■ **Basic Research**

Impact of Guidelines for Older Adults Subscribers at the Orthopedic Out-patient Clinics after Hip Joint Replacement

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Abstract

Introduction: Guidelines are mainly based on older adults' health problems, needs, and available clinical services as preventive interventions. Application of the guideline's instructions for older adults' home care is very beneficial after Hip Joint Replacement for the prevention of complications. **Aim:** This study is carried out aiming to evaluate the effectiveness of the developed guideline for older adults subscribes at the Orthopedic Out-patient Clinics after Hip Joint Replacement. **Design:** A Quasi-experimental research design was utilized in this study and carried out in the hospital during October 2017. **Setting:** Orthopedic Out-patient Clinics at Al-Helal Hospital at Cairo. **Sample:** A purposive sample of fifty male and female older adults' subscribers in Out-patient Clinics. **Tools: (1):** The first one is a Socio demographic data sheet and **(2):** The second tool is a Structured Interview Questioner schedule; developed by researcher. **Results:** Findings of the present study revealed that, most of the sample was males, and more than two-thirds of them were married. In addition to, it was found that; a highly statistically significant improvements of older adults' knowledge regarding with Hip Joint Replacement throughout post and follow-up guidelines phases P=<0.001. Also, the majority of older adults after Hip Joint Replacement were a highly proportion in their practice regarding exercises within 3-6 and 9-12 weeks throughout the post and follow-up guidelines phases. **Conclusion:** The study concluded that the appliance of the developed guidelines was effective and successfully enhancing the older adults' knowledge and their practices of Activities of Daily Living after Hip Joint Replacement. **Recommendation:** Orientation and refreshment guidelines should be carried out as a routine nursing care for older adults subscribes in the Orthopedic Out-patient clinics after Hip joint Replacement.

Key words: Guidelines, Older adults, Knowledge and practices, Nursing, Hip Joint *Replacement.*

Introduction

Worldwide, the older adults (OAs)' population is increasing due to better lifestyles and improved health services. The population aged 60 years and older in sub-Saharan Africa is twice as high as in Northern Europe. Egypt is the most populous country in the Middle East and the 2nd most populous in the African continent after Nigeria. One of the main features of the Egyptian population over the last few decades is the gradual increase in the absolute and relative numbers of OAs. However, it also poses profound challenges to the public institutions that must adapt to a changing age structure, ***Egyptian Journal of Geriatrics and Gerontology, (2020)***.

In Egypt, the OAs are expanding like other countries worldwide. There were 4,400,000 OAs who aged ≥60 year; representing 6.9% of the total population in 2006. Their percentage increased up to 8.9% in 2016, which projected to be 10.9% in 2026. Life expectancy for Egyptian females was 73.6 year in 2006 and increased to 77.2 year in 2016. While life expectancy for males was 69.2 year in 2006 and increased to 72.5 year in 2016, El-***Moselhy, (2020).***

Nowadays, Hip Joint Replacement (HJR) is one of the most common operations performed in the developed world. It involves removing a diseased hip joint and replacing it with an artificial joint called prosthesis. Therefore, HJR relieves the hip pain, which limits the OAs' performance of: (1) Simple and (2): Instrumental Activities of Daily Living (ADLs). (1) Simple ADLs, such as: Toileting, dressing, mobility (e.g.: Getting up from a chair, and climbing stairs), and personal hygiene like bathing. While (2) Instrumental ADLs, such as: Using the telephone, shopping, cooking, housekeeping, using modes of transportation, laundry, and banking. HJR relieves functional disability experienced by OAs with moderate to severe hip arthritis, besides improving their quality of life (QOL). However, HJR is a highly cost-effective procedure, ***Karsten, et al., (2019).***

Guidelines become more prominent as a key metric of quality healthcare organizations, in addition to governmental and non-governmental hospitals. Therefore, Egypt associations seek to develop efficient guidelines strategies for OAs after HJR. The nursing guidelines will prevent the gap between theoretical information and its application, ***National Health Institution, (2019)***. Meanwhile, geriatric nurses must become savvy in understanding what guidelines are and how the out-patient nurses utilize the guidelines to improve care for OAs and their QOL after surgery. Therefore, the information in the developed guidelines for OAs should help all geriatric nurses, hospitals and organizations in Egypt to achieve the goals for improving the QOL of OAs after HJR surgery, ***Rosenfeld RM., (2019)***.

