



## **STUDY IMPACT OF A DESIGNED NURSING INTERVENTION PROTOCOL ON PERFORMING SELF-CARE ACTIVITIES AMONG RHEUMATOID ARTHRITIC WOMEN**

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### **ABSTRACT :**

The present study aimed to investigate the impact of a designed nursing intervention protocol on performing self-care activities among arthritic women. Four research hypothesis were formulated:1-the mean knowledge scores of patients who will receive instruction about self-care activities will be higher than that of a control group.2-the mean practice scores of patients who will apply self-care practices will be higher than the mean practice scores of a control group.3-there will be a positive correlation between knowledge and practice scores obtained by the study group subjects than that among the control group subjects.4-the incidence of joint deformity, stiffness and pain among patient who will receive instructions about self-care activities will be lesser than that of the control group.

Aquasi-experimental research design was utilized in this study on 60 female patients they were allocated randomly into two groups, study and control (30 patients each) who are referred to the physical medicine and rehabilitation department and out patient of Assiut University Hospital with the following criteria; been ambulatory, educable, both literate and illiterate, their age ranged between 20-50years and agree to participate in the study. Tools used for data collection are; Intervention questionnaire sheet, observation checklists and assessment sheet. Designed protocol was applied to reduce pain and stiffness, prevent joint destruction, deformity, loss of function and allow the patient to achieve maximum independence. Pre-test was carried out before conduction of the designed protocol on the arthritic women, in addition to post-testing, two weeks after implementation and one month.

Results of the study documented that there was a significant improvement in arthritic women knowledge and practices and reached an optimum level of independence for daily living activities ( $p \leq 0.001$  of most items) after implementation of the designed protocol. Incidence of pain, swelling and dealing with daily activities was a highly significant ( $p \leq 0.001$ ) post protocol as compared to their pre application state.

In conclusion, education of arthritic women is necessary to achieve an optimum level of functioning. Replication of this study on larger probability sample is highly recommended.

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### **INTRODUCTION:**

**Rheumatoid arthritis (RA) is a chronic, systemic, inflammatory disease that primarily affects the joints and surrounding tissues in**

**addition to other organ systems within the body (Saniel & Heller, 2001). It affects approximately 1-2% of the total population and found throughout the world. Among those under 60 years of age,**

Rheumatoid arthritis is 2.5 times more common in women than men; men and women over 60 years affected equally (Simms, 2002). In Egypt, the incidence of RA is about 1% (approximately 5.00.000 people) and it affects about 4 times as many women as men (Hadidi, 1988).

The etiology of rheumatoid arthritis currently remains unknown (Souhami and Maxham; 1997). It may be caused by an immunological response, infection, genetic and/or other factors as hormonal factors, psychological factors, and environmental factors (Shellito 2001).

The arms of care for the Rheumatoid arthritic patient is to reduce pain and stiffness, hope to prevent joint destruction, deformity, loss of function and allow the patient to achieve maximum independence. This can be achieved through medical treatment together with rest, technique for pain relief, splinting, adaptive equipment, exercise and education. Dunn (2001) emphasized that, education of patients with RA is regarded as an integral part of care and an essential pre-requisite to effective self-management.

Successful management of RA depends largely on the patient's willingness to comply with his treatment plan, thereby preventing complications it also depends on his willingness to experiment with self-care measures and assistive devices to enhance comfort and quality of his life. Self care is the practice of activities that individual's personally initiate and perform on their own behalf in maintaining life, healthy and well-being. Orem identifies three requisites for self-care, which are; universal, developmental and health deviation requisites. These requisites represent the individuals purpose for self care. Patients with chronic RA have a therapeutic self-care demands and health deviation self-care requisites. The desire to promote their own human functioning, plus assistance from health care professionals, place them in a supportive nursing system in order to

satisfy their universal self-care requisites and overcome the deficits which result from the disease process. The current study will be carried out in an attempt to study the impact of a designed nursing intervention protocol on performing self-care activities among arthritic patients. Previous studies (Mullen, Laville & Biddle (2001) and Lorig & Knkol (2000) which revealed that at four months after participation in an arthritis self-care education program, they found that patients knowledge about arthritis & it's management was significantly increased.

