

## Effect of Discharge Planning On Knowledge and Self-Efficacy of Patients with Rheumatoid Arthritis

Soheir Tawfik Ahmed, Hanan Sobeih Sobeih and Neamatalla Gomaa Ahamed

Medical Surgical Nursing Department. Faculty of Nursing, Ain Shams University. Cairo, Egypt.

[Soheir2010@windowslive.com](mailto:Soheir2010@windowslive.com)

**Abstract:** Rheumatoid arthritis patients with strong self-efficacy influences their capacity to manage in their every day lives. Furthermore it has been found to reduce the number of visits to health care professionals and results in lowering the overall health care costs for both patient and the health care system. **The purpose** of this study was to evaluate effect of discharge planning on knowledge and self-efficacy for patients with rheumatoid arthritis. **The research hypotheses** were that post implementation of the discharge planning the patients' knowledge and self-efficacy scores will be higher than their pre-implementation scores in the immediate post and follow-up tests and there is a positive correlation between level of patients' knowledge and self-efficacy. **Design:** a quasi-experimental research design was used. **Setting:** the study was conducted in the inpatient department and outpatient clinic of rheumatoid arthritis, affiliated to Ain-shams university hospital. The study was carried out a purposive sample of rheumatoid arthritis adult patient (70) from both gender. **Tools:** three tools were used for data collection 1-Patient's Characteristics Form. 2- Patient Knowledge Questionnaire (PKQ). 3-Arthritis Self-Efficacy questionnaire. **Results:** there were statistically significant improvement of patients' knowledge and self-efficacy after implementation of the discharge planning. There was no relation between level of patients' knowledge and their self-efficacy after implement discharge planning. The study **concludes** that, at completion of the structure discharge planning, both knowledge and self-efficacy were significantly improved and this was maintained at follow-up. However, there were no correlate between RA patients' self-efficacy and their knowledge ( $r = 0.076$ ). Therefore, this discharge planning should become an integrated part of the total nursing management of rheumatoid arthritis. Long- term effects of following discharge-planning educational intervention need to be further studied.

[Soheir Tawfik Ahmed, Hanan Sobeih Sobeih and Neamatalla Gomaa Ahamed. **Effect of Discharge Planning On Knowledge and Self-Efficacy of Patients with Rheumatoid Arthritis.** *J Am Sci* 2012;8(9):7-15]. (ISSN: 1545-1003). <http://www.jofamericanscience.org>. 2

**Key word:** rheumatoid arthritis, self-efficacy, complains, discharge planning.

### 1. Introduction

Rheumatoid arthritis (R.A.) is the common form of inflammatory arthritis, which affects 10% of total world population. The Arab countries face a significant increase in the incidence of the rheumatoid disease of up to 1.5 % of the population. In the Fifth Scientific Conference of Rheumatology and Rehabilitation 2010, participant doctors reported that, the incidence of (R.A.) is increasing in the age group between 30 to 50 years, about 1% of Egyptians suffer from rheumatoid arthritis, and more of them are female than male. In 90 % of females with rheumatoid arthritis, the symptoms first appear in the feet and hands. The disease can affect the finger joints nearest to the palm, as well as joints in the jaw, neck, shoulders, elbows, hips, knees, ankles and toes (**Hansson et al., 2010 and Saayed, 2012**).

Rheumatoid arthritis is associated with marked physical disability. The clinical manifestations of rheumatoid arthritis vary, usually reflecting the stage and severity of the disease, including joint-pain, swelling, warmth, and lacks of function are classic symptoms. The onset of symptoms is usually acute and is usually bilateral and symmetric. There is joint-pain, swelling, and sing of joint stiffness especially in

the morning that last for more than 30 minutes (**Jette, et al., 2012**).

Patient education is necessary for good nursing care. Teaching is essential in the respective process to avoid unsatisfactory out comes. So it must be done along with the other aspect of holistic nursing care, such as emotional support for patient and family, discuss the importance of exercise, joint protection and physical care to achieve the desired out comes of patient change in behavior and attitude (**Ünsal, & Kasikci, 2010**).

Therefore, patient education has become an integral part of the therapeutic approach to helping patients with rheumatoid arthritis to self-manage their arthritis. It is also integral to the promotion of self-efficacy and safety in relation to what are now complex treatment regimes (**Walker et al., 2007**).

The self-efficacy theory was described as the strength of belief in one's own capacity is a good predictor of motivation and behavior. Perceived self-efficacy is described as 'a judgment of one's capability to accomplish a certain level of performance, whereas an outcome expectation is a judgment of the likely consequence such behavior will produce'. Increased self-efficacy leads to

improved behavior, motivation, thinking patterns and emotional well-being. Once patients have developed strong self-efficacy, they tend to generalize from one experience to another, and single failures do not influence their self-efficacy beliefs (Bandura, 2008 and Mäkeläinen et al., 2009).

