4%)
Eye dryness	18(6.3%)
Cholecystectomy	16(5.6%)
Osteoporosis	12(4.2%)

4.1.2 Medications and management of the rheumatoid arthritis

Table 4 shows the medications taken by patients, the total numbers of medications' _ taken by patients _ mean (±SD) 6.54± 3.44. In more details patients were categorized into 3 groups, high percentage of them took 4-6

medications and 7 medications or more were 122(42.8%) each. The range of medications for patients was among 1- 30 medications.

Number of RA medications taken by patients ranged from 0 to 5. The mean (±SD) was 2.03 ± 0.853.

Paracetamol was the predominant analgesic taken, 109(38.2%) took it. From NSAIDs medications, the most taken one was diclofenac sodium; it was taken by 56(19.6%) patients. From corticosteroids, prednisolone was the main medication taken, 163(57.2%) patients took it.

For Rheumatoid arthritis medications, methotrexate was taken by the majority of patients, they were 169(59.3%) patients, while from biological medications; it was Etanercept which was taken by the fifth of patients 61(21.4%).

Table 4: medications taken by patients

RA medications	Frequency (%) N =285
Paracetamol	109(38.2%)
Paracetamol + Orphenadrine citrate	15(5.3%)
Ibuprofen	38(13.3%)
Diclofenac Sodium	56(19.6%)
Etoricoxib	16(5.6%)
Etodolac	2(0.7%)
Meloxicam	41(14.4%)
Nimesulide	2(0.7%)
Prednisolone	163(57.2%)
Methotrexate	169(59.3)
Sulfasalazine	18(6.3%)
Hydroxychloroquine	70(24.6%)
Leflunomide	83(29.1%)
Etanercept	61(21.4%)
Adalimumab	8(2.8%)
Rituximab_Mebthera	7(2.5%)

Frequencies of SF-36

Table 5 shows the frequencies that we got from SF-36, more than the third of patients 106(37.2%) considered their health to be good, while 80(28.1%) answered that their health now is somewhat better than one year ago. For routine daily life activities, 196(68.8%) patients were limited a lot in doing vigorous activities, while for moderate activities, 111(38.9%) were limited a little bit. 109(38.2%) patients were limited a lot and the same number for a little limitation when it comes to lifting or carrying groceries.

The majority of patients 162(56.8%) were limited a lot when climbing several flights of stairs while when it comes to climbing only one flight of stairs, while 130(45.6%) did not have any limitation.

165(57.9%) patients were limited a lot when bending; kneeling or stooping. 118(41.4%) patients were limited a lot when walking more than a one and a half kilometer, while when it comes to walking several half a kilometer, the majority of patients -147(51.6%) - did not have any limitations, and for those walking hundred meter, the majority -215(75.4%) patients- also did not have any limitations. When it came to bathing and dressing, the majority of them 150(52.6%) was not limited at all.

Regarding work activities being affected by physical health, the majority of patients were affected, so 187(65.6%) patients were forced to cut down the amount of time spent on work or other activities due to physical health, 211(74%) accomplished less than they would like to, 214(75.1%) were limited in the kind of work and finally 235(82.5%) patients needed extra effort to perform work or other activities.

And about emotional health affecting work, the majority of patients were affected, so 151(53%) patients were forced to cut the time they spent on work, 165(57%) patients accomplished less than they would like to, and finally 150(52.6%) patients did their work less carefully than usual due to emotional health.

When patients were asked about both physical and emotional health affecting social activities with family, friends, and neighbors, about the third of the patients 102(35.8%) were not affected at all.

Regarding bodily pain that the patients felt during the last month, about the third of them 98(34.4%) had moderate pain, and this bodily pain interfered moderately with normal work for about the third of patients -104(36.5%)- during the last month.

When patients were asked about how they felt during the last month, -128(44.9%)- felt some of the time to be full of life, 94(33%) patients was nervous some the time, 70(25.6%) felt some of the time so down in the dumps that nothing could cheer them up, 82(28.8%) patients felt some of the time calm and peaceful, 107(37.5%) patients had some of the time a lot of energy, 113(39.6%) never felt downhearted and depressed, 94(33%) felt some of the time worn out, and finally, 111(38.9%) patients felt happy some of the time, 107(37.5%) felt some of the time tired.

About how much time both physical and emotional health of patients interfered with their social activities, about the quarter of patients 76(26.7%) stated that some of the time both had interfered with their social activities.

About the quarter of patients 71(24.9%) stated that it is mostly true that they get sicker easier than other people, while 98(34.4%) patients said that it is definitely false that their health is as anybody they know. While 114(40%) patients don’t know if their health is going to get worse in the future, and 97(34%) patients said that it is mostly true that their health to be excellent .

Table 5: SF-36 frequencies

Variable	Frequency N (%) Total 285
General Health	
Excellent	7(2.5%)
Very Good	41(14.4%)
Good	106(37.2%)
Fair	89(31.2%)
Poor	41(14.4%)
General health compared to one year ago	
Much better now than one year ago	28(9.8%)
Somewhat better now than one year ago	80(28.1%)
About the same as one year ago	72(25.3%)
Somewhat worse now than one year ago	75(26.3%)
Much worse now than one year ago	30(10.5%)
Vigorous activities limited by RA	
Yes, Limited A Lot	196(68.8%)
Yes, Limited A Little	66(23.2%)
No, Not Limited At All	23(8.1%)
Moderate activities limited by RA	
Yes, Limited A Lot	74(26%)
Yes, Limited A Little	111(38.9%)
No, Not Limited At All	100(35.1%)
Lifting or carrying groceries limited by RA	
Yes, Limited A Lot	109(38.2%)
Yes, Limited A Little	109(38.2%)
No, Not Limited At All	67(23.5%)
Climbing several flights of stairs limited by RA	
Yes, Limited A Lot	162(56.8%)
Yes, Limited A Little	83(29.1%)
No, Not Limited At All	40(14%)
Climbing one flight of stairs limited by RA	
Yes, Limited A Lot	44(15.4%)
Yes, Limited A Little	110(38.6%)
No, Not Limited At All	130(45.6%)
Bending, kneeling, or stooping limited by RA	
Yes, Limited A Lot	165(57.9%)
Yes, Limited A Little	64(22.5%)
No, Not Limited At All	56(19.6%)
Walking more than a mile limited by RA	
Yes, Limited A Lot	118(41.4%)
Yes, Limited A Little	78(27.4%)
No, Not Limited At All	89(31.2%)

Variable	Frequency N (%) Total 285
Walking several hundred yards limited by RA	
Yes, Limited A Lot	56(19.6%)
Yes, Limited A Little	82(28.8%)
No, Not Limited At All	147(51.6%)
Walking one hundred yards limited by RA	
Yes, Limited A Lot	27(9.5%)
Yes, Limited A Little	43(15.1%)
No, Not Limited At All	215(75.4%)
Bathing or dressing limited by RA	
Yes, Limited A Lot	41(14.4%)
Yes, Limited A Little	93(32.6%)
No, Not Limited At All	150(52.6%)
Cut down on the amount of time spent on work or other activities due to physical health	
yes	187(65.6%)
No	98(34.4%)
Accomplished less than the patient would like to due to physical health	
yes	211(74%)
No	74(26%)
limited in the kind of work or other activities due to physical health	
yes	214(75.1%)
No	71(24.9%)
Extra effort was needed to perform the work or other activities due to physical health	
yes	235(82.5%)
No	50(17.5%)
Cut down on the amount of time spent on work or other activities due to emotional health	
yes	151(53%)
No	134(47%)
Accomplished less than the patient you would like to due to emotional health	
yes	165(57.9%)
No	120(42.1%)
Did work or activities less carefully than usual due to emotional health	
yes	150(52.6%)
No	135(47.4%)

Variable	Frequency N (%) Total 285
physical health or emotional problems interfered with social activities with family, friends, neighbors, or groups	
Not at all	102(35.8%)
Slightly	42(14.7%)
Moderate	71(24.9%)
Quite a bit	36(12.6%)
Extremely	34(11.9%)
Bodily pain during the past month	
None	15(5.3%)
Very Mild	14(4.9%)
Mild	30(10.5%)
Moderate	98(34.4%)
Severe	88(30.9%)
Very Severe	40(14%)
Bodily pain interfering with normal work uring the past month	
Not at all	43(15.1%)
Slightly	45(15.8%)
Moderately	104(36.5%)
Quite a bit	68(23.9%)
Extremely	25(8.8%)
If the patient felt full of life during the past month	
All of the Time	16(5.6%)
Most of the Time	41(14.4%)
A good Bit of the Time	18(6.3%)
Some of the Time	128(44.9%)
A Little of the Time	52(18.2%)
None of the Time	30(10.5%)
If the patient was nervous during the past month	
All of the Time	17(6%)
Most of the Time	44(15.4%)
A good Bit of the Time	17(6%)
Some of the Time	94(33%)
A Little of the Time	61(21.4%)
None of the Time	51(17.9%)
If the patient felt so down in the dumps nothing could cheer him up during the past month	
All of the Time	10(3.5%)
Most of the Time	27(9.5%)
A good Bit of the Time	19(6.7%)

Variable	Frequency N (%) Total 285
Some of the Time	73(25.6%)
A Little of the Time	47(16.5%)
None of the Time	109(38.2%)
If the patient felt calm and peaceful during the past month	
All of the Time	47(16.5%)
Most of the Time	64(22.5%)
A good Bit of the Time	23(8.1%)
Some of the Time	82(28.8%)
A Little of the Time	46(16.1%)
None of the Time	23(8.1%)
If the patient had a lot of energy during the past month	
All of the Time	11(3.9%)
Most of the Time	34(11.9%)
A good Bit of the Time	20(7%)
Some of the time	107(37.5%)
A Little of the Time	66(23.2%)
None of the Time	45(15.8%)
If the patient felt downhearted and depressed during the past month	
All of the Time	8(2.8%)
Most of the Time	27(9.5%)
A good Bit of the Time	23(8.1%)
Some of the time	65(22.8%)
A Little of the Time	48(16.8%)
None of the Time	113(39.6%)
If the patient felt worn out during the past month	
All of the Time	24(8.4%)
Most of the Time	46(16.1%)
A good Bit of the Time	47(16.5%)
Some of the time	94(33%)
A Little of the Time	49(17.2%)
None of the Time	24(8.4%)
If the patient felt happy during the past month	
All of the Time	38(13.3%)
Most of the Time	51(17.9%)
A good Bit of the Time	22(7.7%)
Some of the time	111(38.9%)
A Little of the Time	29(10.2%)
None of the Time	34(11.9%)

Variable	Frequency N (%) Total 285
If the patient felt tired during the past month	
All of the Time	44(15.4%)
Most of the Time	63(22.1%)
A good Bit of the Time	30(10.5%)
Some of the time	107(37.5%)
A Little of the Time	32(11.2%)
None of the Time	9(3.2%)
How much of the time has physical health or emotional problems interfered with patients' social activities	
All of the time	31(10.9%)
Most of the time	55(19.3%)
Some of the time	76(26.7%)
A little of the time	49(17.2%)
4 None of the time	73(25.6%)
If patient get sick a little easier than other people	
Definitely True	50(17.5%)
Mostly True	71(24.9%)
Don’t Know	60(21.1%)
Mostly False	61(21.4%)
Definitely False	42(14.7%)
If the patient felt healthy as anybody he knows	
Definitely True	17(6%)
Mostly True	32(11.2%)
Don’t Know	46(16.1%)
Mostly False	91(31.9%)
Definitely False	98(34.4%)
If the patient expected his health to get worse	
Definitely True	40(14%)
Mostly True	65(22.8%)
Don’t Know	114(40%)
Mostly False	40(14%)
Definitely False	25(8.8%)
If the patient considered his health to be excellent	
Definitely True	24(8.4%)
Mostly True	97(34%)
Don’t Know	25(8.8%)
Mostly False	87(30.5%)
Definitely False	51(17.9%)

4.2 Socio-demographic and clinical characteristics with PCS and MCS subscales

Table 6 shows the socio-demographic and clinical characteristics of patients with PCS and MCS subscales relationship, where we performed Kruskal-Wallis test or Mann-Whitney to test for differences in means between categories.

Age was negatively associated with physical function scores ($p < 0.001$), the median (IQR) of patients aged from 40 to 49 years old was the highest 55[31.25-68.75].

Education was positively associated with physical function ($p < 0.004$), the median (IQR) for those in junior and senior high school had higher scores than others, they were 50[35-60] and 50[30-70] respectively. Education was also positively associated with role limitation due to physical function ($p < 0.01$), the median was zero. Social function was also positively significantly with education ($p < 0.011$), the median (IQR) was for those who had collage or higher education, the median (IQR) for junior, senior high school and college or more were 50[37.5-84.38], 50[37.5-75] and 50[37.5-75] respectively, and finally education was positively associated with bodily pain ($p < 0.001$), where the median (IQR) for both senior high school and college or more groups were 45[32.5-57.5] and 45[32.5-47.5] respectively.

Regarding employment, it was positively associated with physical function ($p < 0.001$), where the median (IQR) of employed patients was the highest 55[42.5-75]. Also it was positively associated with role limitation due to physical function the median of all categories was zero, and it was positively associated with global health ($p < 0.015$) where the median (IQR) of employed patients was the highest 45[28.75-56.25].

Place of residency was only associated significantly with RP, the median of all is zero, urban areas were positively affected.

Household income was positively associated with PF ($p < 0.001$) where the highest median IQR was for those, whose income was more than 1000JD 55[40-55], also it was positively associated with RP ($p < 0.003$), the highest median (IQR) was also for those, whose income is higher than 1000JD. Moreover, it was positively associated with VT ($p < 0.038$), the median (IQR) was highest for both those with moderate and high income, 45[30-56.25] and 45[41.25-48.75] respectively. Also it was positively associated with MH where ($p < 0.014$), with the highest median (IQR) for those with high income 74[59-86]. BP and GH were positively associated with household income, where p values were $p < 0.012$ and 0.002 respectively, and the median (IQR) was highest for those with moderate income, 45[35-57.5] and 45[30-50].

BMI was only significantly associated with GH ($P < 0.023$) and the highest median was for those with overweight 45[30-53.75].

Disease activity was negatively associated with all 8 scores, with PF ($p< 0.001$) and highest median (IQR) for those with stable period, with RP ($p< 0.001$) and the highest median (IQR) was zero for all, with RE ($p < 0.001$) and highest median (IQR) for those with stable period 33.33 [0-100], with VT ($p < 0.001$) and the highest median (IQR) was 45[35-55] for those with stable period, with MH (p 0.001) with the highest median (IQR) 60[44-78] for those with stable period, with SF (p 0.002) with the highest median (IQR) for both stable and unstable period 50[37.5-75] and 50[37.5-84.38] respectively. Disease activity was also negatively associated with BP ($p < 0.001$) and the highest median was for those with stable period 45[32.5-61.25]. And finally with GH ($p < 0.001$) and the highest median was for those with stable period 50[35-60].

Duration of disease was negatively associated with RP ($p < 0.007$) and GH ($p < 0.026$) only.

Total number of comorbid diseases that the patient has is was negatively associated with all SF dimensions except with MH.

Total number of medications taken by the patients was also negatively associated with 4 SF dimensions; they are PF ($p < 0.001$), RP ($p < 0.001$), BP ($p < 0.010$) and GH ($p < 0.021$).

4.3 Socio-demographic and clinical characteristics with PCS and MCS

Table 8 shows the results obtained from Kruskal-Wallis test or Mann-Whitney to test for differences in means between categories.

PCS was negatively associated with age ($p < 0.007$), disease activity ($p < 0.001$), duration of disease ($p < 0.018$) and the total number of medications taken by the patient ($p < 0.001$), and was positively associated with educational background ($p < 0.001$), employment ($p < 0.001$), household income ($p < 0.001$), MCS was negatively associated with disease activity ($p < 0.001$) and total number of comorbid diseases that the patient has ($p< 0.001$).

Table 6: PCS and MCS subscales with socio-demographic and clinical characteristics.