Guidelines after HJR is the best evidence for OAs' knowledge, practice and increasing awareness, as well as promotes their QOL after the surgery. Guidelines are considered principles for underlying practices that always stated to promote precaution,

focus, and clarity for OAs before and after surgery. Hence, the guidelines aim to reduce the healthcare variations, improving accuracy of follow-up, promoting effective recovery. A lot of benefits for the geriatric and community nurse, who will guide OAs to apply guidelines, which will lead to decrease/prevent complications after HJR surgery, ***Hall C., (2020).***

Significance of the problem:

In Egypt, guidelines after HJR are few studies. because it includes suboptimal study designs, small sample sizes, highly selected study populations, loss of control to prevent complication after HJR, incompletely described interventions, unstandardized measures of outcome and inadequate statistical methodologies for this guidelines **Dombovy, (2020)**.

Guidelines reflects the state of knowledge and practice for nurses in the perception and performance direct into appropriate care for older adults after surgery. Restraint utilization can be developed to support nursing staff in their understanding older adults aging and implementation roles and goals in the of the guideline. Meanwhile, nursing guidelines changes in the state of scientific information and technology, periodic review, updating, and revision will be done **Doris G, (2019)**.

Aim of the Study:

The aim of this study is to evaluate the effectiveness of the developed guidelines for OAs subscribes at the Orthopedic Out-patient Clinics after HJR surgery.

Research Hypothesis: -

Guidelines will improve OAs' knowledge and performance related to their ADLs and to prevent complications after HJR.

Subjects and Methods

Design: A Quasi-experimental research design was utilized in this study. The design is concerned with the impact of the guidelines on OAs' knowledge and performance of ADLs after HJR.

Setting: The study was conducted at the Orthopedic Out-patient Clinics in Al-Helal Hospital, which affiliated to the Ministry of Health and Population. The hospital was selected because it is the only Governmental Specialized Hospital in the orthopedic surgeries. Also, it allows the implementation of research work. Moreover, the majority of the cases are mostly referred to it for treatment.

Sample: A purposive sample of OAs' subscribers at the Orthopedic Out-patient Clinics in Al-Helal Hospital in Cairo, after HJR within 2 weeks was interviewed for six months. The sample size is 50 male and female OAs' aged ≥ 60 years.

Tools of the Study: To achieve the purpose of the present study, data were collected using two tools developed by researcher.

1) Socio-demographic Data Sheet:

It consists of two main parts:

Part 1. It consists of:

a Socio-demographic Characteristics Assessment Sheet:

It includes different items such as: Gender, level of education, occupation, income, caregiver at home, residence, crowding index and.etc.

b Medical History:

It is consisted of past and present medical history of the OAs such as: chronic diseases, surgical operations, and mobility disorders, as well as the current complaints, besides the post-operative complications……etc.

***Part 11*: It consists of:**

***a.* Assessment of the Older Adults' Knowledge after HJR Surgery:**

It is adopted from ***Adams (2013) and Abd-Elatty (2015)*** and adapted by the researcher. It consists of causes of fractures, reasons and benefits from surgery, medication compliance, proper nutrition to avoid weight gain, precautions after surgery such as: proper positioning, importance of mobility and walking, as well as importance of practicing of related exercises needed after HJR, in addition to rest and sleeping time ……. etc.

The Scoring system of the Knowledge Level is classified as following:

- Score 135-201 for Good.
- Score 90-134 for Satisfactory.
- Score 0-89 for Unsatisfactory.

***b.* Assessment of the Older Adults' Performance for ADLs after HJR**:

It is adopted from ***Katz (2008)*** and adapted by the researcher as a monitoring and an evaluative tool for OAs' performance after the application of the developed guidelines. It includes 5 main items (Mobility, personal hygiene, elimination, communication, and instrumental activities). Each item includes sub-items: for example: Mobility involves 8 items (Movement in the bed, movement in and out of bed, and chair, going to the toilet, move inside the house, get up and down stairs, shopping and driving ability) and…… ect.

The Scoring System is classified as following:

- Score (51-72) is for the independent OA (who is performing the ADLs completely by himself).

- Score (25-50) is for the partially dependent OA (who is depending partially on the family or professional caregiver in performing some of the ADLs).
- Score (0-24) is for the completely dependent OA (who is depending completely on family or professional caregiver in performing all ADLs).

2)*Observational Checklist for Older Adults' Practices* of related Exercise *after HJR:*

It is adopted from ***Provincial Rehab Advisory Group (PRAG), (2013)*** and adapted by researcher, it was used to evaluate the functional impairment of OAs with hip exercises of one or both lower extremities. It was used to monitor the OA over time and to evaluate the effectiveness of the developed guidelines during the follow-up. It is consisted of 41 items to observe OAs practices of exercises after HJR, such as: (1) 0–3 wks. after of surgery; Hip stretches, Armchair push-ups, Thigh stretch on belly and Thigh lift. (2): After 6–9 wks. of surgery; Heel rises and sit to stand. (3): After 9–12 wks. of surgery; Step up/down forward, Step up/down sideways and …….ect.