Discharge planning is a process, which requires a health-care individual who is highly trained and skilled in performing accurate evaluations of a patient's health. Good discharge planning is necessary. Role of a nurse in discharge Planning is an essential procedure to ensure that hospitalized patients given access to any health services that are required for their care outside the hospital. This ensures that the same quality and frequency of medical care provided, in order to speed up their care and minimize re-hospitalization. In addition, the nurse can initiate care plans with the patient's family, such as teaching specific nursing care procedures, or assisting them with other factors such as nutrition or physical therapy. However, most hospitals have discharge-planning protocols. Recent studies have shown that careful discharge planning, along with good follow-up contact, can significantly improve patients' health upon discharge while decreasing health care and social costs (Jette et al., 2012 and Kjersti, et al., 2012).

#### Significance of the study

Rheumatoid arthritis (RA) is a chronic autoimmune arthritis that causes significant morbidity and mortality and affects almost 1% of the global population. Patients with (RA) have a higher all-cause mortality as compared with age-matched controls, which has remained unaltered over the past 4–5 decades. It has been calculated that (RA) reduces the life span by 5–10 years depending on the age of onset. Patients with (RA) have a 7-folds higher risk of disability as compared with age and gender-matched controls. They gradually lose their functional capacity and at the end of 15 years, nearly 30%–50% of the patients need help for vocational/self-care activities. Along with the functional disability, RA has an impact on the emotional and psychological functioning of the patient (Kjersti, et al., 2012).

However, a limited number of studies are available in Egypt about self-efficacy of (RA) patients. I hope that findings of this study will help in providence based data can promote nursing practice and research. Therefore, the aim of the present study was evaluate the effect of Discharge Planning on knowledge and Self-Efficacy of patients with Rheumatoid arthritis

This aim achieved through the following:

- 1- Assess patients' knowledge regarding rheumatoid arthritis

- 2- Assess patients' self-efficacy regarding rheumatoid arthritis
- 3- Design, implementing and evaluate the effect of Discharge Planning on knowledge and Self-Efficacy of patients with Rheumatoid arthritis

#### Hypotheses:

The following research hypotheses were formulated to achieve the aim of the study:

- 1-Post implementation of the discharge planning the patients' knowledge score regarding to Rheumatoid arthritis will be higher than their pre-implementation score.
- 2-Post implementation of the discharge planning the patients' self-efficacy score will be higher than their pre-implementation score.
- 3-There will be a positive relation between patients' knowledge and their self-efficacy.

#### 2. Subjects and Methods

##### Design:

A quasi-experimental design was used in condition of the study.

##### Setting:

The study was carried out in both the inpatient department and out patient clinic of rheumatoid arthritis affiliated Ain-Shams university hospital.

##### Subjects:

A purposive sample of 70 rheumatoid arthritis patients was recruited. The sample was calculated by power and sample size calculation program to give power of 80%. The inclusion criteria were; adult patients, of both gender, age between 20 and 65 years, did not participate in any previous educational program regarding rheumatoid arthritis and willing to participate in this study. Random allocation technique was used to divide the sample into study (35) and control groups (35).

##### Tools of data collection

The researchers utilized three tools to collect the necessary data for the purpose of the study.

##### 1-Patient's Characteristics Form:

This form was designed by the researchers based on recent literature Reinseth et al., (2010) and Jette et al., (2012). and divided into two parts to gather data as the following:

A-Bio-socio demographic data: it included age, gender, education level and job, present of special diet for the disease and previous instructions about their disease

B- Disease characteristics data: it covers duration of illness, patients' complain and presence of joints deformity.

c- Indicators of discharge planning success (pre & follow-up) to assess number of patients' visits to health care, medical expenses & patients' capacity of activity.

##### 2- Patient Knowledge Questionnaire (PKQ):

It adopted by (Hill, et al., 1991) and used to assess patient's knowledge. It consisted of 16 questions at multiple-choice form, with 30 answers. It covers four key areas: disease process, drug therapy, physiotherapy and joint protection techniques. One point for each correct answer, maximum possible score is 30. The points were summed up and converted into a percent score. Scoring system as the following, poor (<60%), pass (from 60 to 70%), and good (>70%). The tool was reliable by test-retest  $r=0.81$ .

### **3-Arthritis Self-Efficacy questionnaire:**

It was adapted from Lorig, et al., (1989), to assess self-efficacy of patients with rheumatoid arthritis. It has 20 statements divided into three subscales: (1) pain self-efficacy (five items); (2) function self-efficacy (nine items); and (3) other symptom self-efficacy (six items). The twenty statements constituting the scale were scored between 1 (I am not sure at all) and 10 (I am completely sure) points. A higher total mean score indicate higher self-efficacy. Arthritis Self-Efficacy Scale (ASES) was translated into Arabic with a few modifications but the original form was kept. Five experts in the field of rheumatology medicine and medical surgical nursing tested it for content validity. Modification was carried out accordingly. Test-retest was  $r = 0.83$  the subscale reliability point were correlated between 0.73 and 0.89.