	Frequency (%) N =285	PF Median [Q1-Q3]	RP Median [Q1-Q3]	RE Median [Q1-Q3]	VT Median [Q1-Q3]	MH Median [Q1-Q3]	SF Median[Q1-Q3]	BP Median[Q1-Q3]	GH Median[Q1-Q3]
Hospital									
Qalqilia	39(13.7)	35[30-60]	0[0-25]	0[0-100]	45[25-50]	56[44-76]	50[25-75]	37.5[22.5-47.5]	35[25-55]
Tulkarm	70(24.6)	40[35-60]	0[0-25]	33.33[0-100]	40[30-50]	60[48-72]	62.5[37.5-75]	35[22.5-45]	40[30-50]
Jenin	87(30.5)	47.5[16.25-60]	0[0-0]	0[0-33.33]	37.5[25-45]	50[40-74]	50[25-75]	33.75[15-46.88]	32.5[21.25-45]
Al Watani	89(31.2)	50[25-65]	0[0-50]	33.33[0-100]	45[25-60]	56[44-72]	50[25-75]	45[25-45]	45[30-50]
	pValue	***0.791***	***0.705***	***0.210***	***0.597***	***0.884***	***0.417***	***0.332***	***0.593***
Gender									
Male	54(18.9)	50[22.5-67.5]	0[0-37.5]	0[0-83.33]	45[32.5-60]	64[44-86]	50[25-75]	45[22.5-62.5]	40[22.5-57.5]
Female	231(81.1)	45[30-60]	0[0-25]	0[0-66.67]	40[25-50]	56[41-72]	50[28.13-75]	35[22.5-45]	40[25-50]
	pValue	***0.777***	***0.046***	***0.349***	***0.169***	***0.049***	***0.241***	***0.266***	***0.360***
Age Group									
Less than 30	21(7.4)	50[42.5-72.5]	25[0-62.5]	0[0-33.33]	45[27.5-60]	60[44-76]	50[43.75-93.75]	45[33.75-45]	50[32.5-57.5]
30 years - 39 years	26(9.1)	50[36.25-80]	0[0-18.75]	50[0-100]	40[25-45]	46[41-74]	50[37.5-75]	40[25-46.88]	35[17.5-40]
40 years - 49 years	69(24.2)	55[31.25-68.75]	0[0-18.75]	0[0-58.33]	35[25-48.75]	52[40-72]	43.75[25-62.5]	32.5[22.5-45]	35[16.25-45]
50 years - 59 years	87(30.5)	40[23.75-60]	0[0-6.25]	0[0-75]	40[20-51.25]	54[39-68]	50[25-75]	33.75[12.5-45]	35[23.75-50]
≥60	82(28.8)	40[25-56.25]	0[0-25]	33.33[0-100]	50[28.75-55]	62[50.25-80]	56.25[25-78.13]	45[25-57.5]	40[30-55]
		<0.001	***0.043***	***0.212***	***0.424***	***0.059***	***0.085***	***0.077***	***0.183***
Smoking									
Smoker	50(17.5)	52.5[36.25-75]	0[0-50]	16.67[0-100]	45[35-53.75]	64[44-80]	75[28.13-75]	45[25-46.88]	45[30-58.75]
Non smoker	235(82.5)	40[27.5-60]	0[0-25]	0[0-66.67]	40[25-50]	56[42-72]	50[25-75]	35[22.5-45]	35[25-50]
	pValue	***0.396***	***0.369***	***0.846***	***0.784***	***0.646***	***0.449***	***0.909***	***0.163***

	Frequency (%) N =285	PF Median [Q1-Q3]	RP Median [Q1-Q3]	RE Median [Q1-Q3]	VT Median [Q1-Q3]	MH Median [Q1-Q3]	SF Median [Q1-Q3]	BP Median [Q1-Q3]	GH Median [Q1-Q3]
Household Income									
Low: Less than 400 JD	145(50.9)	40[25-55]	0[0-0]	0[0-66.67]	35[20-50]	52[40-68]	50[25-75]	32.5[22.5-45]	35[20-45]
Moderate: Between 400-1000 JD	119(41.8)	50[35-71.25]	0[0-50]	33.33[0-100]	45[30-56.25]	64[47.25-80]	62.5[37.5-75]	45[35-57.5]	45[30-50]
High: More than 1000 JD	20(7)	55[40-85]	12.5[0-62.5]	16.67[0-58.33]	45[41.25-48.75]	74[59-86]	62.5[28.13-96.88]	38.75[25-60]	37.5[31.25-51.25]
	pValue	***<0.001***	***0.003***	***0.447***	***0.038***	***0.014***	***0.084***	***0.012***	***0.002***
BMI category									
Underweight / Normal	52(18.2)	50[31.25-60]	0[0-25]	16.67[0-100]	40[27.5-57.5]	60[41-87]	50[37.5-84.38]	45[33.13-56.25]	40[25-60]
Overweight	129(45.3)	45[35-64.03]	0[0-25]	16.67[0-100]	45[25-55]	60[44-76]	50[25-75]	35[22.5-46.88]	45[30-53.75]
Obese	104(36.5)	40[25-60]	0[0-0]	0[0-50]	35[25-50]	52[40-68]	50[31.25-75]	35[22.5-45]	35[25-45]
	pValue	***0.191***	***0.075***	***0.286***	***0.157***	***0.204***	***0.461***	***0.151***	***0.023***
Disease Activity									
Stable Period	124(43.5)	55[40-75]	0[0-75]	33.33[0-100]	45[35-55]	60[44-78]	50[37.5-75]	45[32.5-61.25]	50[35-60]
unstable Period	98(34.4)	50[35-60]	0[0-0]	0[0-66.67]	40[25-50]	56[44-72]	50[37.5-84.38]	35[32.5-45]	35[25-45]
Intensified Period	61(21.4)	22.5[15-35]	0[0-0]	0[0-25]	25[15-38.75]	52[37-68]	25[3.13-62.5]	22.5[2.5-35]	25[10-42.5]
	pValue	***<0.001***	***<0.001***	***<0.001***	***<0.001***	***0.001***	***0.002***	***<0.001***	***<0.001***
Treatment Status									
Regular treatment	239(83.9)	45[30-60]	0[0-0]	0[0-66.67]	40[25-50]	56[44-72]	50[37.5-75]	35[22.5-45]	40[25-50]
non formal treatment	46(16.1)	40[20-60.28]	12.5[0-56.25]	0[0-100]	30[18.75-55]	58[35-77]	43.75[21.88-75]	32.5[20-50]	37.5[15-51.25]
	pValue	***0.220***	***0.262***	***0.282***	***0.385***	***0.943***	***0.624***	***0.899***	***0.213***

	Frequency (%) N =285	PF Median [Q1-Q3]	RP Median [Q1-Q3]	RE Median [Q1-Q3]	VT Median [Q1-Q3]	MH Median [Q1-Q3]	SF Median[Q1-Q3]	BP Median[Q1-Q3]	GH Median [Q1-Q3]
Duration of disease (years)									
	9(3.2)	42.5[28.75-70]	0[0-31.25]	50[0-66.67]	45[22.5-65]	50[21-68]	31.25[25-65.63]	43.75[20-59.38]	47.5[28.75-50]
1-3 years	73(25.6)	50[31.25-73.75]	0[0-68.75]	33.33[0-100]	40[25-55]	56[44-71]	50[28.13-75]	45[33.13-57.5]	42.5[35-57.5]
4-5 years	52(18.2)	45[23.75-60]	0[0-56.25]	0[0-75]	45[25-51.25]	54[44-69]	50[37.5-90.63]	35[22.5-45.63]	42.5[23.75-55]
≥ 5 years	150(52.6)	40[25-57.5]	0[0-0]	0[0-66.67]	40[25-50]	60[42-76]	50[25-75]	35[22.5-45]	35[25-45]
	pValue	***0.064***	***0.007***	***0.445***	***0.560***	***0.595***	***0.088***	***0.162***	***0.026***
Total number of Comorbid diseases									
zero	91(31.9)	55[30-80]	0[0-50]	33.33[0-100]	45[30-60]	60[44-84]	50[37.5-87.5]	45[25-47.5]	40[25-55]
One Comorbid Disease	69(24.2)	50[35-60]	0[0-75]	33.33[0-100]	40[30-50]	52[44-68]	50[25-75]	35[25-60]	45[40-55]
two Comorbid Disease	53(18.6)	50[30-60]	0[0-0]	0[0-100]	45[20-50]	60[48-68]	50[25-62.5]	32.5[22.5-45]	35[25-45]
Three Comorbid Disease	37(13)	40[30-55]	0[0-12.5]	0[0-66.67]	30[22.5-42.5]	60[42-74]	50[37.5-68.75]	35[22.5-40]	30[17.5-42.5]
≥ 4 Comorbid Disease	35(12.3)	35[15-45]	0[0-0]	0[0-33.33]	30[15-50]	48[32-72]	62.5[12.5-75]	35[12.5-45]	35[20-45]
	pValue	***<0.001***	***<0.001***	***0.015***	***0.007***	***0.073***	***0.004***	***<0.001***	***0.003***
Total number of medication									
1-3 medications	41(14.4)	60[40-90]	0[0-100]	33.33[0-100]	40[30-70]	56[40-88]	50[37.5-87.5]	45[32.5-47.5]	50[25-55]
4-6 medications	122(42.8)	50[35-60]	0[0-25]	0[0-66.67]	45[25-53.75]	52[44-68]	50[25-75]	45[24.38-45]	40[26.25-53.75]
≥7	122(42.8)	35[20-55]	0[0-0]	0[0-100]	35[25-50]	60[40-76]	50[25-75]	32.5[22.5-45]	35[20-45]
	pValue	***<0.001***	***0.001***	***0.267***	***0.104***	***0.346***	***0.279***	***0.010***	***0.021***

Table 7: Mean Rank of HRQoL subscales with socio-demographic and clinical characteristics.

	Frequency (%) N =285	PF Mean Rank	RP Mean Rank	BP Mean Rank	GH Mean Rank	RE Mean Rank	VT Mean Rank	MH Mean Rank	SF Mean Rank
Hospital									
Qalqilia	39(13.7)	153.65	155.64	158.60	156.87	153.04	144.33	149.28	152.27
Tulkarm	70(24.6)	138.21	142.77	132.13	139.37	143.54	141.52	144.93	148.46
Jenin	87(30.5)	140.15	140.22	138.44	136.59	129.36	134.78	137.59	131.04
Al Watani	89(31.2)	144.88	140.35	149.17	146.04	151.51	151.62	144.02	146.34
Gender									
Male	54(18.9)	145.85	160.92	154.19	152.20	151.79	156.84	162.81	131.30
Female	231(81.1)	142.33	138.81	140.39	140.85	140.95	139.76	138.37	145.74
Age Group									
Less than 30	21(7.4)	203.74	186.02	180.60	176.69	146.90	162.76	153.79	186.98
30 years - 39 years	26(9.1)	166.62	147.60	139.08	131.50	157.10	135.48	133.62	157.73
40 years - 49 years	69(24.2)	162.10	147.78	140.80	133.14	126.62	135.11	124.97	134.37
50 years - 59 years	87(30.5)	131.80	132.61	128.14	138.11	140.57	136.91	138.66	139.32
≥60	82(28.8)	115.76	137.52	152.23	151.50	153.89	153.43	162.99	138.24
Smoking									
Smoker	50(17.5)	151.96	134.54	141.80	157.72	141.09	140.11	147.86	135.08
Non smoker	235(82.5)	141.09	144.80	143.26	139.87	143.41	143.61	141.97	144.69
Educational Background									
below Primary Education	13(4.6)	103.15	122.88	122.46	130.69	122.04	130.04	110.69	100.54
Primary Education	57(20)	118.54	135.35	119.22	141.75	141.25	134.88	131.49	127.49
Junior High School	73(25.6)	138.84	125.12	120.88	138.20	133.69	134.99	142.38	132.13
Senior high School	57(20)	162.81	162.00	167.90	141.46	146.25	156.23	139.84	160.82
Collage or more	85(29.8)	155.79	153.82	164.38	150.88	153.20	148.44	158.31	157.28

	Frequency (%) N =285	**PF Mean Rank**	**RP Mean Rank**	**BP Mean Rank**	**GH Mean Rank**	**RE Mean Rank**	**VT Mean Rank**	**MH Mean Rank**	**SF Mean Rank**
Marital status									
Single	53(18.6)	150.81	145.96	149.68	150.64	151.58	151.99	163.25	151.76
Married	199(69.8)	144.09	142.18	140.08	143.51	139.56	141.65	138.43	142.56
Divorced/ Widowed	33(11.6)	123.88	143.17	149.89	127.68	149.97	136.70	138.03	131.59
Employment									
Employed	67(23.5)	170.40	159.46	161.22	162.61	158.07	148.21	151.49	147.03
unemployed	199(69.8)	138.78	141.11	139.58	140.13	140.22	144.28	141.80	144.39
stopped because of RA	19(6.7)	90.58	104.74	114.58	103.89	118.97	111.26	125.63	114.26
Place of residence									
City	101(35.4)	148.66	157.48	155.51	155.05	148.06	140.04	147.30	141.88
Village	169(59.3)	140.05	134.64	137.00	138.79	140.35	146.68	140.90	143.59
Refugee Camp	15(5.3)	138.07	139.67	126.40	109.27	138.83	121.40	137.73	143.90
Household Income									
Low: Less than 400 JD	145(50.9)	125.69	133.22	128.44	127.21	138.40	130.93	128.64	132.02
Moderate: Between 400-1000 JD	119(41.8)	154.57	145.55	156.15	153.97	144.47	152.28	156.41	152.91
High: More than 1000 JD	20(7)	192.60	191.65	163.18	185.15	160.53	168.15	160.23	156.53
BMI category									
Underweight / Normal	52(18.2)	154.98	151.08	162.36	155.60	154.74	149.81	155.69	151.99
Overweight	129(45.3)	147.10	150.26	141.06	152.09	144.91	150.21	146.41	145.22
Obese	104(36.5)	131.92	129.96	135.73	125.43	134.75	130.66	132.42	135.75

	Frequency (%) N =285	PF Mean Rank	RP Mean Rank	BP Mean Rank	GH Mean Rank	RE Mean Rank	VT Mean Rank	MH Mean Rank	SF Mean Rank
Disease Activity									
Stable Period	124(43.5)	168.02	162.46	174.39	174.49	164.39	169.28	161.10	159.81
unstable Period	98(34.4)	137.64	133.51	128.86	121.56	128.07	135.73	121.39	134.63
Intensified Period	61(21.4)	96.11	114.06	97.26	108.80	118.86	96.61	136.28	117.64
Treatment Status									
Regular treatment	239(83.9)	140.38	140.86	143.27	145.66	140.86	144.86	143.15	144.04
non formal treatment	46(16.1)	156.63	154.10	141.60	129.20	154.14	133.36	142.21	137.60
Duration of disease (years)									
<1	9(3.2)	128.83	132.50	149.39	152.28	135.61	143.89	114.94	99.44
1-3 years	73(25.6)	160.97	159.92	160.68	166.37	153.14	146.20	145.32	144.68
4-5 years	52(18.2)	150.96	158.77	137.19	139.98	146.85	154.39	134.00	162.87
>5 years	150(52.6)	131.40	128.98	135.08	131.17	136.23	136.49	145.73	136.96
Total number of Comorbid diseases									
zero	91(31.9)	180.02	162.30	164.25	153.46	153.65	164.15	155.84	167.62
One Comorbid Disease	69(24.2)	144.56	158.33	155.08	162.70	158.79	147.93	136.13	136.03
two Comorbid Disease	53(18.6)	142.19	133.22	136.52	141.15	135.15	134.83	155.90	141.06
Three Comorbid Disease	37(13)	114.43	120.45	112.03	117.86	127.55	123.04	131.51	128.00
≥ 4 Comormid Disease	35(12.3)	75.10	101.26	106.50	106.33	112.39	111.77	115.77	111.54
Total number of medication									
1-3 medications	41(14.4)	179.32	168.91	171.48	164.77	160.66	163.80	159.17	153.38
4-6 medications	122(42.8)	161.03	152.18	147.83	150.27	141.58	145.83	137.53	148.21
≥7	122(42.8)	112.76	125.11	128.60	128.42	138.48	133.18	143.03	134.30

Table 8: PCS and MCS with socio-demographic and clinical characteristics.

