

Effect of an Educational Program on Satisfaction and Outcomes among Patients with Femoral Neck Fracture

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Abstract

Background: Femoral neck fractures are one of the most common fracture types occurring in the elderly worldwide, which are associated with significant mortality, morbidity and disability rates. **Aim of study:** Was to evaluate the effect of an educational program on satisfaction and outcomes among patients with femoral neck fracture. **Design:** A quasi -experimental design was used. **Setting:** The study was conducted at Orthopedics ward, at Al Shifa Medical Hospital, in the Gaza Strip- Palestine. **Study sample:** A purposive sampling of adult patients between 18 and 60 years old from both genders was approached to recruit 68 patients. Subjects were divided into study and control group (34 patients in each). **Tools:** The patients' satisfaction questionnaire and the Barthel index of Activities of Daily Living (ADL) were used, in addition to socio-demographic clinical characteristics and patients' knowledge regarding the fractures. **Results:** Majority of subjects in the intervention group were satisfied (94.1%), however, it decreased after month post intervention (79.4%). The mean knowledge score significantly improved immediately post and one month post the intervention (15.56 ± 1.92 and 19.56 ± 1.83 , respectively). Similarly for the activities of daily living (10.0 ± 2.42 , and 16.94 ± 2.90 , respectively). significant positive correlation was seen between the ADL and patients' knowledge immediately post and after one month ($P < 0.001$). **Conclusion:** The education program resulted in significant improvement of patients' knowledge, satisfaction and outcomes immediately and one month post intervention. patients' knowledge correlate positively with ADL. **Recommendation:** The educational program implementation to patients' knowledge support should be included in routine nursing care as a protocol pre and post femoral neck fracture surgery and at the time of follow up phase.

Keywords: Educational program, satisfaction, outcomes and femoral Neck Fracture

Introduction:

Femoral Neck Fractures (FNFs) are one of the most common fracture types occurring in the elderly worldwide, which sometimes can contribute to impaired function with an excess of mortality, morbidity (Kelly-Pettersson, 2018). Femoral neck fracture is a dangerous traumatic disease in the adult individuals, approximately for about 50% of hip fractures,

affecting 1.5 million people per year worldwide (Pourabbas et al., 2016). It's most common occurs after a simple fall in the elderly in conjunction with undiagnosed osteoporosis and is common even in middle-aged people due to fierce accidents or major traumas (Xu, Liang & Xiong et al., 2019).

The patient satisfaction with orthopedic treatment starts from the first coming to the

inpatient service of the orthopedic wards. This evaluation continues throughout treatment of the femoral neck fracture and postoperative period. The inpatient satisfaction is very essential in treatment course (**Erden & Emirzeoğlu, 2020**).

Orthopedic Nurses have a great role in assess ADLs in all hospitalized patients with femoral neck fracture. Appropriately assessing, planning, intervening, and evaluating activities of daily living can mean the difference between independent aging and needing daily assistance. There are many tools included in daily shift assessments, but all nurses staff should be conscious of each patient needs for support in managing activities of daily living. (**Edemekong, Bomgaars & Levy, 2017**).

According to (**Burgess et al., 2019**) the effect of education program on the patient with femoral neck fracture and found that knowledge, pain, length of hospital stays, performance of exercise and mobilization, self-efficacy, patient compliance, adherence and empowerment were all improved as a result of orthopedic patient education.

Femoral neck fractures have profound effects on activities of daily living (**Rasmussen & Uhrenfeldt, 2016**). Most patients ongoing femoral neck fracture experience reduced mobility, lose their practical ability and independence (**Mariconda et al, 2016**). A systematic review found that post one year, 29% of femoral neck fracture patients did not reach they're before fracture level of ADL, and 35% were unable to walk independently (**Gilboa et al., 2019**).

