

Effect of Nursing Guidelines on Knowledge and Quality of Life for Patient with Knee Osteoarthritis

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ABSTRACT

Background: knee osteoarthritis; the cartilage in the knee joint gradually the cartilage wears away, it becomes frayed and rough and the protective space between the bones decreases. This can result in bone rubbing on bone and produce painful bone spurs. **Aim of the study:**To evaluate the effect of nursing guidelines on knowledge and quality of life for patients with knee osteoarthritis at Benha university hospital through . **Aquasi-experimental research design** will be utilized to conduct the aim of this study. **Setting:**This study will be conducted at rheumatoid department in Benha University hospital. **Subjects :**Convienient sample of all patients admitted to rheumatoid department during the six months(n100). **Two tools:(1) Structured interviewing questionnaire** sheet , (2) **Osteoarthritis Knee Hip Quality of Life Questionnaire (OAKHQOL)**. **Results:** the study showed that statistical significant improvement in the total mean knowledge scores of patients post implementing the educational program as compared to pre implementing the educational program implementation.Also,there was statistical significant improvement in patients quality of life mean score on immediate post from pre educational program implementation. Although, the mean score on the 2nd month were decreased comparing with the immediate post educational program implementation.which indicated that the patients with chronic condition need more frequent follow up. **Conclusion:** Finding of this study concluded that, the post mean knowledge scores of patients with knee osteoarthritis who were exposed to educational program were higher than their pretest knowledge mean scores. The post mean quality of life scores of patients with knee osteoarthritis who were exposed to educational program were higher than their pre quality of life mean scores. **The study recommended** that, there is a need for continuous monitoring and evaluating quality of life of knee osteoarthritis patients to early detecting and solving their problems.

Key words: Knee osteoarthritis, *Quality of life*

Introduction

Osteoarthritis (OA) is chronic disease characterized by the deterioration of cartilage in joints causes the cartilage in the knee joint become thin and rough which results in bones rubbing together and overgrowth of the bone underneath creating

stiffness, pain, and impaired movement. The disease most commonly affects the joints in the knees, hands, feet, and spine (Cluett, 2019).

Factors that can increase the risk of knee osteoarthritis include: **Older age**. The risk of osteoarthritis increases with age. **Sex**. Women are more likely to develop osteoarthritis, **Obesity**. Carrying extra body weight contributes to osteoarthritis in several ways, Increased weight adds stress to weight-bearing joints, such as your hips and knees. Also, fat tissue produces proteins that can cause harmful inflammation in and around the joints (Bennington, 2018).

Other risk factor include: Joint injuries. Injuries, such as those that occur when playing sports or from an accident, **Repeated stress on the joint**. If your job or a sport you play places repetitive stress on a joint, that joint might eventually develop osteoarthritis. **Genetics**. Some people inherit a tendency to develop osteoarthritis. **Bone deformities**. Some people are born with malformed joints or defective cartilage (Oboirien, Agbo, & Ajiboye, 2018).

The symptoms of knee osteoarthritis often develop slowly and worsen over time. Signs and symptoms of knee osteoarthritis include: **Pain**. Affected joints might hurt during or after movement. **Stiffness**. Joint stiffness might be most noticeable upon awakening or after being inactive. **Tenderness**. the joint might feel tender when you apply light pressure to or near it (Mora, Przkora, & Almeida, 2018).

Swelling. This might be caused by soft tissue inflammation around the joint. **Loss of flexibility**. The patient might not be able to move the joint through its full range of motion. **Bone spurs**. These extra bits of bone, which feel like hard lumps, can form around the affected joint. **Grating sensation**. The patient might feel a grating sensation when use the joint, and hear popping or crackling. These symptoms affect on quality of life (Shiel, 2017).