	Frequency (%) N =285	PCS		MCS	
		Median[Q1-Q3]	Mean Rank	Median[Q1-Q3]	Mean Rank
Hospital					
Qalqilia	39(13.7)	30[18.13-45.63]	160.04	39.38[31.5-68]	152.69
Tulkarm	70(24.6)	33.13[23.4-41.88]	137.11	42.75[35.33-69.17]	144.25
Jenin	87(30.5)	27.19[12.97-44.38]	136.99	36.79[22-59.77]	128.93
Al Watani	89(31.2)	35[26.25-51.25]	146.04	50.04[29.75-67.5]	151.53
	pValue	***0.456***		***0.257***	
Gender					
Male	54(18.9)	35[19.38-52.5]	156.41	41[29.38-71.79]	150.34
Female	231(81.1)	30.31[23.13-41.88]	139.87	40.96[26.69-66.81]	141.28
	pValue	***0.184***		***0.467***	
Age Group					
Less than 30	21(7.4)	41.25[35.94-57.5]	202.24	38.75[32.92-62.65]	166.17
30 years - 39 years	26(9.1)	31.88[22.19-44.84]	149.67	40.08[32.25-65.76]	153.00
40 years - 49 years	69(24.2)	29.69[19.69-43.75]	147.18	35.81[25.78-56.06]	126.20
50 years - 59 years	87(30.5)	29.06[16.72-40.47]	129.16	42.46[19.78-59.58]	138.14
≥60	82(28.8)	32.5[24.06-46.72]	136.88	53.52[35.69-69.47]	153.19
		0.007		***0.167***	
Smoking					
Smoker	50(17.5)	33.75[26.41-53.44]	143.93	51.13[32.16-69.64]	138.74
Non smoker	235(82.5)	30.63[21.25-42.5]	142.80	40.5[26.5-62.23]	143.91
	pValue	***0.930***		***0.687***	
Educational Background					
below Primary Education	13(4.6)	24.38[11.56-39.53]	112.31	35.25[16.69-53.94]	109.65
Primary Education	57(20)	28.13[11.56-42.34]	122.48	31.94[20.71-64.86]	131.42
Junior High School	73(25.6)	30.63[21.09-47.66]	127.27	47.6[26.78-75.22]	132.19
Senior high School	57(20)	30[25-52.5]	163.38	41[33.38-59.08]	153.17
Collage or more	85(29.8)	35[26.09-42.66]	161.29	48.13[36.78-63.53]	158.33
	pValue	***0.003***		***0.081***	

	Frequency (%) N =285	PCS		MCS	
		Median[Q1-Q3]	Mean Rank	Median[Q1-Q3]	Mean Rank
Marital status					
Single	53(18.6)	35[14.38-41.88]	150.08	37.13[23.13-55.25]	154.52
Married	199(69.8)	30[22.34-43.13]	142.37	41.77[28.19-66.69]	140.56
Divorced/ Widowed	33(11.6)	35.94[23.75-53.91]	135.41	58.65[22.31-69.13]	139.20
	pValue	***0.711***		***0.527***	
Employment					
Employed	67(23.5)	38.75[28.44-51.25]	167.54	41.58[31.84-67.88]	153.45
unemployed	199(69.8)	30[22.81-40.63]	140.00	42.33[27.69-67.33]	142.49
stopped because of RA	19(6.7)	23.75[11.72-32.5]	87.89	33.5[19.69-49.96]	111.47
	pValue	***0.001***		***0.145***	
Place of residence					
City	101(35.4)	35.63[25.31-51.56]	158.08	44[28.81-67.92]	146.07
Village	169(59.3)	30[22.03-40]	135.60	40.94[27.28-61.5]	141.88
Refugee Camp	15(5.3)	21.88[5.94-72.5]	124.83	31.75[13.13-71.56]	134.90
	pValue	***0.065***		***0.854***	
Household Income					
Low: Less than 400 JD	145(50.9)	27.5[17.5-40]	124.04	35.88[22.75-54.5]	130.33
Moderate: Between 400-1000 JD	119(41.8)	35.94[27.19-52.81]	156.42	53.85[38.81-70.56]	154.06
High: More than 1000 JD	20(7)	37.81[24.69-62.19]	193.55	51.17[33.66-69.3]	161.93
	pValue	***<0.001***		***0.036***	
BMI category					
Underweight / Normal	52(18.2)	35.31[29.06-44.84]	160.09	46.29[32-70.88]	156.98
Overweight	129(45.3)	33.13[23.13-51.09]	148.91	47.5[33.66-67.96]	146.73
Obese	104(36.5)	27.5[19.69-39.38]	127.13	37.13[23.63-56.35]	131.38
	pValue	***0.034***		***0.148***	

	Frequency (%) N =285	PCS		MCS	
		Median[Q1-Q3]	Mean Rank	Median[Q1-Q3]	Mean Rank
Disease Activity					
Stable Period	124(43.5)	38.75[30.31-55.31]	175.65	55.25[36.73-70.77]	169.50
unstable Period	98(34.4)	30.31[25.63-40]	130.14	42.25[28.91-65.76]	127.00
Intensified Period	61(21.4)	17.81[8.91-29.22]	92.66	26.81[16.59-44.06]	110.20
	pValue	***<0.001***		***<0.001***	
Treatment Status					
Regular treatment	239(83.9)	31.25[23.13-42.5]	141.49	42.17[28.5-66.63]	142.93
non formal treatment	46(16.1)	32.5[13.75-52.19]	150.86	38.69[19.34-69.25]	143.37
	pValue	***0.480***		***0.974***	
Duration of disease (years)					
<1	9(3.2)	35.31[20.47-50]	131.67	39.69[27.44-64.14]	119.33
1-3 years	73(25.6)	35.31[27.03-60.63]	164.42	47.5[31.81-67.63]	149.38
4-5 years	52(18.2)	35.31[24.84-52.97]	152.21	43.88[26.81-62.25]	151.34
>5 years	150(52.6)	30[20.31-36.25]	129.12	39.38[25.94-64.31]	137.48
	pValue	***0.018***		***0.495***	
Total number of Comorbid diseases					
zero	91(31.9)	36.25[23.75-52.5]	171.10	55.25[30.5-69.79]	163.27
One Comorbid Disease	69(24.2)	35[28.75-54.38]	158.63	42.75[27.25-67.67]	147.62
two Comorbid Disease	53(18.6)	30.63[23.13-42.5]	138.42	41.38[31.75-54.5]	140.96
Three Comorbid Disease	37(13)	26.88[21.56-33.75]	107.38	39.38[26.75-55.98]	125.47
≥ 4 Comorbid Disease	35(12.3)	26.25[10-37.5]	83.70	37.13[15.5-57.71]	102.80
	pValue	***0.501***		***<0.001***	
Total number of medication					
1-3 medications	41(14.4)	38.75[27.5-76.88]	178.95	39.38[31.5-81.75]	162.94
4-6 medications	122(42.8)	34.38[25.63-50.63]	156.30	41.88[26.97-62.32]	143.20
≥7	122(42.8)	28.13[19.38-35.63]	117.61	40.75[26.19-66.84]	136.10
	pValue	***<0.001***		***0.196***	

4.3 Treatment satisfaction among RA patients

Treatment satisfaction was measured with TSQM which consists of four domains, effectiveness, side effects, convenience, and overall satisfaction. Table 9 shows the frequencies of treatment satisfaction domains with socio-demographic and clinical characteristics of the study group. In the first domain effectiveness, the mean ± SD was 60.27±16.70 and the range was between (0-100), with median (IQR) 61.11 (50.00-72.22). In effectiveness domain, 103(36.1%) patients were satisfied with medications' ability to prevent or treat RA. While 89(31.2%) patients were somewhat satisfied and satisfied with the way the medication relieve RA symptoms, while 100(35.1%) patients were somewhat satisfied with the time needed for the medication to start its effect.

The second domain which is side effects domain, the mean ± SD was 46.85±25.07 and the range was between (0-100), with median (IQR) 50 (31.25-62.5). In this domain, Half of patients145(50.9%) did not experience side effects as they stated, also half of patients 145(50.9%) found these side effects to be somewhat bothersome, and 43(15.1%) of patients, stated that these have interfered a great deal with their physical health and ability to function (i.e., strength, energy levels, etc.). 43(15.1%) patients stated that these side effects did not interfere at all with their mental function (i.e., ability to think clearly, stay awake, etc.). Finally, 42(14.7%) patients found these side effects to somewhat affect their overall satisfaction with the medication.

The third domain which is convenience, the mean ± SD was 59.53±14.51 and the range was between (5.56-100) with median (IQR) 61.11 (50-66.67). In this domain 126(44.2%) patients found that it was easy to use their medications in their current form, 124(43.5%) patients stated that it was easy to plan taking their medications each time. Also, it was convenient for 170(59.6%) patients to take their medications as instructed.

For the fourth domain which is he overall satisfaction, the mean ± SD was 54.86±20.87 and the range was between (-8.33-100) with median (IQR) 54.17 (37.50-69.44). In this domain 136(47.7%) patients were very confident that taking these medications was good thing for them, while about the third of patients 101(35.4%) were somewhat certain that the good things about their medications outweigh the bad things, and finally 102(35.8%) patients were satisfied with their medications after taking all things into account.

Table 9: TSQM frequencies

TSQM Domains	Mean ± SD (range), Median (lower-upper quartiles) Or N (%) Total 285
Effectiveness domain	60.27±16.70 (0-100) 61.11 (50.00-72.22)
Satisfaction with medication ability to prevent or treat disease Extremely Dissatisfied Very Dissatisfied Dissatisfied Somewhat Satisfied Satisfied Very Satisfied Extremely Satisfied	 8(2.8%) 7(2.5%) 14(4.9%) 90(31.6%) 103(36.1%) 48(16.8%) 15(5.3%)
Satisfaction with medication way in relief symptoms Extremely Dissatisfied Very Dissatisfied Dissatisfied Somewhat Satisfied Satisfied Very Satisfied Extremely Satisfied	 9(3.2%) 3(1.1%) 22(7.7%) 89(31.2%) 89(31.2%) 51(17.9%) 22(7.7%)
Satisfaction with the amount of time that the medication takes to start Extremely Dissatisfied Very Dissatisfied Dissatisfied Somewhat Satisfied Satisfied Very Satisfied Extremely Satisfied	 5(1.8%) 9(3.2%) 32(11.2%) 100(35.1%) 91(31.9%) 37(13%) 11(3.9%)
Side Effect Domain *Side Effects*	 46.85±25.07 (0-100) 50 (31.25-62.5)
Experience side effects Yes No	 140(49.1%) 145(50.9%)
Side effect bothering Extremely Bothersome Very Bothersome Somewhat Bothersome A Little Bothersome Not at All Bothersome	 20(7%) 32(11.2%) 49(17.2%) 31(10.9%) 7(2.5%)
Side effect interference with physical health A Great Deal Quite a Bit Somewhat Minimally Not at All	 43(15.1%) 31(10.9%) 37(13%) 7(2.5%) 21(7.4%)

TSQM Domains	Mean ± SD (range), Median (lower-upper quartiles) Or N (%) Total 285
Side effects interference with mental health A Great Deal Quite a Bit Somewhat Minimally Not at All	 24(8.4%) 19(6.7%) 32(11.2%) 16(5.6%) 48(16.8%)
Side effects affecting overall satisfaction with medication A Great Deal Quite a Bit Somewhat Minimally Not at All	 28(9.8%) 30(10.5%) 42(14.7%) 12(4.2%) 27(9.5%)
Convenience Domain	59.53±14.51 (5.56-100) 61.11 (50-66.67)
Medication use in current form Extremely Difficult Very Difficult Difficult Somewhat Easy Easy Very Easy Extremely Easy	 8(2.8%) 21(7.4%) 40(14%) 52(18.2%) 126(44.2%) 28(9.8%) 10(3.5%)
Medication use in each time Extremely Difficult Very Difficult Difficult Somewhat Easy Easy Very Easy Extremely Easy	 7(2.5%) 9(3.2%) 28(9.8%) 80(28.1%) 124(43.5%) 24(8.4%) 13(4.6%)
Medication use according to instructions Extremely Inconvenient Very Inconvenient Inconvenient Somewhat Convenient Convenient Very Convenient Extremely Convenient	 2(0.7%) 3(1.1%) 12(4.2%) 57(20%) 170(59.6%) 30(10.5%) 11(3.9%)
Overall satisfaction	54.86±20.87 (-8.33-100) 54.17 (37.50-69.44)
How confident the patient is that the medication is good thing for him Not at All Confident A Little Confident Somewhat Confident Very Confident Extremely Confident	 10(3.5%) 47(16.5%) 73(25.6%) 136(47.7%) 19(6.7%)

TSQM Domains	Mean ± SD (range), Median (lower-upper quartiles) Or N (%) Total 285
How certain the patient is that the good things outweigh the bad things for medication	
Not at All Certain	28(9.8%)
A Little Certain	45(15.8%)
Somewhat Certain	101(35.4%)
Very Certain	90(31.6%)
Extremely Certain	21(7.4%)
Satisfaction in general	
Extremely Dissatisfied	2(0.7%)
Very Dissatisfied	7(2.5%)
Dissatisfied	18(6.3%)
Somewhat Satisfied	93(32.6%)
Satisfied	102(35.8%)
Very Satisfied	48(16.8%)
Extremely Satisfied	15(5.3%)

4.4 Treatment satisfaction and socio-demographic and clinical characteristics

Table 10 shows socio-demographic and clinical characteristics of the study group with differences in treatment satisfaction score. Side effects were positively associated with household income, the median was the highest for those who are higher than 1000 JD 56.25[37.5-93.75] p value 0.016. While for disease activity, the four domains were negatively associated with it, the highest median was for those who had stable period in all 4 domains, for effectiveness, their median was 61.11[50-72.22] with p value < 0.001, for side effect domain, they had 56.25[37.5-68.75] and p value 0.004, for convenience, their median was 61.11[50-66.67] and p value < 0.001, and for the overall satisfaction, their median was 59.72[45.83-69.44] and p value 0.001.

Comorbid diseases were negatively associated with effectiveness. Those who had zero or only one comorbid disease had higher median than the

others in effectiveness domain and the median was 61.11[55.56-72.22] and 61.11[50-77.78] respectively, the p value was 0.006.