### **Research implementation**

#### **Administrative design**

The necessary official approvals were obtained from the administrators of the inpatient department and outpatient clinic. Letters of request were issued to them from the Faculty of Nursing at Ain Shams-University explaining aim of the study and its expected outcomes.

#### **Ethical Issues:**

Before the initial interview, an oral consent was secured from each subject after being informed about the nature, purpose and benefits of the study. Patients were also informed that participation is voluntary and about their right to withdraw at any time without giving reasons. Confidentiality of any obtained information was ensuring through coding of all data. The researchers reassured patients that the data would be used for only the research purpose.

#### **Pilot study**

A pilot study carried out including seven rheumatoid arthritis patients selected from the same study settings to check and ensure the clarity, applicability and relevance of the study tools in addition to estimate the time needed to completion of study tool. Modifications were done according to pilot results to reach the finalized form. Subjects who

shared in the pilot study were not included in the main study sample.

### **Fieldwork**

#### **Procedure of the study:**

The study was carried out from the beginning of December 2011 to the end of May 2012. The researchers were available in the morning shift at the clinical field for 2-days / week by rotation. The discharge planning was designed based on the actual need assessment of patients' knowledge and their self-efficacy as well using the previously mentioned tools. It was designed to meet patient's needs and seven experts of professions from in medical-surgical nursing (3), professors of medicine rheumatology specialties (2) and physiotherapists (2), Faculty of Medicine, Ain Shams University, tested its content validity. The discharge planning covered learning needs related to nature of the disease, drug therapy, physiotherapy technique, diet, and joints protection & conserve energy. Patients in both groups were subjected to the routine care offered by the study setting and assessed using the pervious mentioned tools. The discharge planning was implemented only to patients at the study group.

#### **Discharge planning was divided into four phases:-**

##### **Assessment phases:**

The researchers interviewed each patient individually continuously admissions, communicated with her/him from 10-15 minutes and explained the aim of this study, then asked each one to fill in the previous tools ( prepared in simple Arabic language as a pre-test. Each tool took 15-20 minutes to be filled in. determine patient's needs were based on answers of each patient in the previous tools.

##### **Planning phase:**

Discharge planning booklet, was designed according to predetermined actual patients' need in the study group. The content met patients' needs. The written Arabic guidelines consisted of different elements as follows:

- introduction about disease process
- drug therapy
- physiotherapy
- special diet
- pain management
- joint protection techniques

##### **Method of teaching:**

- presentation
- group discussion

##### **Media of teaching: illustrated booklet.**

3-Implementation phase: (it has started after finishing pre, post and follow-up tested of control group).

The sessions started later one-day admission and filling the assessment three tools with orientation about the content of discharge planning and purpose

of the study. The studied patients were classified into four groups between 8-9 patients. The content of discharge planning taken in 4 sessions, each one within 45-50 min

At the first session, contain general information about arthritis was given. Second and third session, contain the information in the booklet about arthritis and daily life activity, methods of pain management and relaxation exercise. Last session contain information about joint protection techniques. Content of discharge planning was similar to all groups except for its simplicity. The booklets was handled for each patient in the study group at the end of session

#### **Evaluation phase:**

Immediately implement discharge planning (post 1) and during follow up period (Post 2). Then comparison between both groups study & control) pre, post, and follow-up testes.

At end of study period, the control group was received the same discharge planning booklet.

#### **Statistical analysis:**

The Statistical Package for Social Science (SPSS) version 12 was used for data analysis. Mean, SD,  $X^2$  and correlation test were used to analyze the collected data. Level of significant was threshold at  $p < 0.05$ .

### **3. Results**

Table (1): revealed that, there is no statistically significant difference between the study and control groups as regards to socio-demographic characteristics. The age of the patients ranged between 22 and 65 years, with  $X \pm SD$  (48.6  $\pm$  6.9). More than three fifths (62.9% & 68.6% respectively) of patients were females. Less than three quarters of patients in both groups were married and independent care at home (71.4% & 74.2%, and 65.7% & 62.9% respectively).

As well, around two fifths of patients in the control and study groups were having low level of education (42.9% & 37.1% respectively). Additionally, more than half of them worked with un-sedentary job (54.3% & 60% respectively). In this study 94.3%, & 91.4% respectively were not complying with any special diet for their disease, while around half of them were practicing exercise program related to their arthritis (51.4% & 48.6% respectively).

Table (2); displays distribution between both groups (study & control) as regards duration of their illness and complaints. There were no statistically significant differences between study and control groups. Around two fifths of patients in both groups were suffering from (RA) for less than one year (45.7% & 40% respectively). The same table noticed that, pain in joints and tiredness, were the most

common complaints for which the subjects in both groups were referred (91.4%, 88.6% & 85.8%, 91.4% respectively).