The Scoring System is classified as following:

- Score (87-123) is for the independent OA (i.e.: Who is performing the related exercises completely by himself).
- Score (36-86) is for the partially dependent OA (i.e.: Who is depending partially on family or professional caregiver in performing some of the related exercises).
- Score (0-35) is for the completely dependent OA (i.e.: Who is depending completely on the family or professional caregiver in performing all the related exercises).

Pilot Study: A pilot study was conducted on (5) OAs, which represented 10% of the total sample size in order to ensure the clarity of the questions, feasibility and applicability of the study tools, as well as the time needed to complete the study tools. After the pilot study, the researcher did some modifications and rewarding of few statements in the tools. Also, pilot study sample was excluded from the total sample size.

Tool Content validity: Content validity is tested by five experts in community health nursing and medicine specialties from Al- Helal Hospital. They were from different Academic categories, i.e.: Professor and surgeon. To ascertain relevance, clarity and completeness of the tools, experts elicited responses, which were either agree or disagree for the face validity and content reliability. The items on which 97% or more of the experts have agreed were included in the tool. The necessary corrections made are performed before the administration of the tools.

Reliability: Reliability was applied by researcher for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar conditions

two times 15 days apart. Answers from the repeated testing were compared (Test- re- test reliability was 0.82) and Cronbach's Alpha reliability was 0.890.

Procedure:

I. **Preparatory phase**: Data was collected at the out-patient clinics in Al-Helal hospital, after explaining the aim of the study to the participants OAs and reassuring them about the confidentiality of the data collected. A written approval letters was obtained from the Dean of Faculty of Nursing, Helwan University for conducting the study in Al-Helal Hospital in Cairo. Written letter was delivered to the directors of hospitals including the aim of the study.

II. **Design and Implementation Phase:** Data was collected within six months started in October in the year 2017-2018; the researcher met OAs two days per week at the out-patient clinics till the needed sample is obtained. A written consent was obtained from OAs after the researcher introduced herself for them and explained the aim of the study. The study was conducted by the researcher for OAs using the structured interview questionnaire sheet.

The application of the developed guidelines was performed by the researcher after preparing the training place at the out-patient clinics, teaching aids and media such as: picture and handouts in tool I and II. This was followed by arranging the schedule based on the contents of the guidelines, number of OAs involved, and time availability.

First, the OAs received the current routine at the out-patient clinics, which involved within the surgeon interview, and then the researcher began the sessions for the study sample. The researcher identified the needs and constraints/obstacles encountered during the implementation of the guidelines. Not only to identify needs and problems, but also to maintain a highly functional level for the OAs activities. Additionally, OAs would become independently perform the ADLs and prevent complications after surgery.

Each session included 2 to 3 OAs according to their availability. Duration and time of the sessions were different depending on participants' readiness and their environmental conditions. Assessment containing the previous tools was filled by the researcher followed by a presentation for the guidelines about the HJR. To ensure that every OA understands the session's content, each session took (30-40) minutes that started (10) minutes with making a summary for the previous guideline's session, and (10-15) minutes the researcher continued to reinforce the gained information, taking into consideration using a simple language to suit the individual differences. First, the OAs knowledge, and practice had been evaluated by the researcher; through filling the First tool: part II, and the second tool, as well as immediately after the implementation of the developed guidelines.

III. **Evaluation Phase:** Formative assessments were done for the OAs to test their improved knowledge and practice after implementation of HJR guidelines, taking into consideration that the OAs will apply the precautions involved within the guidelines to prevent complication. However, the assessment tools were used three times pre, post and follow-up guidelines.

Ethical considerations:

Prior to the pilot study, ethical approval was obtained before starting the study from *The Scientific Research Ethical Committee* in Faculty of Nursing, Helwan University. Individual written consent was obtained from each participating OAs after explaining the nature and benefits of the study. Selected OAs were informed that they are allowed to choose to participate or not in the study and they have the right to withdraw at any time. The researcher was clarified the aim of the study to OAs included in the study and the researcher assured the anonymity and confidentiality of the subjects' data.

Statistical design:

The collected data was organized, tabulated, analyzed using appropriate statistically significant tests. Additionally, the statistical analysis was performed using the statistical package for social signs program (SPSS) version (20) for Windows Data Edition. The statistical significance and association using the standard deviation (SD), Qui-square and p-value (P = 0.05).

Degrees of significance of results were considered as follow:

P-value > 0.05	Not significant (NS)
P-value ≤ 0.05	Significant (S)
P-value ≤ 0.01	Highly Significant (HS)

Results:

Table (1): Showed the socio-demographic characteristics of the OAs in the study sample, where the majority 66.5% of their age were less than 65 years, and 76% of them were males. The married OAs were more than three-quarters 80% of the sample, and 72% of them live in the urban areas. Regarding OAs educational level 36% had secondary education. While 10% of them were alliterated and primary education. The highest percentage of their caregivers 42% was husband or wife, while sons represent 30%. More than two-thirds 64% of OAs were working with 800L.E, which was not enough for them. 70% of OAs were working with less than 800L.E, which also was not enough for them.