### **Significance of the study:**

The impact of RA as a chronic illness on quality of life, is an increasing concern to society and health care professionals. For RA patients illness or disability is a permanent aspects of life. No other group of diseases causes so much pain and disability over so long and period of time as RA. Because cure is not realistic expectation for most, more emphasis should be placed on the individual's quality of life while coping with arthritics (O'Driscoll 2001).

Patient's teaching has been identified as an important component of nursing care because it had a positive effect on patient's compliance, degree of wellness obtained and level of functioning achieved for the patient. Moreover, the patient will be knowledgeable in the treatment and the associated side effects and will be free from preventable complications of the disease. The nurse plays an important role as supportive and educative, in order to allow individuals to cope with therapy and maintaining the highest possible quality of life. Therefore, this study will be conducted in an attempt to study the impact of a designed nursing intervention protocol on performing self-care activities among arthritic women.

### **Aim of the Study:**

The aim of this study is to investigate the impact of a designed nursing intervention protocol on performing self-care activities among arthritic women.

### **SUBJECTS AND METHODS:**

The aim of the present study is to investigate the impact of a designed nursing intervention protocol on performing self-care activities among arthritic women.

#### **Research Design:**

Quazi-experimental research design was utilized in this study.

#### **Settings:**

The study has been conducted in the Physical and Rehabilitation Department in addition to the out-patient clinic of Assiut University Hospital.

#### **Study subjects:**

A convenience sample of 60 female patients, were allocated randomly into two groups "study" and "control" (30 patients each). Criteria of sample were been Ambulatory. Their age ranged between 20-50 years and agree to participate in the study.

#### **Study Tools:**

Data pertinent to the study were collected, utilizing three tools: These tools were designed and tested by the researcher then revised by panel of medical surgical nursing experts.

**I-Interview questionnaire sheet:** covering the following areas:

- 1-Demographic variables: Covering age, sex, marital status, education and occupation.
- 2-Pre/post knowledge test: Covering the following items: Meaning of RA, clinical manifestation, medical and nursing management, nutritional, medication,

hygiene, RA problems and their management and diagnostic tests and actions, measures to minimizing undesirable effect of RA complications, scoring : each right answer was given one score with a total scores of 150.

**II-Observation checklist (Annex B):** for a carrying out self care actions as :

- 1-ROM in cervical, thoracic lumber spine, shoulder, Elbow, forearm, wrist,
- 2-Hot and cold application and splinting, personal hygiene and dressing. The observation checklist was applied by the researcher to evaluate the joint of patient and minimize the joint deformity, total scores of practice 70 scores.

**III-Assessment sheet:** was constructed to evaluate signs and symptoms related to both universal and health deviation requisites of affected and unaffected joints including "pain, swelling and deformity" and assess functional abilities including "Mobility, eating, personal hygiene, dressing, general hand activities and home activities.

#### **Procedure:**

The present study was carried out over three phases; planning, implementation, and evaluation phases.

#### **Planning phase:**

After extensive review of literature, tools construction and testing through a pilot study on 5 RA women, modifications were needed accordingly. These patient's were not included in the actual study. As well, educational materials as simple diagrams, illustrated booklet and colored photos were also developed.

#### **Implementation phase:**

An official letter was issued from the Head of the Physical Medicine and Rehabilitation Department. Pre-test was done for the 60

patients. Then subjects were divided randomly into two group study & control (30 patients each). Study groups subjects were received theoretical and practical contents of the protocol in addition to the routine medical and nursing management. The collection of data, began February 2001 and ended in July 2003.

**Control group:** Subjects were only received the Routine hospital management. They were interviewed and assessed three times, upon patient admission, after two weeks and one month later to the therapy offered by the department.