As well, more than three fifth of patients in both groups suffer from sleeplessness (62.9% & 65.7% respectively). Around three quarters of patients in both groups reported difficulties with their waist and knee (80%, 74.3% & 74.2% & 77.1% respectively). While less than one fifth of them reported had joint deformity (14.3% & 17.1% respectively).

Table (3): Indicates that there were no statistically significant differences between both groups as regards patient's level of knowledge about rheumatoid arthritis regarding disease process, drug administration, exercise technique and protect joints pre discharge planning ( $X^2 = 1.1, 0.3, 0.3, \& 0.4$  at  $p > 0.05$  respectively). Meanwhile, in post implement of discharge planning and follow-up there were highly significant differences between both groups in all items of knowledge (at  $P > 0.01$ ).

As regards self-efficacy scores in both groups as presented in table 4. There were no statistical significant differences pre discharge planning at pain, function and other symptoms self-efficacy areas ( $t = 0.3$  at  $P > 0.5$ ). Meanwhile, there were highly significant statistical differences between both groups at post and follow-up of discharge planning in all areas ( $t = 39.4 \& 47.3$  at  $P < 0.01$ ).

As regarding the correlation between patient's self-efficacy and their knowledge in the both studied groups the finding of the present study discovered that, there were no correlates between it's ( $r = 0.67$ ). Table (5)

As regards distributions between both groups related to indicators of discharge planning success. Table (6) shows that, there no statistical significant differences between study and control groups at pre discharge planning ( $X^2 = 0.7, P > 0.5$ ), while there was a statistical significant differences between the two groups (study & control) in the study as regards decrease number of visits to health care, decrease medical cost and increase capacity of patients activity follow-up implement ( $X^2 = 12.3$  at  $P < 0.01$ ).

### **4. Discussion**

Discharge planning has become an integral part of the therapeutic approach to increase self-efficacy patients with rheumatoid arthritis. It is also integral to the promotion of both adherence and safety in relation to complex treatment regimes. A variety of evidence indicates that educational attainment is associated with better disease outcomes in patients with rheumatoid arthritis. Nursing researchers have studied effective, comprehensive discharge planning over the past two decades, especially since there has been an effort to shorten length of stay for hospitalized patients. Hoger, (2010).

Table 1 : Patients' distribution in both groups (study and control) according to their Bio-socio demographic characteristics

Scio-demographic characteristics	Study group (n=35)		Control group (n=35)		X <sup>2</sup>	P value
	No	%	No	%		
Age						
<35	3	8.6	2	5.7	0.7	> 0.5*
35-<50	19	54.3	18	51.5		
50 ≤65	13	37.1	15	42.8		
X ± SD	48.6 ±6.9					
Gender						
Male	13	37.1	11	31.4	0.25	> 0.5*
Female	22	62.9	24	68.6		
Marital status						
Married	25	71.4	26	74.2	0.04	> 0.05*
Single	10	28.5	9	25.8		
Educational level						
Low	15	42.9	13	37.1	0.1	> 0.5*
Mild	14	40.0	14	40.0		
Hgh	6	17.1	8	22.9		
Job						
Sedentary	16	45.7	14	40.0	0.23	> 0.5*
Un-sedentary	19	54.3	21	60.0		
Practicing exercise related to their arthritis						
Following	18	51.4	17	48.6	0.11	> 0.5*
Following sometimes	12	34.3	12	34.3		
Not following	5	14.3	6	17.1		
Compliance with special diet						
Yes	2	5.7	3	8.6	0.21	> 0.5*
No	33	94.3	32	91.4		
Care-giver at home						
independent	23	65.7	22	62.9	0.7	> 0.5*
partially dependent	9	25.7	8	22.9		
totally dependent	3	8.6	5	14.2		

\* &gt; 0.5 insignificant.

Table 2: Patients' distribution in both groups (study and control) according to duration of their illness and complaints

items	Study group (n=35)		Control group (n=35)		X <sup>2</sup>	P value
	No	%	No	%		
Disease duration in years						
- < 1	16	45.7	14	40.0	0.11	> 0.5*
- 1 – 2	14	40.0	14	40.0		
- >2	5	14.3	7	20.0		
Patients' complaints with disease						
- Pains in joints	32	91.4	31	88.6	0.6	> 0.5*
- tiredness	30	85.8	32	91.4		
- Swelling in joints	18	51.4	16	45.7		
- Sleeplessness	22	62.9	23	65.7		
- Numbs in joints	13	37.1	14	40.0		
- stiffness in joints	7	20.0	9	25.7		
- combustion in joints	8	22.9	11	31.4		
- redness in joints	15	42.9	17	48.6		
Joint affected by the disease						
- Knee	26	74.2	27	77.1	0.3	> 0.5*
- Foot	19	54.3	20	57.1		
- Hand	24	68.6	23	65.7		
- Waist	28	80.0	26	74.3		
- Hip	17	48.8	18	51.4		
- Neck	3	8.8	4	11.4		
- Back	21	60.0	20	57.1		
- Bend	10	28.6	8	22.9		
- Shoulders	16	45.7	17	48.6		
Having Joint deformity	5	14.3	6	17.1	0.1	> 0.5*

\*P &gt; 0.5 insignificant.