Knee osteoarthritis is diagnosed by physical examination and, where necessary with x-ray, MRI scan and arthroscopy. These imaging tests create detailed pictures of dense structures, like bone. They can help distinguish among various forms of arthritis. X-rays of an arthritic knee may show a narrowing of the joint space, changes in the bone and the formation of bone spurs (osteophytes). Other tests. Occasionally, a computed tomography (CT) scan, or a bone scan may be needed to determine the condition of the bone and soft tissues of the knee (Nizar, & Kapoor, 2017).

Treatment of knee osteoarthritis include non pharmacological, pharmacological and surgical treatment. non pharmacological such as **Weight loss** for decrease knee pain. **Exercise**. Strengthening the muscles around the knee makes the joint more stable and decreases pain. **Using devices such as braces. Physical and occupational therapy**. If you are having trouble with daily activities, physical or occupational therapy can help (Deveza, 2019).

pharmacological treatment **include: Pain relievers and anti-inflammatory drugs.** such as acetaminophen, ibuprofen. **Injections of corticosteroids or hyaluronic acid into the knee. Alternative therapies.** Some alternative therapies that may be effective include topical creams with capsaicin, acupuncture, or supplements, including glucosamine and chondroitin. Surgical treatment include the arthroscopy, osteotomy, and arthroplasty (*Rahim, & Lubna, 2017*).

Instruct about factor that reduce pain; heat packs may be applied as a self-management strategy. Using a cane or other devices (eg walker) may be appropriate for some people with knee OA to help improve pain, mobility and balance. A short course of manual therapy or massage could be considered for some people with knee OA. nutritional supplements including **vitamins D,C and calcium**, may help to prevent further damage and protect the joints. The purpose of nursing guidelines is to improve knowledge and quality of life for patients with knee osteoarthritis (*Evaniew, & Evaniew, 2017*).

The nurse guide the patients to Change Lifestyle and perform Regular exercise is important for relieving pain and improving function in people with knee OA. For knee OA, land-based exercise such as muscle strengthening exercises, walking and cycling is recommended for knee OA. Weight management is strongly recommended for people with knee OA who are obese, educate the patient about treatment, complication and follow up (*Gidlow, 2017*).

Significance of the study

Chronic diseases of the musculoskeletal system are among the most prevalent health hazards in the world's population. knee osteoarthritis is a major public health issue, characterized by progressive loss of articular cartilage resulting in pain, functional impairment, disability and diminished patient's quality of life. more than 27 million people In the united states affected with osteoarthritis, It is estimated that in 2025 the prevalence of knee osteoarthritis will increase by 40% of the world population, the prevalence of knee osteoarthritis in Egypt about 22 million people. (*Cisternas, Murphy and Sacks,.,(2016)*).

The number of patient admitted to rheumatoid department at Benha university hospital were 973 in 2018 (*Benha university hospital statistical office,2018*)

Sample and method

Aim of the study

This study aims to

Evaluate the effect of nursing guidelines on knowledge and quality of life for patients with knee osteoarthritis at Benha university hospital.

Research hypothesis:-

To achieve the aim of this study the following research hypothesis is formulated:

H1-Patient knowledge scores will be higher after implementing nursing guidelines than before.

H2- Patient quality of life scores will be higher after implementing nursing guidelines than before.

H3-There is appositive correlation between patient knowledge and quality of life .

Research Design:

A quasi-experimental research design was utilized to conduct the aim of this study.

A- Study setting

This study was conducted at Rheumatoid department in Benha University hospital. The rheumatoid department inpatient unit has two rooms, room for female and room for male every room including 8 beds It receives patients from all over the Kalubeia Governorate.

B-Subjects

Convenient sample of all patients admitted to rheumatoid department at Benha University Hospital during the six months.(100 patients) and agreed to participate in the study . **Exclusion criteria:** patient not have rheumatic fever,osteoarthritis secondary to trauma and other condition, previous knee arthroscopy or surgery, systemic and connective tissue disease, acute or chronic infection, malignancy, pregnancy and smoking .