**Study group:** For theoretical part, study group subjects were divided into 8 small subgroups (3-4 patients each). Each subgroup was met 6 times in terms of short sessions (45 min.). These 6 sessions were carried out 2 weeks interval depending on the establishing schedule in the department in order to acquire the pre-planned theoretical contents covering meaning of diseases, it's signs and symptoms, possible complications different diagnostic tests and actions, side effects of medication used and measurers to decrease these side effects, then another 4 sessions concerning the practical part about ROM exercise (checklist), application of the bandage, positioning, lifting or carrying objects, some skills related to joint protection, rest, and hot and cold applications were conducted.

Study group were interviewed and assessed three times, also once upon patient admission to the therapy offered by the department. The results of this assessment were considered as the base line data for later comparison with 2nd and 3rd assessment. The second assessment was carried out two weeks after implementation of the tools, to identify the effect of the tools on self-care status and self-care agency. The third assessment was carried out one month later, the rationale for this lap of time being the

identification of the retained level of knowledge related to the disease and the amount of implementations of the therapeutic self-care measures.

#### **Evaluation phase:**

Both study and control group subjects were evaluated 3 times pre, two weeks following the termination of the sessions and one-month later.

#### **PRESENTATION AND ANALYSIS OF DATA:**

The aim of this study was to investigate the impact of a designed nursing intervention protocol on performing self-care activities among rheumatoid arthritic women. Data analysis were presented in two section, the First is related to the sociodemographic and medical data. The second is related to hypothesis testing.

**First section:** Socio. Demographic variables and medical data of the arthritic women under the study. Shows the distribution of the sample according to the personal and socio-demographic data delineated that the majority of the studied group (93%) belonged to the age group of 30-50 years as compared to 93% of the control group. Married 83%, not work 97 and 50% of study group were illiterate and compared to 77% in control group, no significant difference between the studied and control groups.

More than half of both groups (50, 60%) there disease duration were from 5-10 years. Majority of both groups were having no family history of RA. Less than half of study group subjects compared to 56.3 were regular on treatment. Highly significant statistical difference was found between them in relation to presence of chronic diseases (Chi square 13.06,  $P \leq 0.001$ ).

**The second section:** is delineated to hypotheses testing.

**H1:** The mean knowledge scores of patients who will receive instructions about self-care activities will be higher than that of a control group.

Table (1): Percentage distribution of the sample according to socio-demographic.

Groups Variable	Study group (N = 30)		Control group (N = 30)		$\chi^2$ p. value
	No.	%	No.	%	
Age group :					
20 -	2	7	2	7	$\chi^2 = 4.8$ $P \leq 0.1^{\#}$
30-	15	50	7	23	
40 – 50	13	43	21	70	
Marital status :					
Married	25	83	27	90	$\chi^2 = 0.58$ $P \leq 1^{\#}$
Single	5	17	3	10	
Level of education :					
University	3	10	3	10	$\chi^2 = 6.3$ $P \leq 0.1^{\#}$
Secondary	6	20	1	3	
Primary, read & write	6	20	3	10	
Illiterate	15	50	23	77	
Work	1	3	2	7	$\chi^2 = 0.35$ $P \leq 1^{\#}$
Not work	29	97	28	93	

Part I: Characteristics of the sample.

Table (2) : Percentage distribution of the sample according to medical data

Groups Variable	Study group (N = 30)		Control group (N = 30)		$\chi^2$ P. value
	No.	%	No.	%	
Disease duration (years):					
1 -	15	50	12	40	$\chi^2 = 0.06$ $P \leq 1^{\#}$
5-10	15	50	18	60	
Family history of RA:					
Yes	4	13	2	6.7	$\chi^2 = 0.74$ $P \leq 1^{\#}$
No	26	87	28	93	
Treatment Taken :					
Regular	13	43.3	17	56.3	$\chi^2 = 1.07$ $P \leq 1^{\#}$
Irregular	17	56.7	13	43.7	
Presence of other chronic diseases :					
No	8	27	22	73	$\chi^2 = 13.07$ $P \leq 0.001^{**}$
Yes	22	73	8	27	

Table (3): Differences between study and control group subjects in relation to the mean knowledge scores all through the study period

Group stages Knowledge	Study group (N = 30)		Control group (N = 30)		P. Value
	Mean	S.D	Mean	S.D	
Initial	58	9	53	7.4	0.022*
F <sub>1</sub>	118	11	53	7.4	0
F <sub>2</sub>	138	13	53	7.4	0

\* =Significant at 0.05 level

\*\* = Significant at 0.01

\*\*\* = Significant at 0.001 # = Not significant.