Table (3) Patients' distribution in both groups (study and control) pre / post implement of discharge planning and follow-up according to their level of knowledge

		Patient self efficacy		items
P value	t-test	Control group (n=35)		
		Mean ±SD		Mean ±SD
>0.05*	0.6	22.5±3.3		Pain self-efficacy -Pretest -Post test -Follow-up
<0.01**	33.8	21.1±3.6		
<0.01**	21.2	22.1±3.9		
>0.05*	0.3	36.2±5.2		Function self-efficacy -Pretest -Post test -Follow-up
<0.01**	33.8	37.4±4.0		
<0.01**	33.5	37.3±4.6		
>0.05*	0.3	23.1±3.4		Other symptoms self-efficacy -Pretest -Post test -Follow-up
<0.01**	20.8	23.8±3.3		
<0.01**	26.1	23.2±3.3		
>0.05*	0.3	81.8±6.4		Total mean scores Pretest Post test Follow-up
<0.01**	39.4	82.3±6.8		
<0.01**	47.3	82.7±6.2		

\*P>0.05 insignificant. \*\*P<0.01 Highly significant

Table (4): total mean scores of patients in both groups (study and control) pre / post implement of discharge planning and follow-up according to their self-efficacy

time												Items of Patient Knowledge
Follow-up				post				pre				
Control G. no = 35		Study G. no = 35		Control G. no = 35		Study G. no = 35		Control G. no = 35		Study G. no = 35		
%	No	%	No	%	No	%	No	%	No	%	No	
5.8	2	54.3	19	5.8	2	60.0	21	0.0	0	2.9	1	1-Disease process - Good - Pass - Poor
17.1	6	37.1	13	14.2	5	25.7	9	8.6	3	8.6	3	
77.1	27	8.6	3	80.0	28	14.3	5	91.4	32	88.5	31	
X <sup>2</sup> = 35.5 P <0.01*				X <sup>2</sup> = 32.9 P <0.01*				X <sup>2</sup> = 1.1 P >0.05				
17.128.6	6	80.0	28	14.3	5	71.4	25	8.6	3	8.6	3	2-Drug therapy - Good - Pass - Poor
54.3	10	20.0	7	31.4	11	20.0	7	28.6	10	22.9	8	
	19	0.0	0	54.3	19	8.6	3	62.9	22	68.6	24	
X <sup>2</sup> = 33.7 P <0.01*				X <sup>2</sup> = 25.9 P <0.01*				X <sup>2</sup> = 0.3 P >0.05				
34.3	12	74.3	26	31.4	11	60.0	21	28.6	10	25.7	9	3- physiotherapy technique - Good - Pass - Poor
37.1	13	25.7	9	28.6	10	37.1	13	25.7	9	31.4	11	
28.6	10	0	0	40.0	14	2.9	1	45.7	16	42.9	15	
X <sup>2</sup> = 15.9 P <0.01*				X <sup>2</sup> = 14.8 P <0.01*				X <sup>2</sup> = 0.3 P >0.05				
11.4	4	57.1	20	5.8	2	51.4	18	2.9	1	5.8	2	4- Joints protection & conserving energy - Good - Pass - Poor
22.9	8	31.4	11	20.0	7	34.3	12	17.1	6	17.1	6	
65.7	23	11.4	4	74.2	26	14.3	5	80.0	28	77.1	27	
X <sup>2</sup> = 24.5 P <0.01*				X <sup>2</sup> = 28.3 P <0.01*				X <sup>2</sup> = 0.4 P >0.05				

P>0.05 insignificant. \*P<0.01 Highly significant

Table (5) Correlation between patients' self-efficacy and their knowledge regarding the study and control groups

Study group (n=35)		Control group (n=35)	
Self-efficacy	Level of knowledge	Self-efficacy	Level of knowledge
r = 0.076		r = 0.072	

Table (6) Distribution of patients in both groups (study and control) as regards indicators of discharge planning success at follow-up implement

Indicator	pre				Follow-up			
	Study group (n=35)		Control group (n=35)		Study group (n=35)		Control group (n=35)	
	NO	%	NO	%	NO	%	NO	%
Decrease number of visits to health care	7	20.0	7	20.0	12	34.3	6	17.1
Decrease in medical expenses	4	11.4	3	8.6	14	40.0	2	5.8
Increase capacity of activity	7	20.0	9	25.7	18	51.4	8	22.8
	$X^2 = 0.7$ $P > 0.5^*$				$X^2 = 12.3$ $P < 0.01^{**}$			

\* $P > 0.5$  insignificant\*\* $P < 0.01$  Highly significant

This study aimed to evaluate the effect of discharge planning on knowledge and self-efficacy of patients with Rheumatoid arthritis.