C- Tool for data collection

Tool I- Structured interviewing questionnaire for patient with knee osteoarthritis: (AppendixI)

This questionnaire was developed by the researcher after reviewing the related literature. It was presented in simple arabic structure items related to different aspect of assessment of patient's knowledge .it was included three parts:

- **Part one: Patients demographic data:** this part concerned with assessment of patients demographic characteristics related to age, and gender, marital status, residence, type of work and education level.

- **Part two: Patient history:** included patient past history for perform any surgical operation,number of pregnancy,number of delivery and current history for patient suffering from chronic disease,how long have patients knee osteoarthritis ,medication use for knee osteoarthritis and what causes of resort to physician, family history for knee osteoarthritis,any family member perform knee arthroplasty.

- Part three: This part was concerned with assessment of patients' knowledge about the following:

- 1- General knowledge about the knee osteoarthritis: it consisted of nine closed ended questions.
- 2- Knowledge about physical activity and exercise: it consisted of three closed ended questions.
- 3- Knowledge about nutrition for knee osteoarthritis patients: it consisted of six closed ended questions.
- 4- Knowledge about treatment of knee osteoarthritis: it consisted of five closed ended questions.
- 5- Knowledge about protection of knee joint: it consisted of two closed ended questions.
- 6- Knowledge about measures to minimize pain: it consisted of two closed ended questions.
- 7- Knowledge about follow up: it consisted of four closed ended questions.

Tool II – Osteoarthritis Knee Hip Quality of Life Questionnaire (OAKHQOL).(AppendixII).

This questionnaire was used to assess quality of life of the patients with knee osteoarthritis. It is adopted from (*Rat , Coste , Pouchot , Baumann. et al,2005*).It includes 43 items in five domains :physical activities(16 items), mental health (13 items), pain (4 items),social support (4 items),social functioning (3 items) and three independent items. Domain scores are scaled in apposite direction (I.e. question number one higher scores denote higher quality of life).

Fieldwork:-

Data were collected from the beginning of march 2019 to the end of october 2019 ,data collection were administered by researcher and included four phases:

A.Assessment phase:

-After the official permission was taken from the dean of faculty of nursing, head of Benha University Hospital and head of rhumatoide department, then data collection processes was began.

-The researcher started by introducing herself to the patients who were admitted in the previously mentioned setting and explained the purpose of the study after

- Each patient was interviewed before implementation of nursing guidelines in rheumatoid department to fill the questionnaire concerned with assessment of their knee osteoarthritis knowledge and quality of life.

-Firstly, the researcher started by assessing patients knowledge about knee osteoarthritis using (tool I).

- secondly, the researcher assessed quality of life for patients with KOA using(tool II).

- every questionnaire take about 30 minute to fill.

Planning phase:

- Based on the finding of the assessment phase, goals, priorities, and expected outcome was formulated.

-In these phase the researcher planned to provide the patients with nursing guidelines in simple Arabic language including knowledge about KOA such as, definition, sign and symptom, risk factors of knee osteoarthritis , physical activities ,exercise,diet,treatment ,joint protection,minimize pain and follow up. (APPendix 3).

Implementation phase:

-The implementation phase was achieved through sessions at aperiod of (12) weeks.Each session started by asummary of the previous session and objectives of the new one. Taking into consideration ,the use of Arabic language that suits patients education level.

- Total number of sessions were (3) sessions for each group the time for each session ranged between 30-45minutes. The patients divided in to groups ,each group contains(5 patients) to acquiare the related information. Each patients was supplemented with the booklet containing nursing guidelines in the first day of implementation.

- At the end of each session,patients questions were answered and discussed to correct any misunderstanding .

- Teatching motheds were lecture,group discussion and brain storming .Media utilized were,hand outs,picture and booklet.

Evaluation phase:

- After implementation of nursing guidelines ,the post-test was administered to evaluat the effectiveness of nursing guidelines through evaluate patients knowledge using (tool I) and quality of life using (tool 2) .This was done immediatly and after 2 month.