Table 10 Treatment satisfaction with socio-demographic and clinical characteristic

	Frequency (%) N =285	Effectiveness		Side Effects		Convenience		Overall satisfaction	
		Median[Q1-Q3]	Mean Rank	Median[Q1-Q3]	Mean Rank	Median [Q1-Q3]	Mean Rank	Median [Q1-Q3]	Mean Rank
Qalqilia	39(13.7)	61.11[44.44-66.67]	145.78	50[31.25-62.5]	66.77	55.56[50-61.11]	145.51	45.83 [29.17-61.11]	143.67
Tulkarm	70(24.6)	55.56[50-77.78]	140.73	50[37.5-68.75]	76.75	55.56[50-66.67]	141.99	52.78 [37.5-69.44]	141.53
Jenin	87(30.5)	55.56[50-70.83]	151.10	40.63 [18.75-65.63]	64.76	50[44.44-66.67]	142.44	53.47 [36.46-69.1]	150.63
Al Watani	89(31.2)	55.56[50-66.67]	135.65	50[25-62.5]	70.44	61.11[50-66.67]	143.24	52.78 [37.5-69.44]	136.40
	pValue	***0.643***		***0.611***		***0.997***		***0.718***	
Gender									
Male	54(18.9)	61.11[50-72.22]	141.31	50[40.63-75]	81.02	55.56[50-66.67]	144.03	54.17 [32.64-76.39]	140.06
Female	231(81.1)	55.56[50-66.67]	143.40	43.75[25-62.5]	67.58	55.56 [44.44-66.67]	142.76	52.78 [37.5-68.06]	143.69
	pValue	***0.866***		***0.130***		***0.918***		***0.770***	
Age Group									
Less than 30	21(7.4)	61.11[50-66.67]	136.02	43.75 [34.38-56.25]	70.33	61.11 [41.67-66.67]	129.86	45.8 [32.64-69.44]	140.40
30 years - 39 years	26(9.1)	58.33[50-70.83]	148.92	53.13 [39.06-81.25]	83.04	58.34 [45.83-66.67]	141.44	61.81 [31.25-69.44]	143.40
40 years - 49 years	69(24.2)	55.56[34.72-72.22]	133.79	37.5[18.75-62.5]	62.08	55.56 [44.44-66.67]	148.93	49.31 [29.51-62.5]	136.88
50 years - 59 years	87(30.5)	55.56[50-66.67]	150.03	50[25-62.5]	66.15	55.56 [43.05-61.11]	136.61	53.47 [37.15-69.44]	146.95

≥60	82(28.8)	61.11[50-66.67]	143.20	50[31.25-75]	76.13	61.11[50-66.67]	148.65	48.61 [42.71-69.44]	144.49
		0.771		***0.414***		***0.762***		***0.959***	
Smoking									
Smoker	50(17.5)	63.89[45.83-72.22]	141.30	56.25[40.63-62.5]	81.08	55.56 [45.83-59.72]	136.14	52.78 [31.25-74.31]	146.15
Non smoker	235(82.5)	55.56[50-66.67]	143.36	43.75[25-62.5]	67.57	61.11[50-66.67]	144.46	52.78 [37.5-68.75]	142.33
	pValue	***0.871***		***0.128***		***0.511***		***0.765***	
Educational Background									
below Primary Education	13(4.6)	63.89[52.78-79.17]	171.77	53.13[37.5-82.81]	81.06	55.56 [44.44-66.67]	142.42	45.83 [45.83-61.11]	148.92
Primary Education	57(20)	55.56[50-66.67]	139.35	31.25[14.06-62.5]	56.59	55.56 [38.89-61.11]	128.17	45.83 [37.5-66.67]	149.83
Junior High School	73(25.6)	55.56[40.28-72.22]	136.12	50[18.75-67.19]	69.27	55.56[50-65.28]	128.89	58.33 [32.29-69.44]	135.31
Senior high School	57(20)	55.56[50-66.67]	146.84	50[37.5-62.5]	74.59	55.56[50-66.67]	153.27	45.83 [29.17-61.11]	141.98
Collage or more	85(29.8)	55.56[50-66.67]	144.38	50[35.94-64.06]	74.65	61.11[50-66.67]	158.26	56.94 [37.5-69.44]	144.80
	pValue	***0.665***		***0.310***		***0.092***		***0.886***	

	Frequency (%) N =285	Effectiveness		Side Effects		Convenience		Overall satisfaction	
		Median [Q1-Q3]	Mean Rank	Median [Q1-Q3]	Mean Rank	Median [Q1-Q3]	Mean Rank	Median [Q1-Q3]	Mean Rank
Marital status									
Single	53(18.6)	55.56 [44.44-61.11]	134.06	43.75 [31.25-56.25]	63.22	55.56 [38.89-61.11]	133.11	45.83 [29.17-61.11]	127.42
Married	199(69.8)	55.56 [50-72.22]	145.74	50[25-64.06]	72.79	55.56[50-66.67]	144.73	53.47 [37.5-69.44]	146.99
Divorced/ Widowed	33(11.6)	61.11 [50-70.83]	140.85	37.5[25-67.19]	64.72	61.11 [51.39-66.67]	148.42	50[30.9-69.1]	143.97
	pValue	***0.644***		***0.470***		***0.600***		***0.305***	
Employment									
Employed	67(23.5)	55.56 [43.06-68.06]	144.17	50[31.25-64.06]	76.84	55.56 [48.61-62.5]	148.09	52.78 [37.15-68.4]	143.41
unemployed	199(69.8)	55.56 [50-66.67]	144.20	50[28.13-62.5]	69.21	55.56 [47.22-66.67]	141.95	52.78 [37.5-69.44]	144.49
stopped because of RA	19(6.7)	58.33[50-62.5]	126.26	31.25[4.69-65.63]	53.50	52.78 [48.61-66.67]	136.00	40.97 [30.21-60.07]	125.92
	pValue	***0.653***		***0.254***		***0.804***		***0.642***	
Place of residence									
City	101(35.4)	55.56 [50-66.67]	143.64	43.75[25-62.5]	64.63	55.56[50-63.89]	149.85	45.83 [29.17-61.81]	133.60
Village	169(59.3)	55.56 [50-66.67]	140.12	50[31.25-68.75]	72.02	55.56 [44.44-66.67]	136.66	54.17 [39.24-69.44]	147.05
Refugee Camp	15(5.3)	63.89 [52.78-79.17]	171.20	56.25[45.31-62.5]	85.00	63.89 [56.95-70.83]	168.30	56.25 [32.99-74.31]	160.67
	pValue	***0.368***		***0.452***		***0.203***		***0.298***	
Household Income									
Low: Less than 400 JD	145(50.9)	55.56 [50-66.67]	139.78	43.75[25-56.25]	61.05	55.56 [44.44-66.67]	132.32	45.83 [29.17-62.5]	134.20
Moderate: Between 400-1000 JD	119(41.8)	55.56[50-72.22]	142.89	53.13[31.25-70.31]	78.15	61.11[50-66.67]	154.56	58.33[37.5-69.44]	148.49
High: More than 1000 JD	20(7)	61.11 [48.61-81.94]	159.93	56.25[37.5-93.75]	96.00	50[34.72-65.28]	144.53	61.81 [35.42-79.86]	167.05

	pValue	***0.583***		***0.016***		***0.085***		***0.141***	
BMI category									
Underweight / Normal	52(18.2)	61.11 [44.44-70.83]	141.00	50[32.81-68.75]	76.63	61.11[50-66.67]	146.73	45.83 [36.11-69.1]	142.81
Overweight	129(45.3)	61.11 [50-70.83]	144.70	50[31.25-67.19]	74.70	55.56[50-65.28]	150.01	54.17 [45.83-69.44]	151.46
Obese	104(36.5)	55.56 [50-66.67]	141.89	43.75 [18.75-59.38]	61.64	55.56 [44.44-66.67]	132.44	45.83 [29.86-64.58]	132.60
	pValue	***0.949***		***0.154***		***0.244***		***0.220***	
Disease Activity									
Stable Period	124(43.5)	61.11 [50-72.22]	168.60	56.25[37.5-68.75]	79.40	61.11[50-66.67]	161.77	59.72 [45.83-69.44]	163.15
unstable Period	98(34.4)	55.56 [50-66.67]	117.75	50[31.25-62.5]	71.32	58.34[50-66.67]	130.96	52.78 [36.46-68.06]	131.83
Intensified Period	61(21.4)	55.56 [34.72-66.67]	126.88	21.88[12.5-59.38]	50.09	50[38.89-65.28]	119.54	40.97 [29.17-64.58]	115.34
	pValue	***<0.001***		***0.004***		***0.001***		***<0.001***	
Treatment Status									
Regular treatment	239(83.9)	55.56 [50-66.67]	144.82	50[25-62.5]	69.65	55.56[50-66.67]	147.00	52.78 [37.5-69.44]	147.10
non formal treatment	46(16.1)	63.89 [38.89-73.61]	133.53	43.75 [29.69-68.75]	71.84	52.78 [38.89-66.67]	122.22	48.61 [29.17-61.46]	121.72
	pValue	***0.391***		***0.815***		***0.058***		***0.055***	
Duration of disease (years)									
<1	9(3.2)	58.33 [52.78-66.67]	167.39	46.88 [35.94-57.81]	71.33	61.11 [55.56-72.23]	177.83	60.42 [53.13-73.26]	187.39
1-3 years	73(25.6)	55.56[50-66.67]	145.89	53.13[31.25-62.5]	73.89	61.11[50-66.67]	149.86	53.47[36.46-66.67]	145.25
4-5 years	52(18.2)	55.56 [48.61-66.67]	136.44	46.88 [23.44-64.06]	67.38	61.11 [54.17-66.67]	147.65	45.83 [34.38-69.44]	138.47
>5 years	150(52.6)	55.56 [50-72.22]	141.46	43.75[25-62.5]	69.24	50[44.44-66.67]	135.01	52.78 [37.5-68.75]	139.86
	pValue	***0.735***		***0.928***		***0.283***		***0.382***	

Total number of Comorbid diseases									
zero	91(31.9)	61.11 [55.56-72.22]	157.85	56.25[37.5-75]	82.81	61.11[50-66.67]	144.04	61.11 [37.5-69.44]	150.54
One Comorbid Disease	69(24.2)	61.11 [50-77.78]	146.73	50[25-68.75]	72.47	61.11[50-66.67]	155.22	54.17 [37.5-69.44]	150.50
two Comorbid Disease	53(18.6)	55.56 [44.44-61.11]	125.56	37.5[18.75-56.25]	55.24	55.56 [44.44-66.67]	149.92	45.83 [29.17-54.17]	136.21
Three Comorbid Disease	37(13)	55.56 [38.89-58.33]	107.24	50[31.25-56.25]	69.17	50[44.44-63.89]	122.50	52.78 [29.86-64.58]	127.23
≥ 4 Comormid Disease	35(12.3)	55.56 [50-72.22]	161.26	37.5[25-56.25]	60.54	50[44.44-61.11]	127.40	51.39 [36.11-69.44]	135.56
	pValue	***0.006***		***0.076***		***0.232***		***0.501***	
Total number of medication									
1-3 medications	41(14.4)	61.11[50-72.22]	163.29	50[37.5-75]	79.57	61.11[38.89-66.67]	152.68	45.83[37.5-76.39]	153.06
4-6 medications	122(42.8)	55.56[50-66.67]	135.97	50[31.25-67.19]	73.74	55.56[50-66.67]	142.30	52.78[37.5-66.67]	143.68
≥7	122(42.8)	55.56[50-66.67]	143.21	43.75[25-62.5]	64.25	55.56[48.61-66.67]	140.45	52.78[30.56-69.44]	138.94
	pValue	***0.180***		***0.261***		***0.701***		***0.631***	

4.5 Relationship between HRQoL and treatment satisfaction

There is a modest positive correlation between all HRQoL subscales and treatment satisfaction domains as (Table 11 indicates).

Table 11: Correlation coefficient between HRQoL subscales and treatment satisfaction.

HRQoL subscales	Spearman's rho	Effectiveness	Side Effects	Convenience	Overall Satisfaction
Physical Functioning PF	Correlation Coefficient	.274	.370	.177	.322
	Sig. (2-tailed)	0.000	0.000	0.003	0.000
Role physical RP	Correlation Coefficient	.292	.283	.211	.308
	Sig. (2-tailed)	0.000	0.001	0.000	0.000
Bodily Pain BP	Correlation Coefficient	.263	.379	.234	.270
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
General Health GH	Correlation Coefficient	.375	.365	.299	.468
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
Energy_Fatigue VT	Correlation Coefficient	.384	.378	.309	.462
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
Social Functioning SF	Correlation Coefficient	.264	.416	.243	.348
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
Role Emotional	Correlation Coefficient	.295	.364	.272	.340
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
Mental Health MH	Correlation Coefficient	.312	.273	.294	.391
	Sig. (2-tailed)	0.000	0.001	0.000	0.000
Physical Composite Scale PCS	Correlation Coefficient	.347	.425	.272	.390
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
Mental Composite Scale MCS	Correlation Coefficient	.372	.458	.337	.456
	Sig. (2-tailed)	0.000	0.000	0.000	0.000

Chapter Five
Discussion

This study aimed to examine the effect of RA on HRQoL through using the SF-36 tool, and the satisfaction of medication assessed by TSQM. As mentioned in the literature review the prevalence of RA is 3 folds among females than males [21, 23]. In our study, females to male ratio was 4.2:1, of course we cannot generalize these results as our study cannot calculate prevalence, but it can give an idea of the disease distribution among females and males in the study group.

The results of our study showed that RA negatively impacts HRQoL, RA affected the physical component more than the mental one, suggesting that RA has a greater impact on physical than the mental one. This is consistent with other studies [24, 27, 29, 42]. In the mental composite MCS, it was only significant with disease activity and the total number of comorbid diseases that the patient has, while in the physical composite PCS, it was significant with age group, education level, employment, household income, [14] disease activity, duration of the disease, and the total number of medications taken by the patient.

Males had better RP than females, which was contradictory to other findings [29], maybe because of the fact that females in the Arab world live in a very traditional environment, where they have to perform all household courses without help from their husbands, sons, fathers, or brothers, which

will in return increase the burden on them and might negatively affect their (RP) in comparison to males.

Males also they had better mental health than females, which was consistent to other researches [29].

In our study, there was sex related differences in regard to RP, women had lower score than men which was consistent with previous studies [25, 29].

Being older was found to negatively affecting HRQoL PCS, which is in accordance to the findings of other papers [24, 29, 43] , so the older the patient is, the poorer his PF and the overall PCS age, this is consistent with others studies [14], which is foreseeable that physical function declines with age. It was noticed that the age group from 40 to 49 years old had the highest PF, even they had higher PF than younger patients, this might be as a result of being able to cope with the disease after some years of discovering it, and then with age, their PF starts to decline.

Our study confirmed that the higher educational level the patient has the better HRQoL PCS he has, which was also reported by other studies [25, 43]. This is because educated people are able to understand their disease more which enables them to control the disabling situations much better than others.

According to the education level, it affected positively physical function PF and bodily pain BP which was reported by other researches [44] and role physical RF all together, so lower levels of education were linked to lower

levels of the three subscales, which in return affected the physical HRQoL. On the other hand, higher education affected positively social function SF. This was contrast to what other studies found, in which educated people had lower HRQoL in both physical function (PF), PCS and MCS, even though they had less bodily pain than uneducated patients[27], while some studies found that there is no relation between physical HRQoL and the attained education [33].

In our results, employed patients had better physical function PF, role physical RP and global health GH. Being employed was associated with higher physical HRQoL PCS, which was in accordance with other researches [24, 43]; this might be due to the fact that work provides them with better economic and social status, and also interpersonal relations, which will in return help them to cope with the disease.

Place of residence affected the role physical, so those who live in cities had better role physical RP than those who live in rural or camp areas, which was in agreement with other researches where rural areas were linked negatively to HRQoL [24], this might be linked to the fact that those who live in rural areas are probably farmers and perform harder tasks than those who live in cities, while for those who live in camp areas, this might be due to the fact that they also have harsher daily life than those in cities.

Socioeconomic status SES is underrepresented in research samples worldwide, even though they are subjected to increased susceptibility to RA and reduced HRQoL, and they use only single measure of education

attainment or the monthly income Household income in order to represent patient SES [29]. In our research, it was found that household income to affect the physical HRQoL, so those with higher income had better PCS than others. They had better physical function PF, role physical RP, On the other hand they had better mental health MH and vitality VT than others. While when it came to bodily pain BP and global health GH, those having moderate income had better outcomes than others.

There was inverse correlation between disease activity with PCS, MCS and all subscales of HRQoL, so those with intensified period had worse physical and mental health than the others, and hence worse HRQoL. This information extended the information in the literature[42]. Having higher disease activity might be a reason of late diagnosis, lack of aggressive treatment and self-management. All of these will immensely affect HRQoL. In the light of what was mentioned, we need to emphasize on the importance of regular disease treatment and management.

Disease duration affected PCS and role physical RP. Those who had RA for 1 to 3 years had the best PCS, while for global health GH, those who had RA for less than one year had better GH than others, this is likely to be a reason of the fact that, with years of being sick of RA, disease might progress which will make both PCS, role physical RP and the general health GH to decline, especially when treatment is not well managed.

Coexisting comorbidities might affect RA outcomes, such as the physical health and the overall health, so it is important to involve an assessment of

comorbidities in the research [44], which was the case in our study. All SF-36 subscales except mental health (MH) were affected, so those who had zero comorbidity had better subscales except in role emotional (RE) and general health (GH), which were surprisingly better in those with one comorbid disease. Also, the mental (HRQoL) was better in those with the less chronic diseases.

Finally, the number of medications taken by the patient affected the PCS, so those who taken less medications had better PCS, and physical function PF, role physical RP, bodily pain BP, and global health GH were better among those who took less medications.

Satisfaction was only affected few factors, the first one is the household income, so those with higher income, reported to have less side effects than others.

Also it was affected by disease activity which affected all satisfaction domains, so those patients with stable period had better effectiveness, fewer side effects, their treatment were more convenient for them and their allover satisfaction was much better than others.

Satisfaction of medication was affected by the number of comorbidities the patient had, those who no comorbidities, reported the best effectiveness of their treatment among others.