In the present study, the socio-demographic characteristics of studied sample revealed that, age of patients in both groups ranged from 22 to 65 years with mean age  $48.6 \pm 6.9$ , more than three fifths of them were females. This finding is similar to results of JHAC, (2006), Rosemann et al., (2007) and Ünsal & Kaşıkci, (2010) who stated that, the majority of RA patients were females and in the middle age.

As well, the present study revealed that, less than one fifth of patient in study group and more than one fifth in control group had high levels of education. In a similar study carried out by Walker et al., (2007) and Sokka et al., (2009) results indicated that the Rheumatoid arthritis disease could occurred regardless level of patients' education. In the same line, the result of the present study clarified that, more than half of patients in the study group and two-thirds in control group worked at un-sedentary work. This could be due to the negative effect of Rheumatoid arthritis on patients' joints, physical condition & pain.

This hypothesis was supported by Mäkeläinen, et al., (2008) and Han et al., (2008).

No special diet was detected to be followed by the patients in both groups in the study. In many of the studies related to the topic, the importance of the diet in the RA patients was pointed out. Giraudet-Le et al., (2008) who reported that, Mediterranean diet; including food such as fresh vegetables and fruits, olive oil, white meat and especially fish is good for RA.

The present study explained that, around half of studied groups were practicing special exercise program. For the arthritis individuals exercise was of great importance. However, these exercises had to be done under the control of an expert, regularly and without tiring the joints excessively. In the present study, the patients with rheumatoid arthritis with receiving especial exercise program under professional physiotherapy supervision.

The current results revealed that, less than three quarters of patients in both groups were married and were provide care by themselves at home. This result

indicated the importance of start patient's discharge planning by the staff nursing during routine care in inpatient and follow-up in out patient. Congruent with study result, Chan et al., (2008) reported that the main role of RA nurse to provide complete health teaching during routine care.

Regarding duration of disease, the current study discovered that around four fifth of patients in the study and control groups with early rheumatoid arthritis had ranged between less than one year to less than two years. This result indicates that, the early patients with rheumatoid arthritis were more tendencies to accept educational information than old rheumatoid arthritis patients were. This interpretation congruent with a similar result studied carried by Hennell et al., (2004) and Hansson et al., (2010).

Present study discovered that most common arthritis patients related to complains was musculoskeletal pain, tiredness, sleeplessness and redness in joints. This result may be due to the Rheumatoid arthritis that is an autoimmune, systemic, inflammatory condition causing pain, disability, and psychological distress that is progressive. However, severity and prognosis may be difficult to predict. This interpretation is in agreement with Thwaites (2006) and Hewlett et al., (2007).

In Egypt, there are another factors may be to increase this complain as low educational level, lack of health awareness, over weight and nutritional patterns.

According the present study, patient's knowledge about Rheumatoid arthritis in both groups were deficient before starting the discharge planning. This lack of knowledge can be attributed to the lack of educational programs and unavailability of information resources about the disease and its effect. It reflects a deficiency in providers' education.

After implementation of the discharge planning, there are significant differences between study and control groups, which appear in patient's knowledge scores in the study group that improvement at areas of disease process, drug therapy, physiotherapy and joint protection techniques that was confirmed through multivariate analysis. This asserts the assumption that the lack of knowledge due to lack of educational activities provided to these patients, and

indicates that the meeting of patients' information needs would fill this gap of knowledge. This result was achieved the hypothesis one in this study. In agreement with this result, Nunez et al., (2006) and Mäkeläinen et al., (2009) mentioned that, the patient with Rheumatoid arthritis needs knowledge and health education about; drug administrations, exercise technique, protect joints and special diet. This further highlights the importance of developing and implementing discharge planning immediately with patients' admitted to increasing patient's knowledge about management of disease symptoms.

The Royal Australian College of General Practitioners, (2009), mentioned that the discharge planning, helping patients with rheumatoid arthritis to cope with pain and disability and to maintain work ability and general functionality. In the same context, Giraudet-Le et al., (2008) and Kjersti et al., (2012) emphasize that, the patients education for rheumatoid arthritis should become an integral part of the total management of rheumatoid arthritis.

Although no statistically significant differences were present between the mean pre-test scores in both groups regarding self-efficacy sub-scales, a highly statistically significant difference was found between the post and follow-up tests scores of self-efficacy sub-scales in pain, functional, and other symptoms ( $P < 0.01$ ). A significantly higher total score after discharge-planning implementation was detected which answer the research hypothesis two in the present study.

Regards to pain sub-scale the findings of this result discovered that, the feeling the patients' pain decreased when they had to treat their arthritis pain using non-medical methods, this result similar with, Ünsal & Kasikci, (2010). Thus, it is important that rheumatology nurses and other health provider find out if their patients would require more information on how to use non-medical techniques to decrease arthritis pain.