- The evaluation was done by the researcher at out patients clinic.

- Statistical design:

The collected data were organized, categorized, tabulated and analyzed using the number and percentage distribution. Statistical analysis was computed by Statistical Package for Social Sciences (SPSS version 19). Data were presented using descriptive

statistics in the form of frequencies, percentages, mean degree and standard deviation (SD). Chi square test (X^2) were used for comparisons between qualitative variables to find out relations. *T-test* was used to determine if there was a significant difference between two groups of quantitative data, while *f-test* between more than two groups of quantitative data. In order to detect the regression rate of quality of life among the studied sample linear regression analysis was used. Statistical significance was considered at p -value <0.05 .

Results

Table (1): distribution of studied patient regarding their socio-demographic characteristics (n=100).

Demographic characteristics	No (100)	Percentage %
<u>Age in years</u>		
• 18<25	2	2.0
• 25<30	5	5.0
• 30<35	11	11.0
• 35<40	20	20.0
• 40 years and over	62	62.0
Mean \pmSD 37.75\pm5.36		
<u>Sex:</u>		
• Male	26	26.0
• female	74	74.0
<u>Marital status:</u>		
• Single	6	6.0
• Married	80	80.0
• Divorced	9	9.0
• Widowed	5	5.0
<u>Living status:</u>		
• Alone	12	12.0
• With family member	88	88.0
<u>Education level:</u>		
• Illiterate	3	3.0
• read and write	12	12.0
• Primary education	21	21.0
• Preparatory education	19	19.0
• Secondary education	38	38.0
• university education	7	7.0
<u>Occupation:</u>		
• work	48	48.0
• not working	52	52.0

• Housewife	5	5.0
<u>Ifwork (figure)</u>		
• Work need muscular effort	46	95.8
• Work need mental effort	2	4.2
<u>Residence:</u>		
city	30	30.0
village	70	70.0
<u>Level (figure) of floor:</u>		
• ground floor	14	14.0
• 2 nd floor	36	36.0
• Third or higher	50	50.0

Table 1: this table demonstrates distribution of studied patients according to their demographic characteristics, It shows that, more than half of studied patients (68.0 %) their age was 40year or over , with mean age 37.75 ± 5.36 . Three fourth of them (74.0 %) were females and the highest percentage of them (80.0%) were married. As well most of them were living with their family and (70.0%) were living in village and (38.0%) had secondary education and half of them stay at 3 floor or higher.

Table(2): distribution of studied patient regarding to their medical history (n=100).

Past	No(100)	Percentage %
<u>Surgery:</u>		
• Yes	15	15.0
• No	85	85.0
Ifyes (n=15)		
• Appendectomy	9	60.0
• a hernia	5	33.3
• haemorrhoid	1	6.7
<u>Pregnancy (n=74):</u>		
• once	4	5.4
• twice	25	33.8
• three	45	60.8
<u>Delivery (n=74):</u>		
• once	6	8.1
• twice	37	50.0
• three	31	41.9
Current medical:		
<u>Chronic disease (n=14).</u>	14	14
• Diabetes	8	57.1
• Hypertension	5	35.7

• heart disease	1	7.1
<u>Onset of KOA</u>	0	0.0
• from 2 < 3 years.	49	49.0
• from 3 < 4 year	45	45.0
• from 4 to 5 years	6	6.0
<u>Medication:</u>		
• Cortisone	21	21.0
• Panadol	33	33.0
• Diclofenac	30	30.0
• Mexcam	16	16.0
<u>Cause for medical consult:</u>		
• stomach ache	27	27.0
• inability to walk	24	24.0
• Knee pain	38	38.0
• unable to concentrate	11	11.0
family history		
<u>family Member have KOA:</u>		
• Yes	8	8.0
• No	92	92.0
<u>family Member perform joint replacement:</u>		
• Yes	6	6.0
• No	92	92.0

Table 2: This table illustrates the distribution of the studied patients according to their medical history. Related to past history, it is noted that most of patients (85.0%) not performed any Surgical operation and more than half of them (60.8%) had Pregnancy three times, about half of them (50.0%) were delivery twice. Related to current medical history, only (14%) of studied patients have chronic disease. more than half of patients (57.1%) have diabetic, the onset of KoA was from 2 to 3 years for (49.0%) of patients. Concerning medication, one third of patients were taken panadol medication and (38.0%) directed to medical consult when suffering from knee pains.