In our study, a low positive correlation between HRQoL and treatment satisfaction was found. Another study had the same result but with a

different study sample of diabetic patients [18]. In other studies, treatment satisfaction was found to be closely interrelated with high patient involvement in his health care, which would include the patient in decision making [19, 45, 46] , that will increase the patient's confidence [47], also it will enhance patient's adherence to therapy[23] also we need to provide the patient with information by his attending physician, these efforts should be directed towards those with low education, chronic physical disorder and emotional distress [19]. Other studies also showed the providing the patient with information about the side effects of their medication and about treatment options were significantly associated with higher levels of overall satisfaction [48]. Patient's beliefs and attitude influence how they take medication, so health professionals are able to facilitate patient's acceptance of treatment risk through clarifying the consequences of the side effects which will in return alleviate the fear inside of the patient [46].

5.1 Strengths and Limitations

5.1.1 Strengths of the study

To the extent of our knowledge this is the first or among the first researches in Palestine that studies both HRQoL and satisfaction of medication among RA patients. This study included a sample from all northern hospitals of Palestine, which will create a database for RA disease in Palestine.

The data was gathered through face to face interviews which will ensure complete and valid data.

5.1.2 Limitations

1- Our sample was convenience one from 4 hospitals in the West Bank, also the size of the sample is small, so generalizability is limited. This is a cross sectional study, so we cannot establish a causal relation.

2- Data was gathered through face to face interviews, which increases the likelihood of bias in data, but at the same time.

3- The study lacks a measuring tool of disease activity, which will give a better evaluation of the patient's situation.

Chapter Six
Conclusion and recommendations

6.1 Conclusion

Overall, the physical HRQoL of RA patients is affected more than the mental one. Gender, age, BMI, education, employment, place of residence, household income, disease duration and activity, number of comorbid diseases, and number of medications taken by the patient are all factors affecting HRQoL of RA patients. Satisfaction of medication is positively affected by HRQoL.

6.2 Recommendations

The present study raises the importance of income's effect on physical HRQoL, so this finding has important implications for developing a plan to help poor patients, through supporting them financially by the government, which will significantly improve their physical HRQoL.

On the other hand, this study help us to understand the importance of involving RA patients in decision making, give them more education about the disease, medications, and adverse effects of medications. Also, to give special attentions to elderly and uneducated people who will probably suffer the most.

These findings have important implications which are the importance of the clinical pharmacist role in patients' education about their disease, medications and their adverse effects. Not to forget the psychological

support that can be provided by the clinical pharmacist. By providing pharmaceutical care, clinical pharmacists can considerably improve the health-related quality of life of RA patients.

There is scope for future research in applying these measures for assessing the burden of medicine and the impact of pharmaceutical care interventions on quality of life outcomes.

The use of these international scales could be a useful tool for improving research and practice in clinical pharmacy in Palestine.

6.3 Conflict of interest

The authors declare they have no conflicts of interest.

References

1. World Health Organization. **Noncommunicable diseases and their risk factors.** 2018 [cited 2020 January 25]; Available from: http://www.who.int/chp/topics/rheumatic/en/.

2. Rudan, I., et al., **Prevalence of rheumatoid arthritis in low- and middle-income countries: A systematic review and analysis**. J Glob Health, 2015. 5(1): p. 010409.

3. Hodkinson, B., M. Tikly, and A. Adebajo, **Rheumatoid arthritis in the developing world: stepping up to the challenge.** Clin Rheumatol, 2014. 33(9): p. 1195-6.

4. Chen, H., et al., **Treatment satisfaction is associated with improved quality of life in patients treated with inhaled treprostinil for pulmonary arterial hypertension.** Health Qual Life Outcomes, 2013. 11: p. 31.

5. Atkinson, M.J., et al., **Hierarchical construct validity of the treatment satisfaction questionnaire for medication (TSQM version II) among outpatient pharmacy consumers.** Value Health, 2005. 8 Suppl 1: p. S9-S24.

6. Redekop, W.K., et al., **Health-related quality of life and treatment satisfaction in Dutch patients with type 2 diabetes**. Diabetes Care, 2002. 25(3): p. 458-63.

7. Nicolucci, A., et al., **Clinical and socio-economic correlates of quality of life and treatment satisfaction in patients with type 2 diabetes**. Nutr Metab Cardiovasc Dis, 2009. 19(1): p. 45-53.

8. Bradley, C., et al., **PANORAMA: a European study to evaluate quality of life and treatment satisfaction in patients with type-2 diabetes mellitus--study design.** Prim Care Diabetes, 2011. 5(4): p. 231-9.

9. Chen, H., D.B. Taichman, and R.L. **Doyle, Health-related quality of life and patient-reported outcomes in pulmonary arterial hypertension.** Proc Am Thorac Soc, 2008. 5(5): p. 623-30.

10. Al-Jabi, S.W., et al., **Relationship of treatment satisfaction to health-related quality of life: findings from a cross-sectional survey among hypertensive patients in Palestine**. Health Expect, 2015. 18(6): p. 3336-48.

11. Benzimra, M., et al., **Real-life experience of quality of life, treatment satisfaction, and adherence in patients receiving oral anticoagulants for atrial fibrillation.** Patient Prefer Adherence, 2018. 12: p. 79-87.

12. Chaturvedi, R., et al., **An evaluation of the impact of antidiabetic medication on treatment satisfaction and quality of life in patients of diabetes mellitus.** Perspect Clin Res, 2018. 9(1): p. 15-22.

13. Granado-Casas, M., et al., **Decreased quality of life and treatment satisfaction in patients with latent autoimmune diabetes of the adult**. PeerJ, 2017. 5: p. e3928.

14. Khanna, P.P., et al., **Health-related quality of life and treatment satisfaction in patients with gout: results from a cross-sectional study in a managed care setting.** Patient Prefer Adherence, 2015. 9: p. 971-81.

15. Masaki, S., et al., **Treatment satisfaction, willingness to pay and quality of life in Japanese patients with psoriasis**. J Dermatol, 2017. 44(2): p. 143-146.

16. Peach, G., et al., **Quality of life, symptoms and treatment satisfaction in patients with aortic aneurysm using new abdominal aortic aneurysm-specific patient-reported outcome measures**. Br J Surg, 2016. 103(8): p. 1012-9.

17. Ramu, J., et al., **Health-related quality of life, visual function and treatment satisfaction following intravitreal dexamethasone implant for diabetic macular edema.** Patient Prefer Adherence, 2017. 11: p. 579-586.

18. Zyoud, S.H., et al., **Relationship of treatment satisfaction to health-related quality of life among Palestinian patients with type 2 diabetes mellitus: Findings from a cross-sectional study**. J Clin Transl Endocrinol, 2015. 2(2): p. 66-71.

19. Brekke, M., P. **Hjortdahl, and T.K. Kvien, Involvement and satisfaction: a Norwegian study of health care among 1,024 patients with rheumatoid arthritis and 1,509 patients with chronic noninflammatory musculoskeletal pain.** Arthritis Rheum, 2001. 45(1): p. 8-15.

20. Nakashima, Y., et al., **Drug delivery options to increase patient adherence and satisfaction in the management of rheumatoid arthritis -- focus on subcutaneous tocilizumab.** Drug Des Devel Ther, 2014. 8: p. 913-9.

21. Wang, G., R. Mu, and H. Xu, **Management of rheumatoid arthritis in People's Republic of China - focus on tocilizumab and patient considerations.** Int J Gen Med, 2015. 8: p. 187-94.

22. Yilmaz, V., et al., **Rheumatoid Arthritis: Are psychological factors effective in disease flare? Eur J Rheumatol, 2017**. 4(2): p. 127-132.

23. Wollenhaupt, J., et al., **Prioritizing the patient: optimizing therapy in rheumatoid arthritis. Results of a patient questionnaire in northern Germany.** Open Access Rheumatol, 2013. 5: p. 51-67.

24. Gong, G. and J. Mao, **Health-Related Quality of Life Among Chinese Patients With Rheumatoid Arthritis: The Predictive Roles of Fatigue, Functional Disability, Self-Efficacy, and Social Support**. Nurs Res, 2016. 65(1): p. 55-67.

25. Franco-Aguirre, J.Q., A.A. **Cardona-Tapias, and J.A. Cardona-Arias, Health-related quality of life of rheumatic disease patients treated in a specialized IPS in Medellin, Colombia**. J Med Life, 2017. 10(4): p. 223-231.

26. Nash, P. and D. Nicholls, **Perceptions of methotrexate use in rheumatoid arthritis by rheumatologists and their patients: an Australian survey study.** Int J Rheum Dis, 2013. 16(6): p. 652-61.

27. Abu Al-Fadl, E.M., et al., **Assessment of health-related quality of life, anxiety and depression in patients with early rheumatoid arthritis**. Egypt Rheumatol, 2014. 36(2): p. 51-56.

28. Liu, L., et al., **Disease activity, resilience and health-related quality of life in Chinese patients with rheumatoid arthritis: a multi-center, cross-sectional study.** Health Qual Life Outcomes, 2017. 15(1): p. 149.

29. Matcham, F., et al., **The impact of rheumatoid arthritis on quality-of-life assessed using the SF-36: a systematic review and meta-analysis.** Semin Arthritis Rheum, 2014. 44(2): p. 123-30.

30. Withers, M.H., L.T. **Gonzalez, and G.A. Karpouzas, Identification and Treatment Optimization of Comorbid Depression in Rheumatoid Arthritis.** Rheumatol Ther, 2017. 4(2): p. 281-291.

31. Gonzalez, C.M., et al., **Perceptions of patients with rheumatic diseases on the impact on daily life and satisfaction with their**

medications: RHEU-LIFE, a survey to patients treated with subcutaneous biological products. Patient Prefer Adherence, 2017. 11: p. 1243-1252.

32. World Health Organization. **Health statistics and information systems**. 2018 [cited 2018 January 12]; Available from: http://www.who.int/healthinfo/survey/whoqol-qualityoflife/en/.

33. Gronning, K., E. **Rodevand, and A. Steinsbekk, Paid work is associated with improved health-related quality of life in patients with rheumatoid arthritis.** Clin Rheumatol, 2010. 29(11): p. 1317-22.

34. Bharmal, M., et al., **Validation of an abbreviated Treatment Satisfaction Questionnaire for Medication (TSQM-9) among patients on antihypertensive medications**. Health Qual Life Outcomes, 2009. 7(1): p. 36.

35. Atkinson, M.J., et al., **Validation of a general measure of treatment satisfaction, the Treatment Satisfaction Questionnaire for Medication (TSQM), using a national panel study of chronic disease.** Health Qual Life Outcomes, 2004. 2(1): p. 12.

36. Atkinson, M.J., et al., **Validation of a general measure of treatment satisfaction, the Treatment Satisfaction Questionnaire for Medication (TSQM), using a national panel study of chronic disease**. Health Qual Life Outcomes, 2004. 2.

37. Giacomelli, R., et al., **Quality of life and unmet needs in patients with inflammatory arthropathies: results from the multicentre, observational RAPSODIA study.** Rheumatology (Oxford), 2015. 54(5): p. 792-7.

38. Sleet, D. and S.W. Al-Jabi, **Functional Disability and Health Related Quality of Life in Patients with Rheumatoid Arthritis: Impact of Socio-demographic and Clinical Characteristics.** 2016, An-Najah National University: An-Najah National University.

39. ten Klooster, P.M., et al., **Performance of the Dutch SF-36 version 2 as a measure of health-related quality of life in patients with rheumatoid arthritis.** Health Qual Life Outcomes, 2013. 11: p. 77.

40. Khader, S., et al., ***Normative data and psychometric properties of short form 36 health survey (SF-36, version 1.0) in the population of north Jordan.*** **Eastern Mediterranean Health Journal, 2011**. 17(5): p. 368-374.

41. Zyoud, S.H., et al., **Relationship of treatment satisfaction to medication adherence: findings from a cross-sectional survey among hypertensive patients in Palestine.** Health Qual Life Outcomes, 2013. 11: p. 191.

42. Liu, L., et al., **Disease activity, resilience and health-related quality of life in Chinese patients with rheumatoid arthritis: a multi-center, cross-sectional study.** Health Qual Life Outcomes, 2017. 15.

43. Groessl, E.J., T.G. Ganiats, and A.J. **Sarkin, Sociodemographic differences in quality of life in rheumatoid arthritis.** Pharmacoeconomics, 2006. 24(2): p. 109-21.

44. Salaffi, F., et al., **The health-related quality of life in rheumatoid arthritis, ankylosing spondylitis, and psoriatic arthritis: a comparison with a selected sample of healthy people.** Health Qual Life Outcomes, 2009. 7: p. 25.

45. Lofland, J.H., et al., **Shared decision-making for biologic treatment of autoimmune disease: influence on adherence, persistence, satisfaction, and health care costs.** Patient Prefer Adherence, 2017. 11: p. 947-958.

46. Lim, A.Y., et al., **Patient satisfaction with rheumatology practitioner clinics: can we achieve concordance by meeting patients' information needs and encouraging participatory decision making? Ann Acad Med Singapore, 2007.** 36(2): p. 110-4.

47. Chilton, F. and R.A. **Collett, Treatment choices, preferences and decision-making by patients with rheumatoid arthritis**. Musculoskeletal Care, 2008. 6(1): p. 1-14.

48. Renzi, C., C. Di Pietro, and S. **Tabolli, Participation, satisfaction and knowledge level of patients with cutaneous psoriasis or psoriatic arthritis.** Clin Exp Dermatol, 2011. 36(8): p. 885-8.

Appendices

Appendix 1: Questionnaires

36-Item Short Form Survey Instrument (SF-36)

Choose one option for each questionnaire item.

1. In general, would you say your health is:

1 - Excellent 2 - Very good 3 - Good 4 - Fair 5 - Poor

2. Compared to one year ago, how would you rate your health in general now?

1 - Much better now than one year ago
2 - Somewhat better now than one year ago
3 - About the same
4 - Somewhat worse now than one year ago
5 - Much worse now than one year ago

The following items are about activities you might do during a typical day. Does yo ur health now limit you in these activities? If so, how much?

	Yes, limited a lot	Yes, limited a little	No, not limited a t all
3.Vigorous activities, such as running, lifting heavy obj ects, participating in strenuous sports.			
4.Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf.			
5.Lifting or carrying groceries.			
6.Climbing several flights of stairs.			
7.Climbing one flight of stairs.			
8. Bending, kneeling, or stooping.			
9.Walking more than a mile.			
10. Walking several blocks.			
11.Walking one block.			
12.Bathing or dressing yourself.			

During the past 4 weeks, have you had any of the following problems with your wo rk or other regular daily activities as a result of your physical health?

	Yes	No
13. Cut down the amount of time you spent on work or other activities.		
14. Accomplished less than you would like.		
15. Were limited in the kind of work or other activities.		
16.Had difficulty performing the work or other activities (for example, it t ook extra effort).		

During the past 4 weeks, have you had any of the following problems with your wo rk or
other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

	Yes	No
17.Cut down the amount of time you spent on work or other activities		
18.Accomplished less than you would like		
19.Didn't do work or other activities as carefully as usual		

20.During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighb ors, or groups?
1 - Not at all. 2 – Slightly. 3 – Moderately. 4 - Quite a bit. 5 – Extremely.

21. How much bodily pain have you had during the past 4 weeks?
1 – None. 2 - Very mild. 3 – Mild. 4 – Moderate. 5 – Severe. 6 - Very severe.

22.During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
1 - Not at all. 2 - A little bit. 3 – Moderately. 4 - Quite a bit. 5 – Extremely.

These questions are about how you feel and how things have been with you during the
past 4 weeks. For each question, please give the one answer that comes closest to th e way you have been feeling. How much of the time during the past 4 weeks...

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
23. Did you feel full of pep?						
24. Have you been a very nervous person?						
25. Have you felt so down in the dumps that nothing could cheer you up?						
26. Have you felt calm and peaceful?						
27. Did you have a lot of energy?						
28. Have you felt downhearted and blue?						
29. Did you feel worn out?						
30. Have you been a happy person?						
31. Did you feel tired?						

32. During the past 4 weeks, how much of the time has your physical health or emo tional
problems interfered with your social activities (like visiting with friends, relatives, etc.)?
1 - All of the time. 2 - Most of the time. 3 - Some of the time.
4 - A little of the time. 5 - None of the time.

How TRUE or FALSE is each of the following statements for you

	Definitely true	Mostly true	Don't know	Mostly false	Definitely false
33. I seem to get sick a little easier than other people.					
34. I am as healthy as anybody I know.					
35. I expect my health to get worse.					
36. My health is excellent.					