The above table shows that an improvement in mean knowledge scores of study group subjects throughout the 1<sup>st</sup> & 2<sup>nd</sup> assessment with highly significant statistically differences

between two groups. P=0.001. Thus hypothesis one was supported.

**H2:** the mean practice scores of patients who will apply self-care practice will be higher than the

mean practice scores of a control group. Tables (4& 5) are related to this hypotheses.

Table (4) : Differences between study and control group subjects in relation to the mean practices scores all through the study period

Practice	Study group (N = 30)		Control group (N = 30)		P. Value
	Mean	S.D	Mean	S.D	
Initial	45	8	51	13	0.001**
F <sub>1</sub>	134	11	58	16	0.000
F <sub>2</sub>	207	26	58	16	0.000

Table (5): Self-care measures carried out by the sample regarding management of Rheumatoid arthritis.

Groups Self-care measure	Study group (N = 30)								Control group (N = 30)				
	Initial		F1		McNemar	F2		McNemar	Initial		F		McNemar
	No.	%	No.	%		No.	%		No.	%	No.	%	
1-Complete ROM exercise	8	27	30	100	0	30	100	0	4	13	4	13	1.00
2-Joint protection measures	11	37	14	47	0	27	90	0	8	27	8	27	1.00
3-Hot and cold application	20	67	30	100	0.002	30	100	0.002**	10	33	10	33	1.00
4-Bracing and splinting the affected joints	0	0	4	13	0	8	27	0	3	10	3	10	1.00

The above table shows an improvement in practice mean scores of study group subjects throughout the 1<sup>st</sup> & 2<sup>nd</sup> assessments. With a highly significant statistical difference between study control groups (P = 0.001, 0.000, 0.000). Thus hypothesis two was supported.

Highly significant improvement in performing recommended management techniques was observed among the study group subjects during both the 1<sup>st</sup> & 2<sup>nd</sup> follow ups

(McNemar=0.00). While control group subjects didn't show any improvement in relation to the previously mention items throughout the follow up stages.

H3: There will be a positive correlation between knowledge and practice scores obtained by the study group subjects than among the control group subjects.

Table (6): Correlation between knowledge & practice scores throughout the follow up assessment stages

Stages	Study group			Control group	
	Knowledge & Practice			Knowledge & Practice	
	Initial	F1	F2	Initial	F
Initial	-0.48	-0.30	-0.23	0.067	-053
First follow up (Fu <sub>1</sub> )	-0.57	0.337	0.416*	0.067	-053
Second follow up (Fu <sub>2</sub> )	0.363*	0.143	0.496**	0.067	-053

The above table shows that, knowledge is positively correlated with practices during the

**first &the second follow up assessments among study group subjects, only thus hypothesis three was supported.**

**H4:** The incidence of Joint swelling, deformity, pain and stiffness among patient who will receive instructions about self-care activities will be lesser than that among the control group.

As indicated from the previous table (7) initial assessment of the study group subjects showed that, majority of them were having joint swelling, deformity, pain & stiffness, limitation in joint movement, fatigue & heart burn with percentage of 100, 63, 100, 97, 90, 100, 63 respectively.

A significant improvement was observed among the study group at the 1<sup>st</sup> follow up as regards joint stiffness, limitation in joint movement & less than their body requirement (Wilcoxon = 1.00, 1.00, 0.005). Moreover, heart burn, constipation, urinary elimination & ineffective breathing pattern (Wilcoxon= 0.000, 0.002, 0.046, 0.083). At the second assessment of the study group subjects, majority of them were having joint stiffness with a 00000 percentage of 73%. However, In the 2<sup>nd</sup> follow up all items were differed significantly (with P-values>0.001). Control group subjects didn't show any improvement throughout the follow up stages.