Section II: Deal with results supported the hypothesis I:- Patient knowledge scores will be higher after implementing nursing guidelines than before. (The mean score of knowledge).

knowledge about KOA	pre		Post		After 2 months		X ² 1	p-value	X ² 2	p-value	X ² 3	p-value
	No	%	No	%	No	%						
<u>Definition of KOA:</u>												
Incorrect	59	59.0	0	0.0	2	2.0	83.6	.000	2.0	.155	76.6	.000
Correct	41	41.0	100	100.0	98	98.0						
<u>Importance of Cartilage:</u>												
Incorrect	43	43.0	5	5.0	18	18.0	39.5	.000	8.3	.004	14.7	.000
Correct	57	57.0	95	95.0	82	82.0						
<u>Benefit of synovial fluid:</u>												
Incorrect	71	71.0	6	6.0	14	14.0	89.2	.000	3.5	.059	66.4	.000
Correct	29	29.0	94	94.0	86	86.0						
<u>Cause that increase Pain:</u>												
Incorrect	39	39.0	7	7.0	15	15.0	28.9	.000	3.2	.071	14.6	.000
Correct	61	61.0	93	93.0	85	85.0						
<u>Cause of KOA:</u>												
Incorrect	60	60.0	2	2.0	11	11.0	78.6	.000	6.6	.010	52.4	.000
Correct	40	40.0	98	98.0	89	89.0						
<u>Symptoms of KOA:</u>												
Incorrect	36	36.0	3	3.0	19	19.0	34.6	.000	13.0	.000	7.2	.007
Correct	64	64.0	97	97.0	81	81.0						
<u>Lab investigation:</u>												
Incorrect	74	74.0	2	2.0	18	18.0	110.0	.000	14.2	.000	63.1	.000
Correct	26	26.0	98	98.0	82	82.0						
<u>Diagnosis of KOA:</u>												
Incorrect	44	44.0	10	10.0	26	26.0	29.0	.000	8.6	.000	7.1	.000

		0		0		0	3	0		3		8
Correct	56	56.0	90	90.0	74	74.0						
Complication of arthritis:												
Incorrect	59	59.0	3	3.0	23	23.0	73.3	.000	17.6	.000	26.7	.000
Correct	41	41.0	97	97.0	77	77.0						

Table(3): distribution of studied patients regarding their general knowledge about KOA through program phases(n=100).

X²₁between pre and post program

X²₂between post and after 2 months program

X²₃between pre and after 2 months program

Table 3: This table illustrates comparison between general knowledge about KOA of studied patients during phases of intervention (NO:100). It revealed that more than half of studied patients have incorrect answers related to definition of KOA,causes,lab investigation and complication.pre nursing guidelines(59%,60%,74% and 59%)respectively,while immediatel post nursing guidelines there were having correct answers related to these items(100%,98%,98% and97%) respectively but after 2 monthes there was slight decling in these results,also there was highly statistical significant difference among all items of general knowledges pre,immediate and post 2months implemantion(P= 000).

Table(4): distribution of studied patients regarding their knowldege about exercises& physical activity through program phases(n=100).