Treatment Satisfaction Questionnaire for Medication (TSQM 1.4)

1. How satisfied or dissatisfied are you with the ability of the medication to prevent or treat
your condition?
1- Extremely Dissatisfied
2 -Very Dissatisfied
3- Dissatisfied
4- Somewhat Satisfied
5- Satisfied
6- Very Satisfied
7- Extremely Satisfied

2. How satisfied or dissatisfied are you with the way the medication relieves your symptoms?
1- Extremely Dissatisfied
2 -Very Dissatisfied
3- Dissatisfied
4- Somewhat Satisfied
5- Satisfied
6- Very Satisfied
7- Extremely Satisfied

3. How satisfied or dissatisfied are you with the amount of time it takes the medication to start working?
1- Extremely Dissatisfied
2 -Very Dissatisfied
3 -Dissatisfied
4- Somewhat Satisfied
5- Satisfied
6 -Very Satisfied
7 -Extremely Satisfied
4. As a result of taking this medication, do you experience any side effects at all?
1- Yes
2- No

5. How bothersome are the side effects of the medication you take to treat your condition?
1 -Extremely Bothersome
2- Very Bothersome
3- Somewhat Bothersome
4- A Little Bothersome
5- Not at All Bothersome

6. To what extent do the side effects interfere with your physical health and ability to function (i.e., strength, energy levels, etc.)?
1- A Great Deal
2 -Quite a Bit
3 -Somewhat
4- Minimally
5- Not at All

7. To what extent do the side effects interfere with your mental function (i.e., ability to think clearly, stay awake, etc.)?
1- A Great Deal
2 -Quite a Bit
3- Somewhat
4- Minimally
5- Not at All

8. To what degree have medication side effects affected your overall satisfaction with the medication?
1 A Great Deal
2 Quite a Bit
3 Somewhat
4 Minimally
5 Not at All

9. How easy or difficult is it to use the medication in its current form?
1- Extremely Difficult
2- Very Difficult
3- Difficult
4- Somewhat Easy
5- Easy
6- Very Easy
7- Extremely Easy

10. How easy or difficult is it to plan when you will use the medication each time?
1- Extremely Difficult
2 -Very Difficult
3- Difficult
4 -Somewhat Easy
5 -Easy
6 -Very Easy
7- Extremely Easy

11. How convenient or inconvenient is it to take the medication as instructed?
1 -Extremely Inconvenient
2 -Very Inconvenient
3 -Inconvenient
4 -Somewhat Convenient
5 -Convenient
6 -Very Convenient
7 -Extremely Convenient

12. Overall, how confident are you that taking this medication is a good thing for you?
1 Not at All Confident
2 A Little Confident
3 Somewhat Confident
4 Very Confident
5 Extremely Confident

13. How certain are you that the good things about your medication outweigh the bad things?
1- Not at All Certain
2- A Little Certain
3-Somewhat Certain
4 -Very Certain
5- Extremely Certain

14. Taking all things into account, how satisfied or dissatisfied are you with this medication?
1- Extremely Dissatisfied
2- Very Dissatisfied
3- Dissatisfied
4 -Somewhat Satisfied
5 -Satisfied
6 -Very Satisfied
7- Extremely Satisfied

SF-36 Survey
Questionnaire – Arabic version

Date:
Hospital:
Data collector:
Pt. Name:
Pt. ID number:

أخي/ أختي المشارك/ة:
أنا الباحثة من كلية الطب وعلوم الصحه، جامعة النجاح الوطنية يسرني أن أدعوك الى المشاركة في بحثي المتعلق بجودة الحياة المرتبطة بالصحة و مدى رضاكم عن الأدوية التي تتعاطوها.
لك كامل الحرية والارادة في المشاركة في هذا البحث ولك الحق في اخذ الوقت الكافي للتفكير في المشاركة من عدمها وسؤال الباحث عما تراه مناسبا والتحدث لاي شخص او جهة عن هذا البحث.
كما يمكنك الاستفسار عن اي جزء يتعلق في البحث الان او فيما بعد واذا كانت هناك كلمات او اجزاء غير مفهومة بامكانك سؤال الباحث وستجد/ين الوقت والاجابة الكافيتين.
يضمن البحث سرية المعلومات المتعلقة بالمشارك/ة.

1. الجنس □ ذكر □ أنثى
2. العمر : ..... سنة
3. التدخين: □ مدخن سجائر □مدخن سابق □ غير مدخن
4. المؤهل العلمي : □ أقل من ابتدائي
   □ ابتدائي
   □ اعدادي
   □ ثانوي
   □ جامعي
5. الحالة الاجتماعية : □ أعزب □ متزوج □ مطلق/ أرمل
6. العمل : □ يعمل □ لا يعمل □ توقفت عن العمل بسبب الروماتيزم
7. مكان الإقامة : □ مدينة □ قرية □مخيم
8. الدخل الشهري : □ قليل - أقل من 400 دينار
   □ متوسط - ما بين 400 – 1000 دينار
   □ مرتفع - ما بين 1000 – 2000 دينار
   □ مرتفع جداً - أكثر من 2000 دينار
9. الطول : ..... سم
10. الوزن : ..... كغم
11. BMI : .....
12. مدة المرض : .....
13. هل هناك احد من الاقارب مصاب بمرض الروماتيزم: □نعم □لا
14. نشاط المرض : □ خامد □ مستقر □ غير مستقر □ متصاعد
15. وضع العلاج: □ تشخيص جديد
    □ معالجة منتظمة
    □ معالجة غير منتظمة

الأمراض المزمنة التي تعاني منها :

	القلب امراض		امراض الجهاز الهضمي		الصماء الغدد امراض
□	الدم ضغط	□	مريئي ارتداد	□	الدرقية الغدة أمراض :حدد
□	دماغية جلطة	□	معدة قرحة	□	اليأس سن
□	قلبية جلطة	□	عصبي قولون	□	المبيض في تكيس
□	الأذيني الرجفانAtrial fibrillation	□	التقرحي القولون إلتهابUlcerative colitis	□	السكري
□	امراض اخرى: حدد.....	□	Crohn's disease	□	اخرى امراض: حدد.....
	امراض تنفسية	□	إمساك		امراض عيون
□	COPD	□	الحرارة حصوة	□	العين عدسة إعتام
□	ازمة	□	الكبد تشمع	□	اخرى امراض: حدد.....
□	اخرى امراض: حدد.....	□	الوبائي الكبد فيروس		امراض اخرى
	امراض الكلى	□	البنكرياس امراض: حدد.....	□	اورام خبيثة
□	كلوي فشل	□	اخرى امراض: حدد.....	□	المناعة بجهاز امراض: حدد.....
□	الكلى حصى			□	جلدية امراض: حدد.....
□	اخرى امراض: حدد.....			□	حساسية امراض: حدد.....

16. الأدوية التي تأخذها لمرضك:

	لمرضك تأخذها التي الأدوية		أخرى أدوية		أخرى أدوية		أخرى أدوية
□	Acamol		**Anti-Platelets**		**Dieurtics**		**Anti-hyperlipediemia**
□	Relaxon	□	Aspirin	□	Aldacton 25, 50, 100 mg	□	Crestor, Liprosor, Rosalip
	NSAID	□	Plavix	□	Hydroclorothiazide 25	□	liponil, lipitor
□	Trufen		**Anti-Coagulants**	□	Lasix		**Anti-Gout**
□	Rufenal	□	Coumadin, Warfarin	□	Zaroxolyn	□	Zylol
□	Tericox	□	Clexane 20, 40, 60, 80		**Anti-Diabetics**	□	Colchicin
□	Etodolac		**Anti-hypertensives**	□	Glucophage, Glucomet, Metformin		**Anti-GI upset**
□	Movalis	□	Enalapril 5, 20	□	Amaryl	□	Ratadin
□	Mesulid	□	Lozar, Losartan 50mg	□	Golvus	□	Mepral, Nexium
	Steroids	□	Concor 5mg, Cardioloc	□	Janumate	□	Famodin
□	Prednisolon, corticosteroid	□	Carvidilol 6.25, 12.5, 25	□	Eucrease	□	Spasmine
	cDMARDS	□	Cadex 2, 4mg	□	Eltroxin	□	Eucarobon
□	Methotrexate	□	Amicor 5	□	Insulin Mixtard (Brown)		**Astham, COPD**
□	Sulfasalazine	□	Normatin, atenolol	□	Insulin Plain (Yellow)	□	Aerovent inhaler, neublizer
□	Plaquenil - hydroxychloroquine	□	Tritace, Ramazide		**Supplements**	□	Ventolin Inhaler, Neublizer
□	Arava -leflunomindeare	□	Valzan, Co-diovan, Valozide	□	Calcium Carbonate (Ca supplement)		**Laxatives**
	bDMARDS	□	Exforge	□	Alfa D3, 0.25 mcg, 1 mcg	□	Avilac
□	Enbrel		**Anti-anginals**	□	B12	□	Laxadin
□	Infliximab	□	Monocord 20mg	□	Folic Acid	□	Glycerin suppsotries
□	Humira - Adilumab	□	Cordil 5mg	□	Iron		**Anti-Seizures**
□	Rituximab, Mebthera	□	Osmoadalat	□	FGF	□	Depalept
□	Actemra, Tocilizumab		**Anti-arrythmics**		**Binders**	□	Tegretol
□	**Others, specify: .....**	□	Digoxin	□	Sevelamir	□	Epanutin
		□	Procor 200mg		**Osteoprosis**		**Others**
				□	Aclasta	□	Lorax, Ahiston
				□	Osteotab, Fosalan, Alendronate Na	□	Betastin 16 mg
						□	**Others, Specify: .....**

22 .في حال كنت تستخدم الدواء البيولوجي:

a. منذ متى بدأت استخدام الدواء البيولوجي؟.....

b. هل كان هنالك انقطاع عن الدواء البيولوجي: □ نعم □لا

c. فترة الانقطاع عن البيولوجي:.....

d. متى كانت اخر جرعة للدواء البيولوجي؟.....

من فضلك، أجب على كل الأسئلة الموجودة في هذا الاستبيان. في حالة عدم وضوح أي سؤال، أرجو اختيار أقرب اجابة لمفهومك للسؤال.

١- بصورة عامة، كيف ترى حالتك الصحية؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

- ☐ ممتازة
- ☐ جيدجدا
- ☐ جيدة
- ☐ لا بأس بها
- ☐ سيئة

٢- **مقارنة بعام مضى**، كيف تقيم حالتك الصحية **الآن** بصورة عامة؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

- ☐ أفضل بكثير مما كانت عليه قبل عام
- ☐ أفضل نوعا ما من العام الماضي
- ☐ تقريبا على ما هي عليه
- ☐ أسوأ نوعا ما من العام الماضي
- ☐ أسوأ بكثير مما كانت عليه قبل عام

٣- تتعلق البنود التالية بأنشطة يمكن ان تقوم بها خلال يومك العادي. **في الوقت الحالي**، الى اي مدى **تقيدك حالتك الصحية**: (اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)	نعم تقيدني كثيرا	نعم تقيدني قليلا	لا تقيدني اطلاقا
أ) من ممارسة **الأنشطة الشاقة** مثل: الجري، حمل الاشياء الثقيلة او مزاولة الأنشطة الرياضية المجهدة جدا؟	☐	☐	☐
ب) من ممارسة **الأنشطة متوسطة الجهد**، كتحريك الطاولة او التنظيف باستخدام المكنسة الكهربائية او تنظيف حديقة المنزل والعناية بها ؟	☐	☐	☐
ج) من حمل المشتريات من البقالة او السوق المركزي (السوبرماركت)؟	☐	☐	☐
د) من صعود الدرج **لعدة ادوار**؟	☐	☐	☐
هـ) من صعود الدرج **لدور واحد فقط**؟	☐	☐	☐
و) من الانحناء او الركوع او السجود ؟	☐	☐	☐
ز) من المشي لأكثر من **كيلومتر ونصف**؟	☐	☐	☐
ح) من المشي لمسافة **نصف كيلومتر**؟	☐	☐	☐
ط) من المشي لمسافة **مئة متر**؟	☐	☐	☐
ي) من الاستحمام او ارتداء الملابس بنفسك؟	☐	☐	☐

الصحة الجسمية

٤- تتعلق البنود التالية (أ ، ب ، ج ، د) بالمشاكل التي يمكن ان تواجهك خلال تأديتك لعملك او للأنشطة اليومية المعتادة نتيجة لحالتك الصحية الجسمية. **خلال الأسابيع الأربعة الماضية**، هل تسببت **حالتك الصحية الجسمية في**: (اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)	نعم	لا
أ) **التقليل من الوقت** الذي تقضيه في العمل او اي انشطة اخرى؟	☐	☐
ب) **التقليل** مما تود **انجازه** من العمل أو أي أنشطة أخرى؟	☐	☐
ج) **تقييدك في أداء نوع** معين من الأعمال أو أي أنشطة أخرى؟	☐	☐
د) **أن تجد صعوبة في** تأدية العمل أو أي أنشطة أخرى؟ (على سبيل المثال، احتجت الى جهد اضافي لتأديتها)	☐	☐

الصحة النفسية

٥- تتعلق البنود التالية (أ ، ب ، ج) بالمشاكل التي يمكن ان تواجهك خلال تأديتك لعملك او الانشطة اليومية المعتادة كنتيجة لحالتك الصحية النفسية. (مثلا الشعور بالاكتئاب او القلق) **خلال الاسابيع الأربعة الماضية**، هل تسببت حالتك الصحية النفسية في:	نعم	لا
أ) **التقليل من الوقت** الذي تقضيه في العمل او اي انشطة اخرى؟	☐	☐
ب) **التقليل** مما تود **انجازه** من العمل أو أي أنشطة أخرى؟	☐	☐
ج) **عدم انجاز** العمل او اي انشطة اخرى **بالحرص المعتاد**؟	☐	☐

(اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)

- 4 -

الصحة الجسمية او النفسية

٦- **خلال الاسابيع الاربعة الماضية**، الى اي مدى تعارضت **صحتك الجسمية او النفسية** مع تأديتك لنشاطاتك الاجتماعية المعتادة مع عائلتك او اصدقائك او جيرانك او اي من المناسبات الاجتماعية الأخرى؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

- ☐ لم يكن هناك أي تعارض اطلاقا
- ☐ كان هناك تعارض قليل
- ☐ كان هناك تعارض متوسط
- ☐ كان هناك تعارض كبير
- ☐ كان هناك تعارض كبير جدا

شدة الألم

٧- ما **شدة الألم الجسمي** الذي عانيت منه خلال **الاسابيع الاربعة الماضية**؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

- ☐ لم يكن هناك أي ألم
- ☐ كان هناك ألم خفيف جدا
- ☐ كان هناك ألم خفيف
- ☐ كان هناك ألم متوسط
- ☐ كان هناك ألم شديد
- ☐ كان هناك ألم شديد جدا

٨- **خلال الاسابيع الاربعة الماضية**، الى اي مدى ادى **الألم الجسمي** الى التعارض مع تأديتك لأعمالك المعتادة (سواء داخل المنزل او خارجه)؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

- ☐ لم يكن هناك أي تعارض
- ☐ كان هناك تعارض قليل جدا
- ☐ كان هناك تعارض متوسط
- ☐ كان هناك تعارض كبير
- ☐ كان هناك تعارض كبير جدا

٩- الأسئلة التالية تتعلق بكيفية شعورك وطبيعة سير الأمور معك **خلال الأسابيع الأربعة الماضية**. الرجاء اعطاء اجابة واحدة لكل سؤال بحيث تكون هذه الاجابة هي الأقرب الى الحالة التي كنت تشعر بها.