Figure (2): Represents that, 90%,85% of OAs had good knowledge throughout the post and follow-up guidelines phases. While 90% of them were unsatisfactory level of total knowledge regarding pre-guidelines phase.

Table (2): Mentions that a highly statistically significant difference in improvements of OAs' performance in all items of ADLs after HJR surgery such as: mobility, personal hygiene, elimination, instrumental activities (shopping, cooking, transportation, and banking) and communication between pre, post and follow-up guidelines phases P=<0.001.

Figure (2): Shows that, 90% and 85% of older adults were a highly performance regarding their ADLs in communication throughout post and follow-up guidelines phases. While only 10% of OAs' mobility was the lowest performance regarding their ADLs in the pre-guidelines phase.

Table (3): Reveals that, a highly statistically significance difference between OAs' not improvement in their practices of all levels of Hip exercises after surgery, throughout the three phases (pre, post and follow up) of guidelines implementation P=<0.001. a highly statistically significance improvement of OAs' practices related to exercises within the pre, post and follow up of the guidelines. Also, a highly statistically significance improvement of OAs' practices where, 62.1% of their practice related to exercises after surgery within 9-12 weeks were completely dependent in the follow up guidelines phase. 57.2% of older adults' practice related to exercises after surgery within 3-6 weeks were partially dependent in the post-guidelines phase. While 58.7% of OAs' practice related to exercises after surgery within 6-9 weeks were independent in the pre-guidelines phase.

Figure (3): Shows that, the majority of OAs' after HJR represented 90% and 85% had a highly proportion in their practices of related exercises within 3-6 and 9-12 weeks, throughout the post and follow-up guidelines phases. While only 20% of them had the lowest proportion in their practice of related exercises within 0-3 weeks throughout pre-guidelines phase.

Table (4): Reflect that, there was statistically significant negative correlation between older adults' total practice score after surgery related to them of ADLs during post-guidelines phase r=-0.171*, P=<0.005* respectively. While there was not statistically significant between older adults' total knowledge score after surgery related to their of ADLs throughout pre, post and follow-up guidelines phases P=>0.005.

Table (1): Distribution of older Adults' regarding Socio-demographic characteristics (n=50).

Socio-demographic characteristics	No.	%
Age (in years):		
60 - < 65.	33	66.5
65- < 70.	7	14.5
70 - < 75.	6	12.5
≥ 75.	4	8.0
Gender:		
Male.	38	76.0
Female.	12	24.0
Residence		
Rural	14	28.0
Urban	36	72.0
Marital status:		
Single.	1	2.0
Married.	40	80.0
Divorced.	6	12.0
Widowed.	3	6.0
Educational level:		
Illiterate.	5	10.0
Read and write.	10	20.0
Primary.	5	10.0
Preparatory.	6	12.0
Secondary.	18	36.0
University or more.	6	12.0
Family Caregiver:		
Son.	15	30.0
Daughter.	7	14.0
Husband / Wife.	21	42.0
Relatives.	7	14.0
Occupation:		
not working.	12	24.0
Working.	38	76.0
Income /Month (average in L.E.):		
200 - <400 L.E.	3	6.0
400 - < 600 L.E.	4	8.0
600 - <800 L.E.	32	64.0
≥ 800 L.E.	11	12.0
Monthly income:		
Enough	14	28.0
Not enough	36	72.0

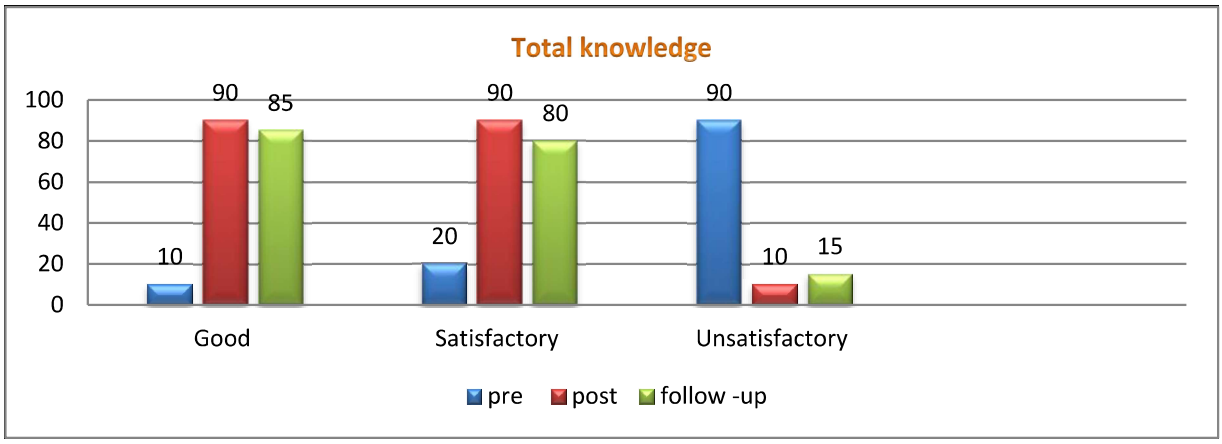

Figure (1): Percentage distribution of the older adults' total knowledge regarding pre, post and follow-up guideline (N=50).