Significance of the study:

According to unreported statistics from Gaza Strip governmental hospitals' archives, the incidence of femoral neck fracture in 2018 was 1500 cases, which Al Shifa Medical

Hospital 962 cases out of reported femoral neck fracture between (18-60) years' old. Therefore, no previous studies have been located in the literature about femoral neck fracture in Gaza Strip, which aims to help such group of patients and to maintain a proper functioning of the femoral neck fracture, identify and report symptoms indicative internal fixator, complications as well to improve outcomes dimensions and satisfaction among patients with femoral neck fracture to orthopaedics departments. Furthermore, results of this study could be helpful for health professionals specially nurses in planning and implementing care for such group of patients in the future.

Aim of study:

This study aimed to evaluate the effect of an educational program on satisfaction and outcomes among patients with femoral neck fracture.

Research Hypothesis

- There would be improvement in patient`s knowledge score post educational program than before.
- There would be increased patient`s satisfaction level post educational program than before.
- There would be improvement in the patient`s outcomes post educational program than before.

Subjects and method:

Research design:

Quasi experimental design was used in carrying out this study.

Setting:

The study was conducted at the orthopedics departments, at Al Shifa Medical Hospital, in the Gaza Strip- Palestine.

Sampling:

A purposive sample of adult patients from both genders with age ranged from (18-60 years old) with diagnosis of femoral neck fractures, it consisted of (68) patients. The subjects were

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divided into two equal groups (study and control) where each group consists of (34) patients.

Exclusion criteria:

Patients underwent to total or partial hip joint replacement surgeries.

Tools for Data Collection: Three tools were used for data collection.

Tool 1: Patient`s Assessment questionnaire about femoral neck fractures

Patient`s Assessment questionnaire was developed by the researcher after reviewing related literature and it will be written in simple Arabic language to suit the patient's level of understanding. It included the following two parts:

First Part: Patient`s socio-demographic characteristics and clinical data adopted from (Khalaf et al., 2017). It included the following two parts: -

A- Socio-demographic characteristic of the patients` it was consisted of eight items such as age, gender, marital status, level of education, residence, employment status, number of family members, home characteristics, cost of treatment.

B- Clinical health was consisted of family history, past medical/surgical history which included as (pre-fracture comorbidities, present of chronic diseases, medications and vitamins, use of any assistive devices – information related female about menstruation) and Present medical history as (present complaint, causes of fracture, place of accident, time of hospital admission). It composed of (15) MCQ and with open end questions with yes or no response.

Second Part: Patient`s Knowledge regarding the bone fractures: It was aimed to assess the patients' information about the fractures, was adapted (Abd El-fatah, S. et al., 2017), it included the following two sections.

Section (1): It was concerned the bone fractures. It was composed of (14) MCQ.

Section (2): It was concerned with physical activities practices, side effects and complications after such as exercises, purpose of exercise, instructions regarding exercises before the operation, signs of bleeding, chest pain, leg swelling and tingling. It was composed of (7) MCQ.

- Scoring system

The score of the correct answer for each statement was (1) and incorrect answer was (0). The total score of patients' knowledge assessment was (21) marks.

- Total score was classified as follows:

- <70% was considered poor knowledge (<15 marks)
- $\geq 70\%$ was considered good knowledge (≥ 15 marks)

Tool II: A psychometric analysis of patient`s satisfaction questionnaire

- This questionnaire was adopted from (Elhaweet, 2019) to determine the degree of patient`s satisfaction with the educational program. It was consisted of (43) items separated into three domains as follow: information (17 items), implementation of educational program (19 items) and contents of booklet that included educational program (7 items).

- Scoring system

Patient`s satisfaction assessment items each was included two points Liker scale (0-1), as (1) for very satisfied and fairly satisfied, (0) for unsatisfied.

Total score was classified as follows:

- <70% was considered unsatisfactory (<30 marks).
- $\geq 70\%$ was considered satisfactory (≥ 30 marks).

Tool III: Barthel Index Activities of Daily Living.