خلال الأسابيع الأربعة الماضية، كم من الوقت:

(اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)

	في كل الأوقات	في معظم الأوقات	في كثير من الأوقات	في بعض الأوقات	في قليل من الأوقات	لم اشعر في أي وقت من الأوقات
أ) شعرت بأنك ملئ بالحيوية والنشاط؟	☐	☐	☐	☐	☐	☐
ب) كنت شخصاً عصبيا جدا؟	☐	☐	☐	☐	☐	☐
ج) شعرت بأنك في حالة اكتئاب الى درجة لم يمكن معها ادخال السرور اليك؟	☐	☐	☐	☐	☐	☐
د) شعرت بالهدوء والطمأنينة؟	☐	☐	☐	☐	☐	☐
هـ) كانت لديك طاقة كبيرة؟	☐	☐	☐	☐	☐	☐
و) شعرت بالاحباط واليأس؟	☐	☐	☐	☐	☐	☐
ز) شعرت بأنك منهك (استُنْفِذت قُواك)؟	☐	☐	☐	☐	☐	☐
ح) شعرت بأنك شخص سعيد؟	☐	☐	☐	☐	☐	☐
ط) شعرت بأنك تعبان؟	☐	☐	☐	☐	☐	☐

١٠- **خلال الاسابيع الأربعة الماضية**، ما مقدار الوقت الذي تعارضت فيه **صحتك الجسمية او مشاكلك النفسية** مع نشاطاتك الاجتماعية (مثل زيارة الأصدقاء والأقارب وغير ذلك) ؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

- ☐ كان التعارض في كل الأوقات
- ☐ كان التعارض في معظم الأوقات
- ☐ كان التعارض في بعض الأوقات
- ☐ كان التعارض في قليل من الأوقات
- ☐ لم يكن هنالك تعارض في أي وقت من الأوقات

١١- ما مدى **صحة او خطأ كل** من العبارات التالية (أ ، ب ، ج ، د) بالنسبة الى حالتك الصحية؟

(اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)

	صحيحة بلا شك	صحيحة غالبا	لا اعلم	خطأ غالبا	خطأ بلا شك
أ) يبدو أنني أصاب بالمرض أسهل من الآخرين.	☐	☐	☐	☐	☐
ب) حالتي الصحية مساوية لأي شخص أعرفه.	☐	☐	☐	☐	☐
ج) أتوقع أن تسوء حالتي الصحية.	☐	☐	☐	☐	☐
د) حالتي الصحية ممتازة.	☐	☐	☐	☐	☐

TSQM (version 1.4)

استبيان حول الرضا العلاجي للدواء

الإرشادات: نرجو تخصيص بعض الوقت للتفكير بمستوى رضاك أو عدم رضاك عن الدواء الذي تتعاطاه في هذه التجربة السريرية. يهمنا معرفة تقييمك لفعالية الدواء وأعراضه الجانبية ومدى سهولة استخدامه على مدى الأسبوعين أو الأسابيع الثلاثة الماضية، أو منذ المرة الأخيرة التي استخدمته فيها. لكل سؤال، الرجاء وضع علامة صح (☑) بجانب الإجابة الأكثر تعبيراً عن تجربتك الخاصة مع الدواء.

1. ما مدى رضاك أو عدم رضاك عن قدرة الدواء على الوقاية من حالتك المرضية أو على علاجها؟
☐1 غير راضٍ على الإطلاق
☐2 غير راضٍ جداً
☐3 غير راضٍ
☐4 راضٍ بعض الشيء
☐5 راضٍ
☐6 راضٍ جداً
☐7 راضٍ للغاية

2. ما مدى رضاك أو عدم رضاك عن طريقة تخفيف الدواء للأعراض التي تعاني منها؟
☐1 غير راضٍ على الإطلاق
☐2 غير راضٍ جداً
☐3 غير راضٍ
☐4 راضٍ بعض الشيء
☐5 راضٍ
☐6 راضٍ جداً
☐7 راضٍ للغاية

3. ما مدى رضاك أو عدم رضاك عن الفترة الزمنية التي يستغرقها الدواء ليبدأ مفعوله؟
☐1 غير راضٍ على الإطلاق
☐2 غير راضٍ جداً
☐3 غير راضٍ
☐4 راضٍ بعض الشيء
☐5 راضٍ
☐6 راضٍ جداً
☐7 راضٍ للغاية

4. هل تعاني من أية أعراض جانبية نتيجة لتعاطيك الدواء؟
☐1 نعم
☐2 لا (إن كانت إجابتك لا الرجاء الانتقال إلى السؤال رقم 9)

5. ما مدى انزعاجك من الأعراض الجانبية للدواء الذي تتعاطاه لعلاج حالتك؟
☐1 منزعج للغاية
☐2 منزعج جداً
☐3 منزعج بعض الشيء
☐4 منزعج قليلاً
☐5 غير منزعج على الإطلاق

6. إلى أي حد تعيق الأعراض الجانبية صحتك البدنية وقدراتك الجسدية (أي القوة ومستويات الطاقة ... إلخ)؟
☐1 إلى حد كبير
☐2 إلى حد ما
☐3 بعض الشيء
☐4 إلى حد ضئيل
☐5 لا تعيقها على الإطلاق

7. إلى أي حد تعيق الأعراض الجانبية قدرتك العقلية (أي القدرة على التفكير بصفاء والبقاء مستيقظاً ... إلخ)؟
☐1 إلى حد كبير
☐2 إلى حد ما
☐3 بعض الشيء
☐4 إلى حد ضئيل
☐5 لا تعيقها على الإطلاق

8. إلى أي مدى أثرت الأعراض الجانبية للدواء على رضاك العام عنه؟
☐1 إلى حد كبير
☐2 إلى حد ما
☐3 بعض الشيء
☐4 إلى حد ضئيل
☐5 لم تؤثر عليه على الإطلاق

9. ما مدى سهولة أو صعوبة استخدام الدواء بشكله الحالي؟
☐1 صعب للغاية
☐2 صعب جداً
☐3 صعب
☐4 سهل بعض الشيء
☐5 سهل
☐6 سهل جداً
☐7 سهل للغاية

10. ما مدى سهولة أو صعوبة التخطيط لوقت استخدام الدواء في كل مرة؟
☐1 صعب للغاية
☐2 صعب جداً
☐3 صعب
☐4 سهل بعض الشيء
☐5 سهل
☐6 سهل جداً
☐7 سهل للغاية

11. ما مدى ملاءمة أو عدم ملاءمة تعاطي الدواء حسب التعليمات؟
☐1 غير ملائم على الإطلاق
☐2 غير ملائم جداً
☐3 غير ملائم
☐4 ملائم بعض الشيء
☐5 ملائم
☐6 ملائم جداً
☐7 ملائم للغاية

12. بشكل عام، إلى أي حد أنت واثق من أن تعاطي هذا الدواء مفيدٌ لك؟
☐1 غير واثق على الإطلاق
☐2 واثق قليلاً
☐3 واثق بعض الشيء
☐4 واثق جداً
☐5 واثق للغاية

13. إلى أي حد أنت متأكد من أن إيجابيات الدواء الذي تتعاطاه تفوق سلبياته؟
☐1 غير متأكد على الإطلاق
☐2 متأكد قليلاً
☐3 متأكد بعض الشيء
☐4 متأكد جداً
☐5 متأكد للغاية

14. إذا أخذنا جميع الأمور بعين الاعتبار، ما مدى رضاك أو عدم رضاك عن هذا الدواء؟
☐1 غير راضٍ على الإطلاق
☐2 غير راضٍ جداً
☐3 غير راضٍ
☐4 راضٍ بعض الشيء
☐5 راضٍ
☐6 راضٍ جداً
☐7 راضٍ للغاية

Questionnaire – English version

Date:
Hospital:
Data collector:
Pt. Name:
Pt. ID number:

17. Gender: □ Female □ Male

18. Age (yrs) :

19. Smoking: □ Smoker □ previous smoker □ Non smoker

20. Educational level:

□ Less than elementary
□ Elementary
□ Junior high school
□ Senior high school
□ College or more

21. Marital status: □ Single □ Married □ Divorced/ Widowed
22. Employment : □ Employed □ unemployed □ unemployed because of RA
23. Place of residence: □ City □ Village □ Refugee camp
24. Monthly income:
□ Low: Less than 400 JD
□ Moderate: Between 400-1000 JD
□ High: between 1000-2000 JD
□ Very high: More than 2000 JD

25. Height (cm)
26. Weight (kg)
27. BMI:
28. Duration of disease
29. Disease activity
□ Stable
□ Unstable
□ Intensified
30. Treatment status
□ Regular treatment
□ Non formal treatment

Chronic conditions that you have

□	CVD		GI dieases		Endocrine Diseases
□	Hypertension	□	GERD	□	Thyroid diseases
□	Stroke	□	Peptic Ulcer	□	Menopause
□	MI	□	Irritable Bowel diease	□	Ovarian cysts
□	Atrial fibrillation	□	Ulcerative colitis	□	Diabetis
□	Others: specify……	□	Crohn's disease	□	Others, specify:
	Respiratory diseases	□	Constipation		Ophthalmic disease
□	COPD	□	Gallstones	□	Catracts
□	Astham	□	Liver fibrosis	□	Other diseases, specify
	Others, specify…	□	Hepatitis	□	Other diseases
□	Kidney Diseases	□	Pancreatic diseases, specify:		Tumors
□	Kidney failure	□	Others, specify:	□	Immunological diseases, specify:
□	Kidney stones			□	Skin diseases, specify:
□	Others: specify……			□	Allergy

31. Medications that you take

	Medications for RA		Others		Others		Others
□	Acamol		**Anti-Platelets**		**Dieurtics**		**Anti-hyperlipediemia**
□	Relaxon	□	Aspirin	□	Aldacton 25, 50, 100 mg	□	Crestor, Liprosor, Rosalip
	NSAID	□	Plavix	□	Hydroclorothiazide 25	□	liponil, lipitor
□	Trufen		**Anti-Coagulants**	□	Lasix		**Anti-Gout**
□	Rufenal	□	Coumadin, Warfarin	□	Zaroxolyn	□	Zylol
□	Tericox	□	Clexane 20, 40, 60, 80		**Anti-Diabetics**	□	Colchicin
□	Etodolac		**Anti-hypertensives**	□	Glucophage, Glucomet, Metformin		**Anti-GI upset**
□	Movalis	□	Enalapril 5, 20	□	Amaryl	□	Ratadin
□	Mesulid	□	Lozar, Losartan 50mg	□	Golvus	□	Mepral, Nexium
	Steroids	□	Concor 5mg, Cardioloc	□	Janumate	□	Famodin
□	Prednisolon, corticosteroid	□	Carvidilol 6.25, 12.5, 25	□	Eucrease	□	Spasmine
	cDMARDS	□	Cadex 2, 4mg	□	Eltroxin	□	Eucarobon
□	Methotrexate	□	Amicor 5	□	Insulin Mixtard (Brown)		**Astham, COPD**
□	Sulfasalazine	□	Normatin, atenolol	□	Insulin Plain (Yellow)	□	Aerovent inhaler, neublizer
□	Plaquenil - hydroxychloroquine	□	Tritace, Ramazide		**Supplements**	□	Ventolin Inhaler, Neublizer
□	Arava -leflunomindeare	□	Valzan, Co-diovan, Valozide	□	Calcium Carbonate (Ca supplement)		**Laxatives**
	bDMARDS	□	Exforge	□	Alfa D3, 0.25 mcg, 1 mcg	□	Avilac
□	Enbrel		**Anti-anginals**	□	B12	□	Laxadin
□	Infliximab	□	Monocord 20mg	□	Folic Acid	□	Glycerin suppsotries
□	Humira - Adilumab	□	Cordil 5mg	□	Iron		**Anti-Seizures**
□	Rituximab, Mebthera	□	Osmoadalat	□	FGF	□	Depalept
□	Actemra, Tocilizumab		**Anti-arrythmics**		**Binders**	□	Tegretol
□	**Others, specify: ……**	□	Digoxin	□	Sevelamir	□	Epanutin
		□	Procor 200mg		**Osteoprosis**		**Others**
				□	Aclasta	□	Lorax, Ahiston
				□	Osteotab, Fosalan, Alendronate Na	□	Betastin 16 mg
						□	**Others, Specify: …….**

32. In case of taking biological medications:

a- Since when did you start taking biological medications:

b- Was there interruption in your treatment: □ Yes □ No

c- The length of interruption is:

SF-36 Survey

Visit: □ Pre-op	**□ 6 week**	**□ 3 month**	**□ 6 month**	**□ 1 year**

INSTRUCTIONS: Please answer every question. Some questions may look like others, but each one is different. Please take the time to read and answer each question carefully by circling the number that best represents your response.

1. In general, would you say your health is?

Excellent	Very Good	Good	Fair	Poor
(1)	(2)	(3)	(4)	(5)

2. Compared to one year ago, how would you rate your health in general now?

Much better now than one year ago	Somewhat better now than one year ago	About the same as one year ago	Somewhat worse now than one year ago	Much worse now than one year ago
(1)	(2)	(3)	(4)	(5)

3. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much: (circle one number on each line)

	Yes, Limited A Lot	Yes, Limited A Little	No, Not Limited At All
A. **Vigorous activities**, such as running, lifting heavy objects participating in strenuous sports	1	2	3
B. **Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
C. Lifting or carrying groceries	1	2	3
D. Climbing **several** flights of stairs	1	2	3
E. Climbing **one** flight of stairs	1	2	3
F. Bending, kneeling, or stooping	1	2	3
G. Walking **more than a mile**	1	2	3
H. Walking **several hundred yards**	1	2	3
I. Walking **one hundred yards**	1	2	3
J. Bathing or dressing yourself	1	2	3

4. During the <u>past 4 weeks</u>, how much of the time have you had any of the following problems with your work or other regular daily activities <u>as a result of your physical health?</u> (Circle one number on each line).

	All the time	**Most** of the time	**Some** of the time	A **little** of the time	**None** of the time
A. Cut down on the **amount of time** you spend on work or other activities	1	2	3	4	5
B. **Accomplished less** than you would like	1	2	3	4	5
C. Were limited in the **kind** of work or other activities	1	2	3	4	5
D. Had **difficulty** performing the work or other activities (for example, it took extra effort)	1	2	3	4	5

5. During the <u>past 4 weeks</u>, how much of the time have you had any of the following problems with your work or other regular daily activities <u>as a result of any emotional problems</u> (such as feeling depressed or anxious)? (Circle one number on each line)

	All the time	**Most** of the time	**Some** of the time	**A little** of the time	**None** of the time
A. Cut down on the **amount of time** you spend on work or other activities	1	2	3	4	5
B. **Accomplished less** than you would like	1	2	3	4	5
C. Did work or activities **less carefully than usual**	1	2	3	4	5

6. During the <u>past 4 weeks</u>, to what extent has your <u>physical health or emotional problems</u> interfered with your social activities with family, friends, neighbours, or groups? (Circle one)

Not at all (1)	Slightly (2)	Moderately (3)	Quite a bit (4)	Extremely (5)

7. How much <u>bodily</u> pain have you had during the <u>past 4 weeks</u>? (Circle one)

None (1)	Very Mild (2)	Mild (3)	Moderate (4)	Severe (5)	Very Severe (6)

8. During the <u>past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)? (Circle one)

Not at all (1)	Slightly (2)	Moderately (3)	Quite a bit (4)	Extremely (5)

9. These questions are about how you feel and how things have been with you <u>during the past 4 weeks</u>. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the <u>past 4 weeks</u>… (Circle one number on each line)

	All the time	**Most** of the time	**Some** of the time	**A little** of the time	**None** of the time
A. did you feel full of life?	1	2	3	4	5
B. have you been very nervous?	1	2	3	4	5
C. have you felt so down in the dumps nothing could cheer you up?	1	2	3	4	5
D. have you felt calm and peaceful?	1	2	3	4	5
E. did you have a lot of energy?	1	2	3	4	5
F. have you felt downhearted and depressed?	1	2	3	4	5
G. did you feel worn out?	1	2	3	4	5
H. have you been happy?	1	2	3	4	5
I. did you feel tired?	1	2	3	4	5

10. During the <u>past 4 weeks</u>, how much of the time has your <u>physical health or emotional problems</u> interfered with your social activities (like visiting friends, relatives, etc.)?

All of the Time (1)	Most of the Time (2)	Some of the Time (3)	A Little of the Time (4)	None of the Time (5)

11. How TRUE or FALSE is each of the following statements for you? (Circle one number on each line)

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
A. I seem to get sick a little easier than other people	1	2	3	4	5
B. I am as healthy as anybody I know	1	2	3	4	5
C. I expect my health to get worse	1	2	3	4	5
D. My health is excellent	1	2	3	4	5

TSQM (Version 1.4)

Treatment Satisfaction Questionnaire for Medication

Instructions: Please take some time to think about your level of satisfaction or dissatisfaction with the medication you are taking in this clinical trial. We are interested in your evaluation of the effectiveness, side effects, and convenience of the medication *over the last two to three weeks, or since you last used it*. For each question, please place a single check mark next to the response that most closely corresponds to your own experiences.