Table (2): Distribution of older adults' performance related to activities of daily living after Hip Joint Replacement pre, post and follow up guidelines (N=50)

Performance of daily living activities	Pre- guideline			post – guideline			Follow-up guideline			Paired t test	P value
	Completely Dependent	Partially Dependent	Independent	Completely Dependent	Partially Dependent	Independent	Completely Dependent	Partially Dependent	Independent		
	%	%	%	%	%	%	%	%	%		
Mobility	97.2	1.4	1.4	10.0	37.6	52.6	4.9	35	60.1	*274.53 **233.70	<0.001**
Personal Hygiene	97.9	0.7	1.4	0.7	32.4	66.9	15.9	37.2	46.9	*274.27 **199.12	<0.001**
Output:(Elimination)	97.2	0.7	2.1	11.7	26.2	62.1	9.0	37.2	53.8	*213.08 **226.90	<0.001**
Instrumental Activities	92.4	4.2	3.4	2.1	22.8	75.1	10.3	31	58.7	*238.83 **195.97	<0.001**
Communication	91.7	4.8	3.5	2.1	40.0	57.9	9.0	43.4	47.6	*234.40 **198.78	<0.001**

(*) statistically significant & (**) high statistically significant

Figure (2): Percentage distribution of older adults' performance according to activities of daily livings after Hip Joint Replacement in the pre, post and follow up guidelines (N=50)

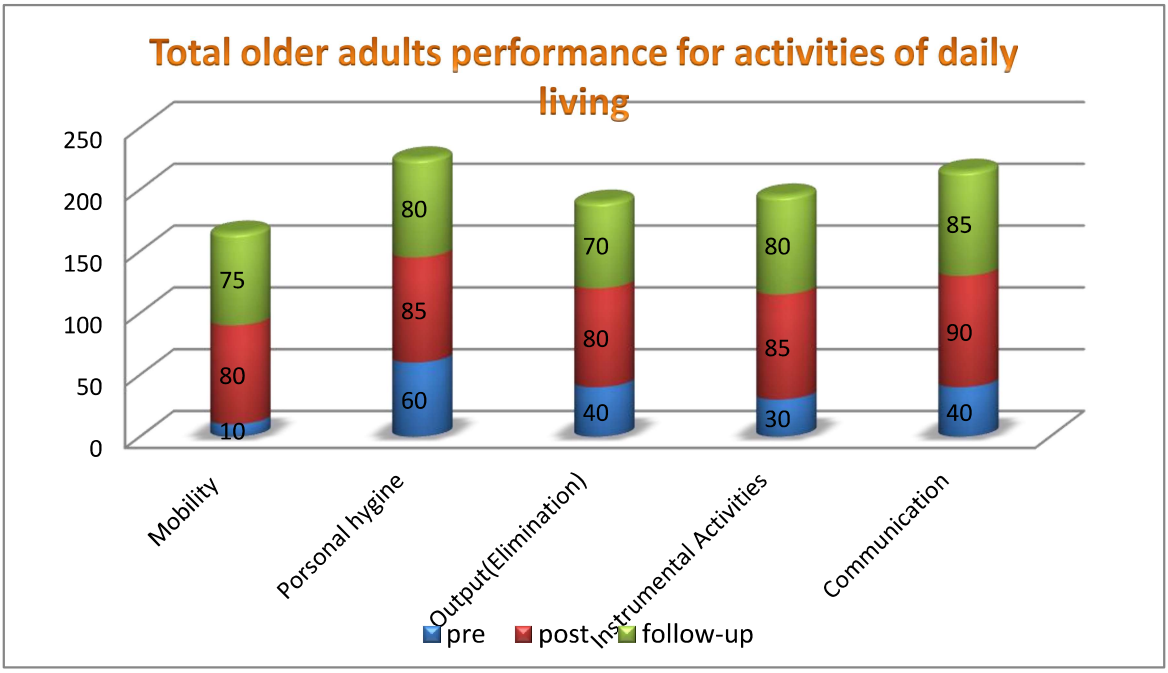

Table (3): Older Adults Practices related to Exercises after Hip Joint Replacement pre, post and follow up guidelines (N=50)