- This scale was adopted from (Mahoney & Barthel, 1965) to measure the performance of independence in activities of daily living (ADLs). The scale consists of (10) items include (the ability of feeding, moving from wheelchair to bed and returning, doing personal toilet, getting on and off toilet, bathing self, walking on level surface, ascending and descending stairs, dressing, controlling bowels and controlling bladder). The responses of each item are two to four with corresponding values (0, 1, 2, 3) depending on the item, an increased value indicates more independency in performing related tasks. These responses are then summed to a total score that ranges between (0 and 20) with higher scores indicating better functioning in performing ADLs, The Arabic version of this scale was used in this study, it was translated by researcher, and tested for validity and reliability by Hallaj, 2010 ($r = 0.971$) (Hallaj, 2010).

The total scores of the scale are 20 classifieds as follow:

- Score 0-7 points: indicates dependent.
- Score 8-12 points: indicates partially dependent.
- Score 13-20 points: indicates independent.

Validity and reliability of tools:

The validity of the tools was ascertained by a group of five experts from Medical Surgical Nursing department, Faculty of Nursing, Benha University (one Professor, 2 assistant professors and 2 lecturer). Their opinions elicited regarding the format, consistency, accuracy, and relevancy of the tools; necessary modification was done accordingly

Reliability was testing statistically to assure that the tools are reliable before data collection. Testing reliability of the developed tools was done through Alpha Cronbach test .

-Alpha Cronbach reliability analysis for patient`s assessment questionnaire about femoral neck fractures was 0.79

- For A psychometric analysis of patient`s satisfaction questionnaire was 0.85

-Alpha Cronbach reliability analysis for barthel index activities of daily living tool was 0.89

Ethical consideration:

- The research approval was obtained and ethical committee before starting the study.
- Before the initial interview, an oral consent was secured from each subject after being informed about the nature, purpose and benefits of the study.
- Patients were also informed that participation is voluntary and about their right to withdraw at any time without giving reasons.
- Confidentiality of any obtained information was ensuring through coding of all data and results.
- The researcher reassured patients that the data would be used for only the research purpose.
- The control group received the same educational program booklet at the end of the study.

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Pilot study:

Before performing the actual study, a pilot study carried out on five patients (10%) of total study subjects were included and chosen randomly from the previously mentioned setting to test clarity, applicability of the tools and time required to fill them. The patients who are involved in the pilot study were included in the main study group. No modification was done to the tools.

Field of work:

- The data collection were carried out from beginning of April 2020 to the end of November 2020, covering a period of 8 months. Firstly, data was collected from control group from April 2020 to June 2020, then from July 2020 to November 2020 for study group. The previously mentioned settings were attended by the researcher three days/week (Sunday, Tuesday and Thursday) to collect data from control and study groups. It was carried out through four phases: assessment, planning, implementation, and evaluation as follow:

Assessment phase:

- During assessment phase the researcher was prepared and translated tools for data collection.
- The researcher held the first meeting with each patient before presentation to multidisciplinary committee at Al Shifa Medical Hospital, which is considered the main governmental hospital in in the Gaza Strip- Palestine to introduce his-self and briefly explained the nature and the purpose of the study. They were informed that participation in this study was voluntary and they had the right to withdraw at any time. Oral approval from

patients to share in this study was achieved.

- The researcher took telephone number at the first contact to determine the next appointment in order to complete data collection process.
- The researcher provided an overview and clarification about the tools, then, the structured questionnaire was distributed to each patient in study group to assess socio-demographic characteristic, medical health, knowledge and satisfaction. It was filled by the patients in a time ranged from 20 to 40 minutes distributed as the following: patients' socio-demographic characteristics took about 5 minutes, patients' medical health took about 5 minutes, patient's knowledge and physical activities practices, took about 10 minutes, patients' satisfaction took about 10 minutes and the ability of patient to perform Activities of Daily Living (ADLs) took about 10minutes. The data obtained during this phase constituted the baseline for further comparisons to evaluate the effect of the educational program. The number of groups assessed participated ranged from 1-3 group.
- Regarding control group, the pre assessment was done also as control group and took approximately same time for all data collection tools.

Planning phase: Based on the needs identified in the assessment phase from the participated patients and in view the literature. The researcher determined the teaching strategy (time table of sessions, teaching methods, media used). The content met patients' needs [pre, during and after operation]. Educational program was developed by the researcher in the form of printed Arabic booklet to satisfy the patients' knowledge deficit and satisfaction .