	Pre		Post		After 2 months		X ² ₁ / p-value	X ² ₂ / p-value	X ² ₃ / p-value	p-value		
	No	%	No	%	No	%						
Type of exercise determined through:-												
Incorrect	70	70.0	4	4.0	24	24.0	93.4/0.000**	16.6/0.000**	42.4/0.000**			
Correct	30	30.0	96	96.0	76	76.0						
Followed exercise during treatment:-												
Incorrect	54	54.0	9	9.0	24	24.0	46.9	.000	8.1	.004	18.9	.000
Correct	46	46.0	91	91.0	76	76.0						
Precaution during physical activity:-												

Incorrect	47	47.0	9	9.0	24	24.0	35.8	.000	8.1	.004	11.5	.001
Correct	53	53.0	91	91.0	76	76.0						

X²1between pre and post program

X²2between post and after 2 months program

X²3between pre and after 2 months program

Table 4: This table illustrates comparison between knowledge about exercises & physical activity of studied patients during phases of intervention (NO:100). It revealed that more than half of studied patients have incorrect answers related to type of exercise determined pre nursing guidelines(70%),while immediately post nursing guidelines there were having correct answers related to these items (96%) but after 2 months there was slight decline in these results,also there was highly statistical significant difference among these items of knowledge pre,immediate and post 2months implementation(P= 000).

Table(5): distribution of studied patients regarding their knowledge about nutrition through program phases (n=100).

	Pre		Post		After 2 months		X ² 1	p-value	X ² 2	p-value	X ² 3	p-value
	No	%	No	%	No	%						
<u>Food for arthritis patients rich in:</u>												
Incorrect	37	37.0	4	4.0	22	22.0	33.4	.000	14.3	.000	5.40	.020
Correct	63	63.0	96	96.0	78	78.0						
<u>Useful food for joint health:</u>												
Incorrect	78	78.0	3	3.0	19	19.0	116.7	.000	13.0	.000	69.6	.000
Correct	22	22.0	97	97.0	81	81.0						
<u>Food contains omega3:</u>												
Incorrect	56	56.0	2	2.0	21	21.0	70.8	.000	17.7	.000	25.8	.000
Correct	44	44.0	98	98.0	79	79.0						
<u>Fruit high in vitamin C:</u>												
Incorrect	55	55.0	2	2.0	16	16.0	68.9	.000	11.9	.001	33.2	.000
Correct	45	45.0	98	98.0	84	84.0						
<u>For weight reduction:</u>												
Incorrect	67	67.0	4	4.0	18	18.0	86.6	.000	10.0	.002	49.1	.000
Correct	33	33.0	96	96.0	82	82.0						
<u>Food supplements:</u>												
Yes	41	41.0	42	42.0	42	42.0	.021	.886	-	-	0.021	.886
No	59	59.0	58	58.0	58	58.0						
<u>If yes(n=41) figure:</u>												
Depovite B12	25	61.0	25	59.5	25	59.5	0.025	.988	-	-	0.025	.988

Vitamin D	13	31.7	14	33.3	14	33.3					
Vitamin C	3	7.3	3	7.1	3	7.1					

X²₁ between pre and post program

X²₂ between post and after 2 months program

X²₃ between pre and after 2 months program

Table 5: This table illustrates comparison between knowledge about nutrition of studied patients during phases of intervention (NO:100). It revealed that more than half of studied patients have incorrect answers related to useful food for joint health, food contains omega3 and fruit high in vitamin C pre nursing guidelines (78%, 56% and 55%) respectively, while immediately post nursing guidelines there were having correct answers related to these items (97%, 98% and 98%) respectively but after 2 months there was slight declining in these results, also there was highly statistical significant difference among these items of knowledges pre, immediate and post 2 months implementation (P= 000).