Levels of Hip Exercise after surgery.	Pre- guideline			post – guideline			Follow-up guideline			Paired t test	P value
	Completely Dependent	Partially Dependent	Independent	Completely Dependent	Partially Dependent	Independent	Completely Dependent	Partially Dependent	Independent		
	%	%	%	%	%	%	%	%	%		
After Surgery:(0 – 3) weeks	10.3	50.3	39.4	42.1	57.0	9.0	59.3	35.9	4.8	*55.52 **92.50	<0.001**
After Surgery:(3 - 6) weeks	11.7	31.7	56.6	34.5	57.2	8.3	51	44.2	4.9	*78.99 **101.85	<0.001**
After Surgery:(6 – 9) weeks	11.0	30.3	58.7	42.1	45.5	12.4	60.0	31.7	8.3	*74.28 **103.92	<0.001**
After Surgery:(9 – 12) weeks	9.0	38.6	52.4	47.6	42.1	10.3	62.1	29.6	8.3	*79.34 **105.81	<0.001**

(*) statistically significant & (**) high statistically significant

Figure (3): Distribution of the older adults practice related to exercises after Hip Joint Replacement pre, post and follow up guidelines (N=50)

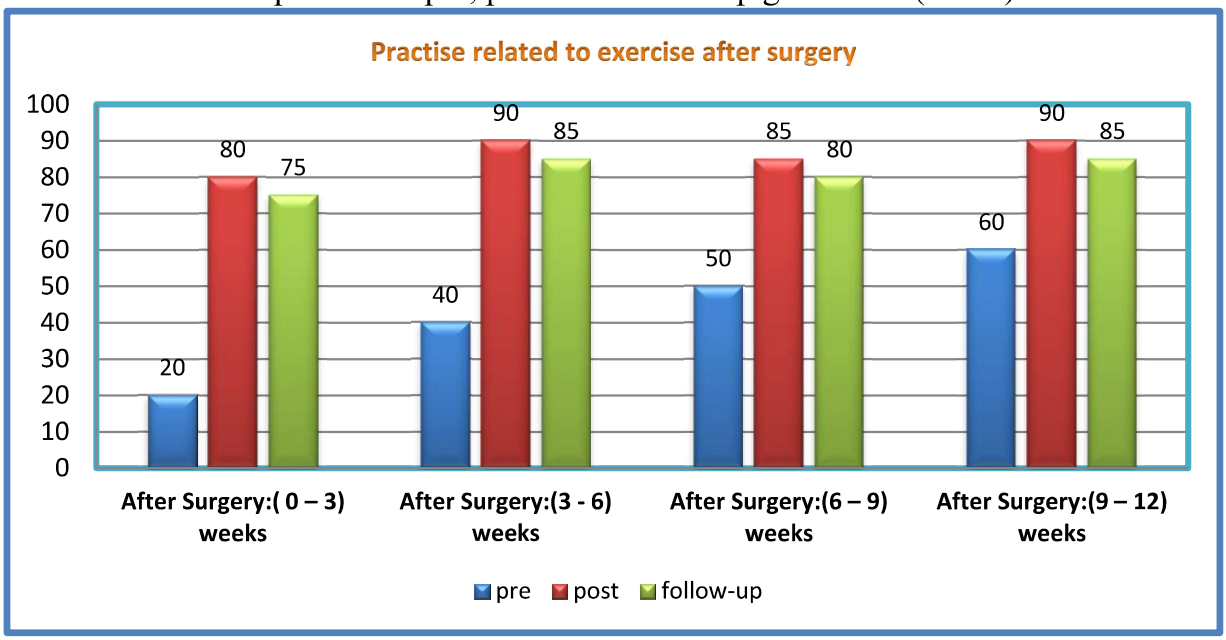

Table (4): Correlation between total knowledge score and total practice score related to daily living activities pre, post and follow up guidelines (N=50).

Items	Daily living activities					
	Pre-guideline		Post-guideline		Follow-up guideline	
	r	P value	R	P value	r	P value
Total Knowledge	0.22	0.790	-0.013	0.877	-0.41	>0.005
Total Practice	0.037	0.658	-0.171*	<0.005*	-0.026	>0.005

Discussion

HJR became one of the most popular procedures in the orthopedic surgery, and the number of OAs requiring HJR continuously increase due to demographic changes and lifestyle trends. Due to arthritis, part or all of this cartilage may tear and expose the underlying bone, thus causing stiffness of the joint surfaces, and painful mobility. During HJR operation, the surgeon removes damaged cartilage and bone of the hip joint and replaces them with new man-made parts. The most common problem after surgery is hip dislocation (man-made hip is smaller than the

original joint, so the ball can come out of its socket), deep vein thrombosis, and wound infection. The surgery can also cause blood clots and infections. With a hip replacement, the client/patient might need to avoid certain activities, such as jogging and high-impact sports, ***Hadorn, &Brook. (2019).***