Implementation phase:

- After patients in the study group filling in the tool with orientation about the content and purpose of the study. Educational program was implemented for study group according to patients' learning needs. The teaching session were conducted in classrooms in orthopedic ward. The classrooms with air conditioned, quite, well ventilated, well-furnished and had adequate lighting.
- Implementation of educational program lasted over a period of 3 months for all patient in the study group.
- Each session had taken about 20-30 minutes /day for three days per week. These sessions were conducted for small group ranged from 1-3 patients.
- The Educational program involved 3 scheduled sessions.
- Feedback was given in the beginning of each session about the previous one. The teaching methods used were small group discussion. Suitable teaching media were used, included posters, videos and booklet that was distributed to all patients that able to read and write. Also, the researcher communicated with patients via telephone call for instruction and reinforcement.

Evaluation phase: Evaluation was emphasized on determining the effect of educational program on satisfaction and outcomes among patients with femoral neck fracture by comparing the results pre, immediately post and one month after implementation of educational program by using the tools I, II, III which were done to the study and control groups. Finally, the booklet was handled for each patient in control group in this study at the end of data collection process.

Statistical Analysis:

All data were collected, tabulated and subjected to statistical analysis. Statistical analysis is performed by the computer Statistical Package for Social Science (SPSS), version 21 is used for data handling and graphical presentation. Quantitative variables are described by mean, Stander Deviation (SD), while qualitative categorical variables are described by proportions and percentages. Chi-squared test of independence is used for categorical variables. Test of significance was used and regarding significance of the result, the observed difference and association were considered as following:

- $P > 0.05$ Not significant
- $P < 0.05^*$ Significant
- $P < 0.001^{**}$ Highly significant

Limitation of study:

- Difficulty to gather all patients as one group at the same time .
- Data collection take a long time period depending on their health condition as well as he covid-19 pandemic which has affected the length of time for data collection.

Result:

Table (1): Reveals demographic characteristics of the study and control groups: regarding age; (64.7% and 58.8%) more than half in both groups aged between 56-60 years old with mean age (55.32 ± 4.25) in study group and (55.32 ± 4.25) in control group, regarding gender, more than half 55.9% of the study group & more than two thirds 67.6% of the control group were females, regarding to their educational level more than half 52.9% & 61.8% of the study and control groups were university & above degree and the all its 100% of both groups was resident in urban area. Also, the highest percentage 79.4% & 91.2% of them had treated by governmental health insurance, respectively.

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Figure (1): Illustrates that, there is a marked improvement in the study group percentage of total knowledge from 22.6% pre of educational program implementation, to 74.1% immediately post and improved to 93.1% after one month of educational program implementation with statistical significance compared to control group.

Table (2): Shows that, the most of study group 97.1% had satisfactory level regarding total information immediately post the educational program implementation, while more than two thirds of study group decreased to 82.4% after one month. As well, regarding total processing of the educational program implementation the most of study group 94.1% of study group had satisfactory level, while decreased to nearly more two thirds 76.5% after one month, Moreover, regarding total the educational program booklet the most of study group 91.2% had satisfactory level, while decrease to more than three quarters 82.4% after one month.

Figure (2): Illustrates that, there was a marked improvement in the study group percentage of level

of activities of daily living from 100% were had indicates dependent at pre of educational program implementation, to 69.7% were had indicated partially dependent at immediately post, while increased differences in ADL performance and mobility to 88.2% were had indicated independent after one month of educational program implementation.

Table (3): Shows that there was higher statistically significant difference between study and control groups immediately post and after one month of educational program implementation compared pre of educational program implementation with ($P < 0.001$).

Table (4): Illustrates that, there was positive correlation between the total knowledge score and activities of daily living (ADLs) score of the study group immediately post and after one month with statistically significant differences immediately post ($P < 0.001$) and after one month ($P < 0.001$).

Table 1. Distribution of socio-demographic characteristics of (study and control) groups (n = 68).