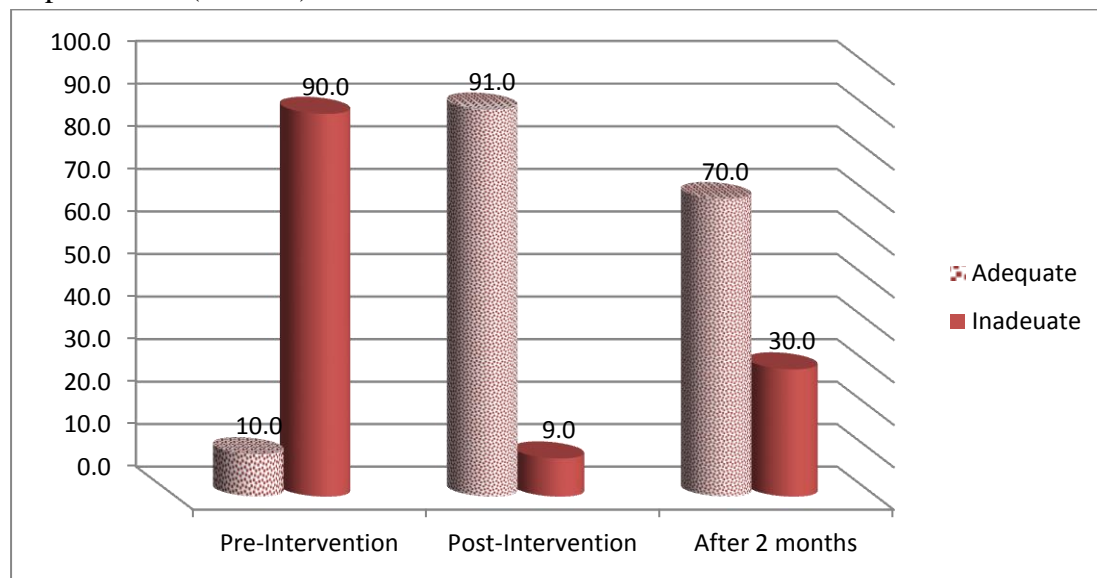


Figure (1) frequency distribution of studied patient regarding their total knowledge through the program phases (n=100). This figure documented that only (10%) of studied patients have adequate total knowledge pre nursing guidelines implementation, however it is immediately post implementation majority of them (91%) was having adequate level of knowledge, but after 2 months slight decline in level of knowledge was observed (70%).

Discussion

Discussion of the findings will cover five parts: **first part**, patients' demographic characteristics and medical history, **second part**, patients' knowledge about knee osteoarthritis; **third part**, quality of life scale for patient with knee osteoarthritis; **fourth part**, Relation between socio-demographic characteristics and patients knowledge, relation between socio-demographic characteristics and patients quality of life; **fifth part**;

Correlation between patients' knowledge and quality of life for knee osteoarthritis.

The nursing role in the management of patients with knee osteoarthritis has become increasingly significant within health care provision due to increased incidence and prevalence of this condition. It is important that the patients understands the impact of the condition can have upon an individual quality of life *Neogi ,(2018)*. So, this study aimed to the evaluate effect of nursing guidelines on knowledge and quality of life for patients with knee osteoarthritis.

To fulfill the aim of this study ,the findings discussion are presented in the following parts.

Part (I): demographic characteristics and medical history of the studied patients.

Regarding age: The current study revealed that, more than half of studied patients their age was 40year or over this is in line with *Musumeci, Aiello & Mobasher (2015)* who study about " Osteoarthritis in the XXIst Century: Risk Factors and Behaviours that Influence Disease Onset and Progression " University of Catania and stated OA affects more than half of the sample age over 45years of their .

This finding is also similar with *Horga,etal.(2019)*, who study about " Can marathon running improve knee damage of middle-aged adults? A prospective cohort study", which reported that with the prevalence rate of knee osteoarthritis increases as people get older particularly after 45 years of age.Because cartilage naturally deteriorates and the body doesn't recover as quickly as it did in younger years.

This finding is also in accordance with *Holland, (2018)* who study about " Understanding Cartilage, Joints, and the Aging Process" .Similarly, this result is agreement with **World health organization** which reported that knee osteoarthritis is the most common diagnosis in patients aged from 50-75 years old.

As regard to gender, the current study results revealed that Three fourth of studied patients were females. This finding is agree with *Morita,etal(2018)* who reported in their study about " Factors affecting walking ability in female patients with osteoarthritis" which reported that more than two thired of studied patients are femal.