According to the demographic characteristics of OAs, the mean age of the OAs sample was 62.54 ± 6.32 years. This result is like a study conducted by ***Schoenbaum. (2018)*** in Jordan about, "Better outcomes of total HJR" the studied OAs' mean age was 62 .18 ±4.95. Also, it is nearly consistent with ***Keller et al.(2018),*** who conducted the study in Milano about "Dealing with older adult with total HJR geographic variations in the use of hospitals". The experience of the Maine Medical Assessment Foundation Orthopedics represented that mean age of OAs was 62.17 ±10.8 years.

Regarding the OAs gender, the study finding revealed that 76% of them were males. This finding agrees by ***Charnley. (2018)*****,** who conducted a study in France about "Anchorage of the femoral head prosthesis to the shaft of the femur" where**,** 77% of study sample were male. As for the OAs' residence, the majority of them were in the urban area. This result is in consistence with ***Peterson et al (2018),*** who conducted a study in United States about **"**Geographic variations in the rates of elective total hip and knee arthro-pasties among Medicare beneficiaries", where**,** 76 % of the OAs residence in the urban area.

Concerning OAs marital status, finding showed that the majority of them ware marriage. This result is in agreement with ***Keller et al.(2018),*** who found that 80% of OAs in the study sample wear married. As for the level of education of OAs, the study result revealed that about two-fifth of them had secondary level of education, while the minority had university level of education and more. This is in the same line with ***Imamura et al. (2017)*****,** where the study conducted in the United Kingdom about "Appropriateness of total HJR". World Hospitals Health Survey found that 40.0% of OAs had secondary or diploma level and 15.0% of them had university education or more.

Regarding OAs' family caregivers, finding revealed that less than half of them were husband or wife. This is in agreement with ***Laupacis et al (2018)***, who conducted a study in Emirate about "The effect of elective total HJR on health related QOL, he found that, 45% of OAs had the family care giver presented in husbands or wives. As for OAs occupation, the study result revealed that the majority of OAs were not working, this finding was in accordance with ***Barrack (2017)*****,** who conducted a study in Iran about: "Hip arthroplasty' problems and

decisions", he found that, 80% of the OAs study sample weren't working. From the researcher point of view, the OAs in the study sample wouldn't be able to practice any sort of work. Moreover, the study revealed that more than two-thirds of OAs' family income was not enough. This finding is in accordance with ***Sathiyakumar et al, (2015),*** who conducted a study in Jordanian about "Hip fractures are risky business" he found that, most of the OAs' family income was not enough.

Regarding to OAs total knowledge regarding Hip Joint Replacement in the pre, post and follow-up guideline, the current study revealed that, the majority of them were unsatisfactory level of total knowledge regarding pre-guidelines phase. While, the majority of OAs had good knowledge throughout the post and follow-up guideline phases P=<0.001 . In the same line with ***Chassin et al. (2018)***.the study conducted in Iran about " Variation in the use of medical and surgical services by the Medicare population" the study show that , the majority of them were unsatisfactory level of total knowledge regarding pre-guidelines phase. While the majority of OAs had good knowledge throughout the post and follow-up guideline phases P=<0.001. from the researcher point of view the majority of OAs improved knowledge after participating of guideline.

Regarding OAs' ADLs after HJR pre, post and follow up of the developed guidelines, findings indicates that, a highly statistically significant improvements of OAs' ***Mobility*** throughout pre, post and follow-up P=<0.001. This agrees ***with Guermazi et al. (2019)***, who conducted the study in Pakistan. The study revealed that, a highly statistically significant improvements of OAs' regarding mobility throughout pre, post and follow-up phases P=<0.00.

Concerning OAs' ADLs after HJR pre, post and follow-up guidelines, findings indicates that, a highly statistically significant improvements of OAs' personal hygiene throughout the pre-mentioned phases P=<0.001. This is in consistence with ***Larequi, et al.(2018)***, who conducted a study in Brazil, he found that, the majority of patient improved in performing personal hygiene after guidelines implementation throughout pre, post and follow-up phases P=<0.001. Meanwhile, the study result indicates that, a highly statistically significant improvements of OAs' regarding the Simple ADLs as toileting/ elimination, and Instrumental ADLs throughout pre, post and follow-up phases P=<0.001. This agrees with ***Casparie (2019)***, who conducted a study in USA, about "The ambiguous relationship between practice variation and the appropriateness of care". Health Policy" found that a highly statistically significant improvement of OAs' performance regarding the Simple and Instrumental ADLs. The researcher point of view rationalize that the majority of OAs patient improved in their performance of ADLs after their

participation within the guideline implementation.