As well, the present study showed that, strong self-efficacy was strongly related with patients' functional ability. In the same context, Mäkeläinen et al., (2008) reported that, strong self-efficacy was strongly correlated with patients disability, and added that; the patients with weak self-efficacy used health care services more than those with strong self-efficacy. Therefore, it is important that the functioning of these patients with rheumatoid arthritis is improved through strengthening their function and pain self-efficacy and not only by medical treatment.

The fact that, there was a significant increase in Arthritis Self-Efficacy Scale ASES and sub scales scores of the patient in study group compared to that of those in the control group shows that the planned discharge planning is effective. In the, Han et al.,

(2008) it was stated that the education of arthritis patients helped them improve their health status and increase their life qualities. In the same study, and other older previous study Tall et al., (1993) it was also found that education attempts in RA patients strengthened their self-efficacy perception; enabled them to control their own pains and helped them cope with the disease. Furthermore, the more recent studies have shown that psycho-educational group education increases patients' self-efficacy Jette et al., (2012). The hypothesis two of the present study was achieved by this result.

According to the study findings, the patients' knowledge levels were high, but did not correlate with the patients' self-efficacy on the study group, which indicates these variables, improved independently of each other, that indicates that hypothesis 3 was not achieved. This finding similar with, Mäkeläinen et al., (2008). Conversely, Yip et al., (2007) who founded that, strongly positively correlates between patients' self-efficacy and their knowledge.

The present study clarified that, no statistically significant differences were present between the both groups at pre discharge planning regarding (indicators of discharge planning success). While, at follow-up there was significant difference between study and control groups regarding (indicators of discharge planning success). This indicates that the strong self-efficacy has been found to reduce the number of visits to health care professionals, and medical costs for both the patients and the health care system versus to patients in control group. It has also been shown that patients with low self-efficacy attribute either failure to their own incapacity. The present finding agrees with, Reinseth et al., (2010).

### **Conclusion**

Discharge planning was positive effect in improving knowledge and self-efficacy of patients with rheumatoid arthritis which showed through there were statistically significant differences between both groups (study & control) as regards patients' knowledge and self-efficacy (pre, post, and follow-up periods). Hypothesis related this result (hypothesis one & two) in this study was achieved.

However, there was no correlation between level of patients' knowledge and their self-efficacy, which indicates these variables, improved independently of each other, that indicate that the hypothesis related this result was no achieved.

### **Recommendation:**

The researchers suggested that:

- 1- The discharge planning should become an integrated part of the total management of rheumatoid arthritis patients.



- 2- Long- term effects of following discharge-planning need to be further studied.
- 3- Intervention program for the patients with rheumatoid arthritis on how to use non- medical techniques to decreased arthritis pain.

#### Corresponding author

**Soheir Tawfik Ahmed**

Medical Surgical Nursing Department. Faculty of Nursing, Ain Shams University. Cairo, Egypt.

[Soheir2010@windowslive.com](mailto:Soheir2010@windowslive.com)