Initial assessment of the study group subjects table (8), revealed that majority of them were having insufficient intake of food, urinary elimination problems, defecation problems, feeling of moderate exhaustion, setting on floor, using pillows under head, hold knife and pen for long time with clean general appearance, depressed after disease & unable to perform domestic duties as a result of disease in percentage of 93, 57, 53, 70, 60, 93, 87, 90, 60, 97% respectively.

At the 1<sup>st</sup> follow up, the study group subjects showed significant improvement as regards to intake of food, urinary elimination problems, defecation problems, feeling of

exhaustion as well as long standing, setting on floor, using pillow under head and hold knife or pen for long time (Wilcoxon; 0.001, 0.008, 0.002, 0.000, 0.013, 0.000, 0.000, 0.046, 6.000). Moreover, clean general appearance and unable to perform domestic duties showed significant difference (Wilcoxon, 0.008, 0.04).

At the second follow up stages majority of the study group subjects were severely exhausted only 73%. While in the 2<sup>nd</sup> follow up, all items of the universal self-care were highly significant statistically and highly except airtation problems. On the other hand, the control group didn't exhibit any significant changes & improvement in the follow up phases.

## DISCUSSION:

This study demonstrate that impact of nursing intervention protocol by professional nurses can lower arthritic women complications and improve performing self-care activities.

The first section well be devoted to socio-demographic and medical data of the subjects under the study. The result of the presents study showed, that the majority of the sample was between 30-50 yrs. These results are very similar to Chehata (2002) and El Badawy's (1997).

The majority of the sample was lacking knowledge about meaning of RA, it's clinical manifestation, different modalities, action & side effects of RA medications, common laboratory investigation and articular complications.

This could be explained by the fact that, patients didn't receive enough information from health care providers, some patients were lacking interest and did not want to know any information. However, post implementation of the protocol. In the studied group patients,



there was a significant increase in patient's knowledge regarding the disease, its different treatment modalities action and side effects of RA medications. These findings confirmed those of previous studies. Mullen, Laville and Biddle (2001) and Lorig and Konkol (2000) which revealed that at four months after participation in an arthritis self-care education programme, they found that patients knowledge about arthritis and its management was significantly increased.

A significant increase in number of studied group patients performing complete ROM exercise at both follow up was observed. This is in line with Barlow & Turner (2002) findings. Findings showed a statistically significant difference between the studied & control groups regarding exercise, thus patient's education has been shown to be effective for those with rheumatic disease.

Blaock (2003) reported that flexion & extension of the affected joint were the most common self-care practice done by the patients in order to increase joint mobility & relief joint stiffness. While, lack of knowledge & skills were the main cause of incomplete ROM exercise. Regular practice of ROM exercise, restored function & decreased stiffness can be achieved through practicing ROM exercise. NIAMS (2003), reported that exercise helps people with arthritis in many ways reduces joint pain, stiffness, increase flexibility & muscle strength, it also help to improved sense of well-being. American Physical Therapy Association (2002) reported that exercise can be done daily & should be done at least every other day, this help maintain normal joint movement and relief pain & stiffness.

It was observed that the most common pain management methods carried out by the majority of the sample were taking medication

and rest. Applying hot & cold application to painful area (s), following joint protection measures, bracing and splinting were the least observed used for pain relief. This might be due to lack of knowledge, skills and motivation. Findings of the present study are similar to the findings of Davis and Atwood (2000) study who found that bracing and splinting the affected part were the least methods used for pain relief. Regarding bracing and splinting, findings of the present study revealed that the self-care practices least used by patients due to lack of knowledge about their effect on pain relief. Also patients reported that the practices were not recommended by the physician. Even after the education sessions, it was observed that, there was no statistically significant difference between the studied and control groups. The reasons for not bracing or splinting even after teaching were lack of resources and they were not capable of implementing them. However, the results revealed that their was a significant increase in the number of studied group patients using hot and cold application and following joint protection measures to relief joint pain after participation in the education sessions. Furthermore, a significant difference between study and control group was observed as regards application of heat & cold. This could be explained by the fact that when patients used it they felt better & this motivated them to follow the instructions related to heat & cold application. This was in line with Davis and Atwood (2000) findings where almost three quarters of RA patients used heat & cold application for temporary pain relief.