As regards to the OAs' ADLs after HJR pre, post and follow-up guidelines, the findings of the current study showed that more than two-thirds of their practices related to exercises after 9-12 weeks of HJR were completely dependent in the follow-up guidelines phase. While, more than half of OAs' practice of exercises within 3-6 weeks after surgery were partially dependent in the post-guidelines phase. Also, more than half of OAs' practices of exercises within 6-9 weeks after HJR were independent in the pre-guidelines phase. This is in the same line with ***Schoenbaum (2019)***, who conducted a study in Iran about "Toward fewer procedures and better outcomes", he reported that, 70 % of OAs' practices of related exercises after 9-12 weeks HJR were completely dependent in the follow-up guidelines phase. And 60 % of their practices of related exercises after 3-6 weeks of HJR were partially dependent in the post-guidelines phase. Moreover, 75.7% of OAs' practices of related exercises after 6-9 weeks of HJR were independent in the pre-guidelines phase.

Conclusion

The current study concluded that the importance of nursing guidelines implementation to prevent complications for OAs after surgery. Notably, the developed nursing guidelines were effective and efficient in improving knowledge and practice for OAs**.** The use of the nursing guidelines was well accepted for the management of OAs needs and problems after HJR surgery. It becomes positive screen to move forward generalized these guidelines in the orthopedic hospitals in Egypt.

Recommendation

The current study' results recommended the following:

- The appliance of the developed nursing guidelines should be conducted in all the orthopedic out-patient clinics in order to enhance the QOL for OAs after HJR.
- Institutionalized written policies should utilize the developed nursing guidelines among the routine care strategies for OAs after HJR surgery.
- Empowering the nurses in the Outpatient Orthopedic Clinics with the provision of continuing education with the appropriate resources and advanced search of how to create nursing guidelines of regarding how to apply care precautions for OAs after HJR.

Acknowledgement

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الملخص العربي

فعالية الدليل الإرشادي للمترددين على العيادات الخارجية لجراحة العظام بعد استبدال مفصل الفخذ.

مقدمة: يستند الدليل الإرشادي بشكل أساسي إلى المشاكل الصحية لكبار السن، واحتياجاتهم، والخدمات السريرية المتاحة كتدخلات وقائية. يعد تطبيق الدليل الإرشادي للرعاية المنزلية لكبار السن مفيدًا جدًا بعد عملية استبدال مفصل الفخذ لمنع حدوث المضاعفات. **الهدف من هذه الدراسة:** أجريت هذه الدراسة بهدف تقييم فعالية الدليل الإرشادي للمترددين على العيادات الخارجية لجراحة العظام بعد استبدال مفصل الفخذ. **نوع البحث:** تم استخدام تصميم بحثي شبه تجريبي في هذه الدراسة، وتم إجراؤه في المستشفى بدء من شهر أكتوبر 2017. **طريقة البحث:** أجريت الدراسة في العيادات الخارجية لتقويم العظام بمستشفى الهلال في القاهرة. **العينة:** عينة هادفة مكونة من خمسين من كبار السن (ذكور واناث) المترددين على العيادات الخارجية. **الأدوات:** تم استخدام أداتين لجمع البيانات، (1): الأولى هي ورقة بيانات اجتماعية ديموغرافية و (2): الأداة الثانية هي استبيان مقابلي تم تطويره من قبل الباحث. **النتائج:** أوضحت نتائج الدراسة الحالية أن غالبية العينة من الذكور وأن أكثر من ثلثيهم متزوجون. بالإضافة إلى ذلك، فقد وجد أن؛ دلالة احصائية عالية في تحسين معرفة كبار السن بما يتعلق بعملية استبدال مفصل الفخذ خلال مراحل ما بعد تطبيق الدليل الإرشادي وأثناء المتابعة $P = <0.001$. أيضًا، كان غالبية كبار السن بعد عملية استبدال مفصل الفخذ نسبة ممارستهم لتمارين كانت عالية في غضون (3-6) و(9-12) أسبوعًا خلال مرحلتي ما بعد تطبيق الدليل الإرشادي وأثناء المتابعة. **الخلاصة:** نستخلص من هذه الدراسة هو أن تطبيق الدليل الإرشادي كان فعالًا وناجحا فى تعزيز معرفة كبار السن وممارساتهم لأنشطتهم الحياتية اليومية بعد عملية استبدال مفصل الفخذ. **التوصيات:** يجب تنفيذ الدليل الإرشادي كرعاية تمريضية روتينية لكبار السن المترددين على العيادات الخارجية للعظام بعد عملية استبدال مفصل الفخذ. **مفاتيح الكلمات:** الدليل الإرشادي- كبار السن- المعرفة والممارسات- التمريض- استبدال مفصل الفخذ.