Socio-demographic characteristics	Groups				X ²	P-value
	Study n = 34		Control n = 34			
	No	%	No	%		
Age groups						
≥50	9	26.5%	7	20.6%	1.946	0.378
51-55	3	8.8%	7	20.6%		
56-60	22	64.7%	20	58.8%		
Mean ±SD	55.32 ± 4.25		55.53 ± 4.38			
Gender						
Male	15	44.1%	11	32.4%	0.997	0.318
Female	19	55.9%	23	67.6%		
Education						
Basic education	16	47.1%	13	38.2%	0.541	0.462
University and above	18	52.9%	21	61.8%		
Living area						
Urban	34	100.0%	34	100.0%	0.000	1
Rural	0	0.0%	0	0.0%		
Treatment cost						
Governmental/ health insurance	27	79.4%	31	91.2%	0.823	0.171
Private	7	20.6%	3	8.8%		

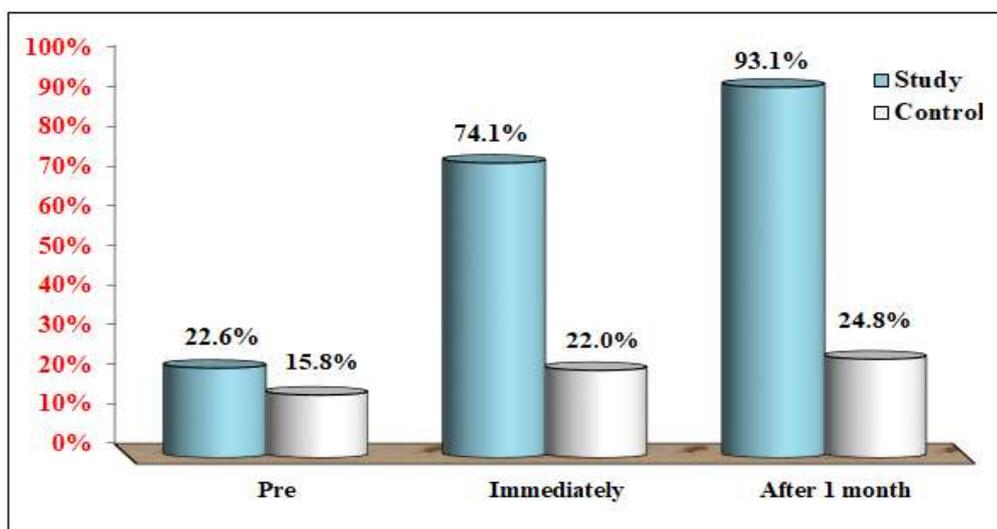


Figure 1. Distribution of study and control groups regarding total knowledge through three phases (n=68).

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Table 2. Satisfactory level of the study group immediately post and after one month regarding educational program (n = 34).

Items	Immediately post n = 34				After one month n = 34			
	Unsatisfactory		Satisfactory		Unsatisfactory		Satisfactory	
	No	%	No	%	No	%	No	%
Total information.	1	2.9%	33	97.1%	6	17.6%	28	82.4%
Total processing of the educational program implementation.	2	5.9%	32	94.1%	8	23.5%	26	76.5%
Total the educational program booklet.	3	8.8%	31	91.2%	6	17.6%	28	82.4%

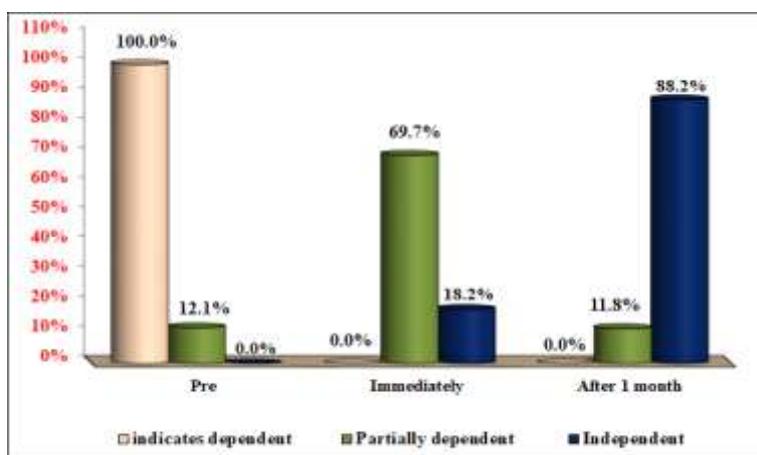


Figure 2. Distribution of study group regarding level of activities of daily living through three phases of evaluation and follow up (n=34).