1. How satisfied or dissatisfied are you with the ability of the medication to prevent or treat your condition?

☐1 Extremely Dissatisfied
☐2 Very Dissatisfied
☐3 Dissatisfied
☐4 Somewhat Satisfied
☐5 Satisfied
☐6 Very Satisfied
☐7 Extremely Satisfied

2. How satisfied or dissatisfied are you with the way the medication relieves your symptoms?

☐1 Extremely Dissatisfied
☐2 Very Dissatisfied
☐3 Dissatisfied
☐4 Somewhat Satisfied
☐5 Satisfied
☐6 Very Satisfied
☐7 Extremely Satisfied

3. How satisfied or dissatisfied are you with the amount of time it takes the medication to start working?

☐1 Extremely Dissatisfied
☐2 Very Dissatisfied
☐3 Dissatisfied
☐4 Somewhat Satisfied
☐5 Satisfied
☐6 Very Satisfied
☐7 Extremely Satisfied

4. As a result of taking this medication, do you experience any side effects at all?

☐1 Yes

☐2 No (if No, then please skip to Question 9)

5. How bothersome are the side effects of the medication you take to treat your condition?

☐1 Extremely Bothersome
☐2 Very Bothersome
☐3 Somewhat Bothersome
☐4 A Little Bothersome
☐5 Not at All Bothersome

6. To what extent do the side effects interfere with your physical health and ability to function (i.e., strength, energy levels, etc.)?

☐1 A Great Deal
☐2 Quite a Bit
☐3 Somewhat
☐4 Minimally
☐5 Not at All

7. To what extent do the side effects interfere with your mental function (i.e., ability to think clearly, stay awake, etc.)?

☐1 A Great Deal
☐2 Quite a Bit
☐3 Somewhat
☐4 Minimally
☐5 Not at All

8. To what degree have medication side effects affected your overall satisfaction with the medication?

☐1 A Great Deal
☐2 Quite a Bit
☐3 somewhat
☐4 minimally
☐5 Not at All

9. How easy or difficult is it to use the medication in its current form?

☐1 Extremely Difficult
☐2 Very Difficult
☐3 Difficult
☐4 Somewhat Easy
☐5 Easy
☐6 Very Easy
☐7 Extremely Easy

10. How easy or difficult is it to plan when you will use the medication each time?

☐1 Extremely Difficult
☐2 Very Difficult
☐3 Difficult
☐4 Somewhat Easy
☐5 Easy
☐6 Very Easy
☐7 Extremely Easy

11. How convenient or inconvenient is it to take the medication as instructed?

☐1 Extremely Inconvenient
☐2 Very Inconvenient
☐3 Inconvenient
☐4 Somewhat Convenient
☐5 Convenient
☐6 Very Co nvenient
☐7 Extremely Convenient

12. Overall, how confident are you that taking this medication is a good thing for you?

☐1 Not at All Confident
☐2 A Little Confident
☐3 Somewhat Confident
☐4 Very Confident
☐5 Extremely Confident

13. How certain are you that the good things about your medication outweigh the bad things?

☐1 Not at All Certain
☐2 A Little Certain
☐3 Somewhat Certain
☐4 Very Certain
☐5 Extremely Certain

14. Taking all things into account, how satisfied or dissatisfied are you with this medication?

☐1 Extremely Dissatisfied
☐2 Very Dissatisfied
☐3 Dissatisfied
☐4 Somewhat Satisfied
☐5 Satisfied
☐6 Very Satisfied
☐7 Extremely Satisfied

Appendix 2: Permission and IRB

IRB

An-Najah
National University
Faculty of medicine
&Health Sciences
Department of Graduate
Studies

جامعة النجاح
الوطنية
كلية الطب وعلوم الصحة
دائرة الدراسات العليا

IRB Approval Letter

Study Title:

"Health-related quality of life and treatment satisfaction in patients with rheumatoid arthritis: a cross-sectional study from Palestine"

Submitted by:
Hiba Abu Hamda, Sa'ed Zyoud,

Date Reviewed:
4th May 2018

Date Approved:
9th May 2018.

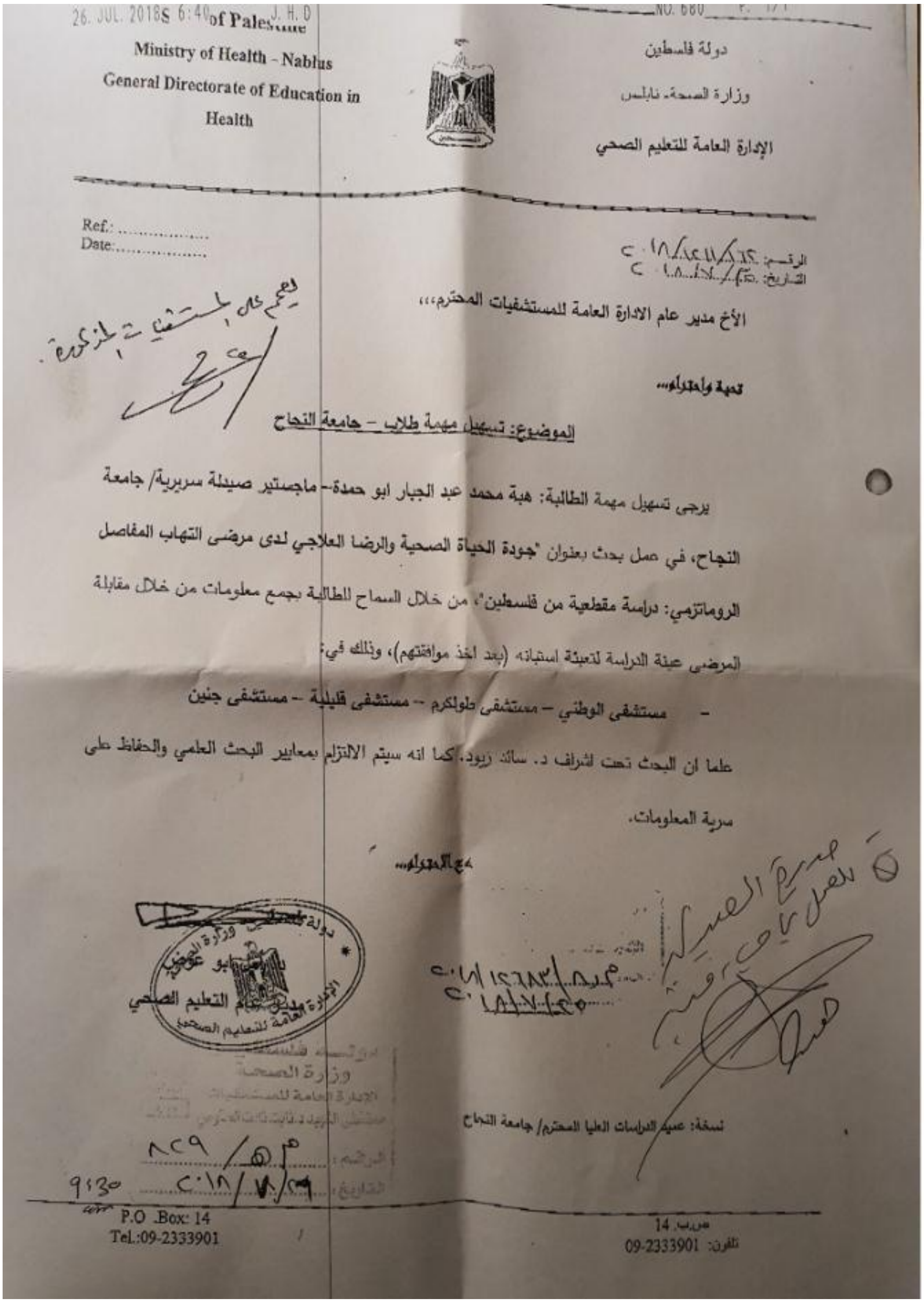
Your Study titled **"Health-related quality of life and treatment satisfaction in patients with rheumatoid arthritis: a cross-sectional study from Palestine"** with archived number (6) May 2018 was reviewed by An-Najah National University IRB committee and was approved on 9 May, 2018.

Hasan Fitian, MD

IRB Committee Chairman
An-Najah National University

نابلس - ص.ب 7 أو 707 || هاتف 14/8/7/4/2342902(09) (970) || فاكسميل 2342910 (09) (970)
Nablus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faximile (970) (09) 2342910 | E-mail : hgs@najah.edu

Permission



26. JUL. 2018 6:40 J. H. D NO. 680 P. 1/1

State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة- نابلس
الإدارة العامة للتعليم الصحي

Ref.: ....
Date: ....

الرقم:
التاريخ:

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

تحية واحترام...

الموضوع: تسهيل مهمة طلاب – جامعة النجاح

يرجى تسهيل مهمة الطالبة: هبة محمد عبد الجبار ابو حمدة- ماجستير صيدلة سريرية/ جامعة النجاح، في عمل بحث بعنوان "جودة الحياة الصحية والرضا العلاجي لدى مرضى التهاب المفاصل الروماتزمي: دراسة مقطعية من فلسطين"، من خلال السماح للطالبة بجمع معلومات من خلال مقابلة المرضى عينة الدراسة لتعبئة استبانه (بعد اخذ موافقتهم)، وذلك في:

- مستشفى الوطني – مستشفى طولكرم – مستشفى قلقيلية – مستشفى جنين

علما ان البحث تحت اشراف د. سائد زيود. كما انه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية المعلومات.

مع الاحترام...

مدير عام التعليم الصحي

نسخة: عميد الدراسات العليا المحترم/ جامعة النجاح

P.O Box: 14
Tel.:09-2333901

ص.ب. 14
تلفون: 09-2333901

جامعة النجاح الوطنية

كلية الدراسات العليا

جودة الحياة الصحية والرضا العلاجي لدى مرضى التهاب المفاصل الروماتزمي: دراسة مقطية من فلسطين

اعداد

هبه محمد عبد الجبار أبو حمده

اشراف

د. سائد زيود

قدمت هذه الاطروحة استكمالا لمتطلبات الحصول على درجة الماجستير في الصيدلة السريرية في جامعة النجاح الوطنية – نابلس – فلسطين

2020

جودة الحياة الصحية و الرضا العلاجي لدى مرضى التهاب المفاصل الروماتزمي: دراسة مقطعية من فلسطين

إعداد

هبة محمد أبو حمدة

اشراف

د. سائد زيود

الملخص

خلفية الدراسة: التهاب المفاصل الروماتويدي هو واحد من الأمراض غير المعدية التي تسبب المرض بشكل كبير، ولكن لا يزال يتم إهمالها لأنها ليست من الأمراض غير السارية الرئيسية الأربعة المعترف بها و التي تساهم في الوفيات. التهاب المفاصل الروماتويدي يشكل عبء متزايد في البلدان المنخفضة والمتوسطة الدخل. وقد تبين أن التهاب المفاصل الروماتويدي يؤثر بشكل كبير على جودة الحياة المتعلقة بصحة المرضى (HRQoL) ورضاهم عن الدواء .

أهداف الدراسة: تهدف هذه الدراسة الى تقييم العلاقة بين رضا العلاجي و جودة الحياة الصحية، لتحديد تأثير العوامل الاجتماعية والديموغرافية والسريرية على كل من جودة الحياة الصحية والرضى العلاجي لدى مرضى التهاب المفاصل الروماتيزمي .

المنهجية: شارك في هذه الدراسة 283 مريضا يعانون من التهاب المفاصل الرماتويدي، تم إجراء هذه الدراسة المقطعية خلال أشهر يوليو حتى أكتوبر 2018 ؛ كانت العينة من أربعة مستشفيات في المنطقة الشمالية من فلسطين. تم استخدام استبيان SF-36 لتقييم جودة الحياة الصحية و استبيان TSQMلتقييم الرضى العلاجي بين مجموعة الدراسة .تم استخدام Kruskal-Wallis أو Mann-Whitneyلاختبار الاختلافات في المتوسط ما بين المجموعات. بالإضافة إلى ذلك، تم استخدام معامل ارتباط سبيرمان لتقييم العلاقة بين SF-36 و TSQM.

النتائج: تم تضمين ما مجموعه 283 مريضا. كان الجنس مرتبطا مع الدور الجسدي (RP) والصحة العقلية (MH) ، (قيمة احتمالية 0.046 و 0.049) على التوالي. كان العمر مرتبطا مع الوظيفة الجسدية (PF) و RP ،) قيمة احتمالية <0.001 و 0.043) على التوالي ، والتعليم

كان مرتبطا أيضا مع PF ، RP، الوظيفة الاجتماعية (SF) والألم الجسدي) (BP) قيمة احتمالية 0.009 ، 0.020 ، 0.016 ، و <0.001) على التوالي. كانت الوظيفة مرتبطة أيضًا مع PF، RP، والصحة العالمية (GH) ، و(قيمة احتمالية <0.001 ، 0.013 ، و 0.015) على التوالي. كان ان مكان الإقامة كان مرتبطا مع) RP قيمة احتمالية 0.046). كان دخل الأسرة مرتبطا معFP،RP، والجوانب الحيوية (VT) و MH ، BP، و GH ،) قيمة احتمالية <0.001 ، 0.003 ، 0.038 ، 0.014 ، 0.012 ، 0.002) على التوالي. ارتبط نشاط المرض بشكل إيجابي مع جميع الفروع FP ، RP، والدور العاطفي (RE و VT، BPو GH ،) قيمة احتمالية<0.001). بينما بالنسبة MH ،) SFقيمة احتمالية 0.001 و 0.002) على التوالي. كانت مدة المرض مرتبطة مع RP و) GH قيمة احتمالية 0.007 و 0.026) على التوالي. كان العدد الإجمالي للأمراض المزمنة مرتبطة مع جميع الفروع باستثناء MH و PF و RPو BP (قيمة احتمالية<0.001) وRE وVT وSF و) GH قيمة احتمالية 0.015 و0.007 و 0.004 و0.003) على التوالي. كان العدد الإجمالي للأدوية التي أخذها المريض مرتبطا مع PF ، RP، BPوGH،) قيمة احتمالية <0.001 ، 0.001 ، 0.010 و 0.021). في حين كان المقياس المادي المركب (PCS) مرتبطا مع تقدم العمر (قيمة احتمالية 0.007) ، والمستوى التعليمي (قيمة احتمالية 0.003) ، والوظيفة (قيمة احتمالية0.001)، ودخل الأسرة (قيمة احتمالية <0.001)، ونشاط المرض (قيمة احتمالية <0.001)، مدة المرض (قيمة احتمالية 0.018) وإجمالي عدد الأدوية (قيمة احتمالية<0.001). بينما بالنسبة لمقياس المركب العقلي (MCS) ، كان مرتبطا مع نشاط المرض فقط ومع إجمالي عدد الأمراض المزمنة (قيمة احتمالية <0.001) لكليهما. تأثر الرضا العلاجي (الآثار الجانبية) بشكل إيجابي بدخل الأسرة (قيمة احتمالية 0.016) ، ونشاط المرض مع جميع فروع الرضا العلاجي (قيمة احتمالية <0.001)، والآثار الجانبية قيمة احتمالية <0.004). كما ارتبط عدد الأمراض المزمنة بشكل إيجابي مع فعالية الدواء (قيمة احتمالية 0.006). كان هناك علاقة إيجابية متواضعة بين HRQoL ورضا العلاج. كان R بين PCS هو 0.347 ، 0.425 ، 0.272 ، 0.390 مع الفعالية ، الآثار الجانبية ، الراحة والرضا العام على التوالي.

الاستنتاج: وجدت هذه الدراسة أن جودة الحياة الصحية الجسدية لمرضى التهاب المفاصل الروماتويدي أكثر تأثرا من جودة الحياة العقلية لدى هؤلاء المرضى. الجنس والعمر ومؤشر كتلة الجسم والتعليم والعمالة ومكان الإقامة ودخل الأسرة ومدة المرض ونشاطه وعدد الأمراض المزمنة وعدد الأدوية التي يتناولها المريض كلها عوامل تؤثر على جودة الحياة الصحية لمرضى التهاب المفاصل الروماتويدي. كما وجدت هذه الدراسة أن رضى العلاجي لدى هؤلاء المرضى يتأثر إيجابيا بجودة الحياة الصحية لديهم.