#### References:

- 1- **Bandura A., (2008):** Self-Efficacy. available at: <http://www.des.emory.edu/mfp/Ban> Ency.html (Accessed 25.08.2008).
- 2- **Chan, G., Goh, F., Hodgson, T., Hsu, S., Johnstone, D., Ly, J., Platt, T., Rodrigues, E., Tsai, W., Hider, P., Gray, A. and Highton, J.(2008):** Outpatient follow-up for patients with rheumatoid arthritis in relation to New Zealand Rheumatology Association guidelines at Dunedin Hospital. *NZ Med J.* 121(1274): 34-41
- 3- **Giraudet-Le, Q., Mayoux, A., Ravaud, P., Champion, K., Dernis, E., Zerak, D., Ouslimani, K., Courpied, J., Revel, M., Kahan, A., & Dougados, M., (2008):** Effect of a collective educational program for patients with rheumatoid arthritis: a prospective 12-month randomized controlled trial. *The Journal of rheumatology*, 34: 1645-1646.
- 4- **Han, W., Piet, R., & Theo, A., (2008):** Rheumatologists' knowledge, attitude and current management of fatigue in patients with rheumatoid arthritis Received: 20 March 2008 / Revised: 18 June 2008 / Accepted: 26 June 2008.
- 5- **Hansson, E., Lundgren, M., Ronnheden, A., Sörensson, E., Bjärnung, Å., and Dahlberg, A.,(2010):** Effect of an education programme for patients with osteoarthritis in primary care - a randomized controlled trial. *BMC, Musculoskeletal Disorders* 11:244 Available from:<http://www.biomedcentral.com/1471-2474/11/244>
- 6- **Hennell, S., Brownsell, C., and Dawson, J., (2004):** Development, validation and use of a patient knowledge questionnaire (PKQ) for patients with early rheumatoid arthritis. *British Society for Rheumatology*, 43 (4): 467-471 .
- 7- **Hewlett, S., Hahir, M., and Kirwan, J. (2007):** Measuring Fatigue in Rheumatoid Arthritis: A Systematic Review. *Arthritis Care & Research, American College of Rheumatology* 57(3): 429-439
- 8- **Hill, J., Bird, H., Hopions, R., Lawton, C., & wright, V., (1991):** The development and use of Patient Knowledge questionnaire in rheumatoid arthritis. *British Journal Rheumatology*. 30(10):45-9
- 9- **Hoger, L., Julia, S., (2010):** Effects of a Discharge Planning Intervention on Perceived Readiness for Discharge. Doctor of Nursing. Practice Systems Change Projects. Paper 2. [http://sophia.stkate.edu/dnp\\_projects/2.6/7/2012](http://sophia.stkate.edu/dnp_projects/2.6/7/2012)
- 10- **Jette, P., Lis, W., René, H., and Kim, H., (2012):** The impact on self-efficacy of different types of follow-up care and disease status in patients with rheumatoid arthritis A randomized trial. Available online 3 March 2012 88(1), :121-128.
- 11- **Johan Hopkins Arthritis Center (JAHC) (2006):** Management osteoarthritis and body weight. available at: <http://www.hopkinarthritis.com/jhmi.edu/mngmnt/osteoandweight.html#obesity>
- 12- **Kjersti, G., Johan, F., Skomsvollb, C., Toril, R., and Aslak, S., (2012):** The effect of an educational programme consisting of group and individual arthritis education for patients with polyarthritis. Available online July 88(1):113-120
- 13- **Lorig, K., Chastain, R., Ung, E., Shoor, S., & Holman, H., (1989):** development and evaluation of a scale to measure self-efficacy in people with arthritis. *Arthritis and rheumatism*. 32(1):37-44
- 14- **Mäkeläinen, P., Vehviläinen, K. and Julkunen, D., (2008):** a survey of Rheumatoid arthritis patients self-efficacy. *The Internet Journal of Advanced Nursing Practice*. 9(2):1523-6064.
- 15- **Mäkeläinen, P., Vehviläinen, K. and Pietilä, M., (2009):**Change in knowledge and self-efficacy of patients with rheumatoid arthritis: A six-months follow-up study. *International Journal of Nursing Practice*. 15: 368-375.
- 16- **Nunez, M., Nunez, E., Segur, J., Macule, F., Quinto, L., & Hernandez, M., (2006):** The effect of an educational program to improve health-related quality of life in patients with osteoarthritis on waiting list for total knee replacement: A randomized study. *Osteoarthritis Cartilage*. 14(3):279-85.
- 17- **Reinseth, L., Uhlig, T., Kjekken, I., Koksvik, H., Skomsvoll, J.,& Espnes, G., (2010):** Performance in leisure-time physical activities and self-efficacy in females with rheumatoid arthritis . *Scandinavian Journal of Occupational Therapy*. 10(3):1-9.
- 18- **Rosemann, T., Joos, S., Laux, G., Gensichen, J., and Zsecsenyi, J., (2007):** Case management of arthritis patients in primary care: A cluster-randomized controlled trial. *Arthritis Rheumatology*. 57(8):1390-7.
- 19- **Saayed, A., (2012):** Treating of rheumatoid arthritis. *The Egyptian Gazette*. <http://213.158.162.45/~egyptian/index.php>.
- 20- **Sokka, T., Toloza, S., Cutolo, M., Kautiainen, H., Makinen, H., and Gogus, F., (2009):** Women, men and rheumatoid arthritis: Analyses of disease activity, disease characteristics and treatments in the QUEST-RA study. *Arthritis Res Ther [Multicenter Study Research Support, Non-US Govt]*.11:R7
- 21- **Tall, E., Rasker, J., Seydel, E., & Wiegman, O., (1993):** Health status, adherence with health recommendations self-efficacy and social support in patients with rheumatoid arthritis. *Patient Education and Counseling* 20:63-76 .
- 22- **The Royal Australian College of General Practitioners, (2009):** College House 1 Palmerston Crescent, South Melbourne, Victoria 3205 Australia. [www.racgp.org.au/1/7/2010](http://www.racgp.org.au/1/7/2010)
- 23- **Thwaites, C., (2006):** Handling safety for patients with inflammatory arthritis nursing times. *The Internet Journal of Nursing Practice*. 102,(21):26
- 24- **Ünsal, A., & Kaşıkci, M., (2010):** Effect of education on perceived self-efficacy for individuals with Arthritis. *International Journal of Caring Science*. January - April 3 Issue 1.
- 25- **Walker, D., Adebajo, A., Heslop, P., Hill, J., Firth, J., Bishop, P. and Helliwell, P., (2007):** Patient education in rheumatoid arthritis: the effectiveness of the ARC booklet and mind map. *British Society for Rheumatology*.46:1593-1596.
- 26- **Yip, B., Sit, W., Fung, K., Wong ,Y., Chong, Y, and Chung ,H., (2007):** Impact of an arthritis self-management program with an added exercise component for osteoarthritis knee sufferers on improving pain, functional outcomes and use of health care services: An experimental study, *Patient Education Counsels*. 65(1):113-118.

6/21/2012