Joint swelling was a common problem experienced by about three quarters of RA patients. Joint swelling usually appears during the exacerbation period of the disease where it is one of the symptoms of joint inflammation. Joint deformity is considered one of he potential

problems that may occur as a result activity, non-compliance and lack of knowledge as regards contracture prevention (Alderson, Starr, 2000).

It was observed that patients were lacking knowledge & skills about joint protection & ROM exercise, which were significantly improved after patient's involvement in the education sessions. This could be explained by the fact that their patients required enough instruction about the practices that help in minimizing occurrence of joint deformities. It was observed that after participation in education, sessions, the studied group showed a significant improvement in carrying out all the recommended instructions regarding both fatigue & activity intolerance, while no significant changes were observed regarding the control group because they hadn't received any instruction to help them overcome these problems.

Limitation in joint movement was the second problem perceived by the RA patients because it leads to difficulty in carrying out daily living activities. This finding is in line with Brown, Dare and Smith (2002), Revenson and Felton (2001) who reported that limitation in joint movement is considered one of the frequently perceived problems that can be resolved by ROM exercise.

The present study didn't maintain sufficient intake of food. This could be explained by the fact that fatigue, pain, limitation of mobility together with side effects of RA medications interfere with patients appetite. These results are supported by Gilchrist, Robertson and Webb (2000), Spector and Powell (2000), and Roth (1997) who illustrated that fatigue, pain & limitation of mobility together with side effects of non steroidal anti-inflammatory interfere with patient's appetite resulting in anorexia.

Taking a well-balanced meal was the self-care practice that showed significant difference in the studied group after participation in education sessions. This could be explained by the fact that lack of knowledge & resources played an important role in the performance of self-care practices as food selection and preparation. It was observed that heartburn was experienced by more than half of the sample. This was due to administration of NSAIDs on empty stomach, in addition to the deficit in the self-care practices that help in relieving heart burn. This was supported by Maher, Salmond and Pellino (2002) who mentioned that heartburn was the most common untoward effect of RA medication.

About a quarter of the studied patients experienced constipation. This may be due to lack of intake of fluid and vegetables, limited mobility and some RA medications as NSAIDs. This was supported by Alexander's and Fowcette (1994) findings who stated that a number of non steroidal anti-inflammatory drugs cause constipation as a common side effect. Fatigue and activity intolerance was perceived by almost all the sample activity intolerance may have resulted from pain, limited joint movement, fatigue and anemia. While, fatigue may have resulted from the disease activity, during side effects, muscle atrophy, sleep disturbance and anemia. Myer's and Beare (2001) illustrated that activity intolerance & fatigue may result from pain & impaired mobility. A significant increase in number of studied group patients performing complete ROM exercise at both follow up was observed. This is in line with Barlow & Turner (2002) findings. Findings showed a statistically significant difference between the studied & control groups regarding exercise, thus patient's education has been shown to be effective for those with rheumatic disease.

This study provides further evidence that RA self-care education is effective. It has initial & sustained effects on the impact variables of knowledge about RA and its management, self-care behavior & perceived helplessness. This result is similar to Hills (2000). Study who found that, patient education has been shown to be effective for RA patients and it is one of the primary functions of rheumatology nurse.

Furthermore, NIAMS (2003) reported that educationally programs that will improve a person's ability to deal with rheumatoid arthritis & enhance quality of life.

## **CONCLUSION:**

Based on the study findings it was concluded that patients with chronic rheumatoid arthritis have a deficit in their universal self-care requisites this lead to the appearance of health deviation self-care requisites. The results of the present study revealed that the most common knowledge and self care practices showed significant improvement in the studied group patient after participation in the instruction scheme compared to these who didn't participate as regards knowledge related to the disease and its treatment modalities. Patients education has been shown to be effective for RA patient.