In addition to, *Amin ,etal.(2019)* who reported in their study about" Viscosupplementation for Management of Knee Osteoarthritis from an Indian Perspective " The Female-to-male ratio was 2.1:1 so Women had a higher prevalence of osteoarthritis than man .

Similarly, this result is agreement with **Roth,(2016)** who study about " Common Causes of Osteoarthritis" which reported that women are more likely to have OA than men of the same age. This finding is also in contradict with **Plotnikoff,etal.(2015)** who reported in their study about " Osteoarthritis prevalence and modifiable factors: a population study"both sexes of the studied patients with knee osteoarthritis are nearly equally affected.

his is incongruent with **Murphy& Dacre,(2015)**, who reported that more than three fifths were males and less than two fifth were females in their study about "Gender-Related Changes in the Musculoskeletal System and the Development of Osteoarthritis".

Concerning to marital status, the present study finding revealed that the highest percentage of them (80.0%) were married. From the researcher point of view ,it may be due to the married people were more liable to knee osteoarthritis than single people which it may be related to physical and social stress in their life and their families responsibility.

This finding goes in the same line with **Chen,etal.(2019)**, who reported in his study about " The effects of heavy physical activity on elderly patients with knee osteoarthritis: a quasi-experimental study" ,that married patients who have knee osteoarthritis represent the higher percentage of their study subject than single and widow patients.

As regard to living status, the finding of the present study represented that most of them were living with their family, this result is agreement with **Hafkamp,(2019)**,who study about "Characterizing patients' expectations in hip and knee osteoarthritis",which report more than two third of studied group is living with their family.

As regard to residence, the finding of the present study represented that(70.0%) less than two third of studied patients were living in village, Similarly, this result is agreement with **Bhaskar , Areekal , & Ajith (2016)**. who study about "Osteoarthritis of knee and factors associated with it in middle aged women in a rural area of central Kerala, India",which report more than two third of studied group is living in village.

In respect to the level of education, the result of the present study revealed that more than one third of studied patients had secondary education.This finding is agree with study by **Carey,Mauck & Patel, (2019)**, which recored that one third of studied patients had secondary education.

This result is agree with study by **Alshami , Scott & Kowalczyk,(2014)** about " Knee osteoarthritis related pain: a narrative review of diagnosis and treatment " in Qassim University ,who stated that the majority of patients with knee osteoarthritis disease were had secondary educational level and the minority were had university educated.

This finding is incongruent with *Dahlberg* ,(2019), who showed in their study about " The Better Management of Patients with Osteoarthritis Program: Outcomes after evidence-based education and exercise delivered nationwide in Sweden " that the majority of studied subjects were illiterate. This could be due to that most of the studied patients are live in rural area with less attention to education and decrease the level of health awareness.

Conclusion

According to the results of this study, it might be concluded that there was a high prevalence of knee osteoarthritis among patients. Many factors such as lifestyle, environmental and physiological, psychological factors. As well, complaints of other diseases and factors associated with dialysis increased patients' sleep disturbance. Additionally, most of the studied patients need information about knee osteoarthritis and quality of life, so suggested guidelines were developed by the researcher according to patients' informational needs.

Recommendations

Based on the findings of the current study, the following has been recommended:

- Developing health educational program for hemodialysis patients regarding sleep disturbances, how to avoid them and improve sleep quality.
- A simplified comprehensive Arabic booklet that includes guidelines to improve knee osteoarthritis quality should be provided for all patients.
- Investigating the effect of implementing these guidelines on enhancing knee osteoarthritis rate.
- Encouraging nurses to apply interventional methods for management of sleep knee osteoarthritis patients.
- Developing more future researches to assess types, incidence, intensity of knee pain, their various effects on health outcomes.
- The study should be conducted among a large probability sample from different geographical areas in Egypt for generalization of the results.

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