## **RECOMMENDATION:**

### **For the patients :**

Health education plan be available for the patients and their families to explain the disease, its manifestation and treatment modalities. Educational booklets, handouts and audiovisual materials be provided for teaching women and their families. Arthritis self-care education programs can help chronic arthritis women in making the right decisions about adjustments in

their treatment regimen and in attaining "self management" behavior and Self-care education for RA patients must be provided in order to change their pattern of life.

### **For hospital administration:**

Employ health team concept to discuss plan of care to provide continuity of care and to build trust relationships with patient and family.

### **For the nurses:**

A continuing education program is planned for and offered on regular basis to nurses in the rheumatology units and Attendance of conferences is feasible for nurses to upgrade their knowledge about RA.

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## تأثير بروتوكول ترميضى تداخلى مصمم على ممارسة أنشطة العناية الذاتية لسيدات روماتيد المفاصل

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محمد\*\*

قسم الترميضى الباطنى والجراحى - كلية الترميضى - جامعة أسيوط ، \*\*جامعة القاهرة  
قسم الروماتيزم والتأهيل - كلية الطب - جامعة أسيوط

- استهدفت هذه الدراسة تقييم معلومات وأداة السيدات نحو التعرف على أنماط العناية الشخصية ومنع المضاعفات وتصميم بروتوكول تدريبي وقياس تأثيره على معلوماتهن وأدائهن.  
وقد تم افتراض بعض الأشياء :
- متوسط المعلومات للمرضى اللاتى يستقبلن المعلومات عن تدريبات العناية الشخصية سوف تكون أعلى من معلومات المجموعة الضابطة.
  - متوسط الأداء للمرضى اللاتى يطبقن الممارسات الشخصية سوف تكون أعلى من معدل المجموعة الضابطة.
  - سوف توجد علاقة ارتباط إيجابية بين المعلومات والأداء لمجموعة الدراسة عن مجموعة الضابطة.
  - حدوث التشوهات و التصلب والألم بين السيدات اللاتى استقبلن التعليمات والمعلومات عن التدريبات الخاصة بالعناية الشخصية سوف يكون أقل من المجموعة الضابطة.
- ولتحقيق هدف الدراسة تم أخذ عينة عشوائية مكونة 60 سيدة (30 حالة ضابطة، 30 حالة تجريبية) بقسم التأهيل والعيادات الخارجية بمستشفى أسيوط الجامعى.  
وقد تم استخدام بعض الأدوات للبحث :
- استمارة استبيان لن توضح للسيدات العناية بأنفسهن ومعرفة المرض وأعراضه ومضاعفاته والرعاية الطبية والتمريضية اللازمة.
  - استمارة تقييم وتشمل تقييم الألم والورم والتشوهات التى تحدث، وأيضاً تقييم الحركة والأكل وكل المتطلبات الشخصية لدى السيدات.
  - استمارة ملاحظات وتشمل عمل التمرينات المناسبة لتقوية المفاصل، استخدام الماء الساخن أو البارد لراحة المفصل.
- وقد تم إعداد البرنامج بواسطة الباحثات، وذلك لتوفير المعلومات والتدريبات الخاصة بالتعرف على والوقاية من مضاعفات التهاب المفصل كما تم مراجعته بواسطة مجموعة من خبيرات الترميضى تمهيداً لتطبيقه. وقد تم جمع البيانات باستخدام أدوات البحث 3 مرات متباعدة قبل البرنامج، بعد أسبوعين من البرنامج، بالإضافة إلى شهر بعد تطبيق البرنامج.
- تراوحت أعمار معظم السيدات بين 20، 50 سنة، وكان معظم السيدات اللاتى شملتهن الدراسة لا يستطعن تلبية متطلباتهن الأساسية للعناية بأنفسهن. وتم إرجاع أسباب ذلك إلى عدم إتباع المعايير المناسبة للعناية بأنفسهن إلى نقص المعلومات والمهارات والتشجيع.