Table 3. Comparison between total knowledge score & Barthel index activities of daily living (ADLs) score among (study and control) groups in three phases of educational program implementation (n = 68).

Items	Pre n = 68		Immediately post n = 68		After one month n = 68		t1 P ¹	t2 P ²	t ³ P ³
	Study Mean±S D	Control Mean± SD	Study Mean±S D	Control Mean± SD	Study Mean±S D	Control Mean±SD			
	Knowledge	4.74±1.64	3.32±1.21	15.56±1.92	4.62±1.18	19.56±1.83			
Activities of Daily Living (ADL)	1.03±0.76	1.12±0.88	10.0±2.42	4.35±2.45	16.94±2.90	7.35±2.33	t 0.443 P 0.659	t 23.832 P <0.001	t 33.526 P <0.001

t1= t-test study & control pre program
t2= t-test study & control immediately post
t3= t-test study & control after one month

Table 4. Correlation between the total of knowledge score and activities of daily living (ADLs) score of the study group immediately post and after one month (n = 34).

Item	Total of knowledge score			
	Immediately post		After one month	
	r	P-value	r	P-value
Activities of Daily Living (ADLs)	0.754	<0.001	0.876	<0.001*

r: Pearson correlation &

*** Indicates a statistically significant difference at P<0.05**

Discussion:

According to the socio-demographic characteristics of the study and control groups revealed that, regarding age; more than half of both study groups were aged between (56-60) years old with mean age (55.32 ± 4.25) years old in study group and (55.53 ± 4.38) years old in control group, that means the age of both groups (control and study) were equal. These findings are supported by a study conducted by **Huang et al., (2017)** study about "The Effects of the empowerment education program in older adults with total hip replacement surgery" who reported that, the (52.6%) more than half of the studied groups in both groups aged between (50-60) years and the mean age was (53.92 ± 6.75) years. But this finding disagrees with **Paula et al., (2015)** who conducted a study about "Elderly readmission and death after discharge from treatment of hip fracture" who reported that more than half of the studied groups was at age aged (80) years and more with standard deviation of (8.8) years. Also, it disagrees with **Griffin et al., (2016)** study about "What is the impact of age on reoperation rates for femoral neck fractures treated with internal fixation and hemiarthroplasty? A comparison of hip fracture outcomes of the very elderly population" who found that

femoral neck fracture was more prevalent among populations aged 80 years and more. This can be interpreted that the difference between the studies might be due to the fact that elderly patients with femoral neck fracture are mostly elderly, this result may be explained by the nature of study subjects where the subjects of this study were under 60 years old.

This actually agrees with our Palestinian community in which our people in this age group are confirmed from war injuries which is responsible for most of accidents and even deaths in our community.

Regarding to gender, it was found that, females were dominant among the studied groups and constituted (55.9%) of the study group and (67.6%) of the control group. These results agree with findings of **Huang et al., (2017)** who found the high percentage of his study groups were female. Also, this result in the current study was supported by **Souza et al., (2018)** in the study entitled "Assessment of activity daily living using the EQ-5D-3L (EuroQol-5Dimensions- three levels) instrument for hospitalized patients with femoral fracture in Brazil" which reported that 80% of patients with FNF were female. But this finding disagrees with **Abd El-fatah et al., (2017)** in a study about "The impact of rehabilitation program for elderly patients with hip fracture at Sohag university

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hospital", who found that, the greatest percent in both groups were males.

Concerning the marital status, it noted that more than two thirds of the study and more than half of the control groups (76.5% and 64.7%), respectively were married. This finding agreed with **Huang et al., (2017)** study about "The Effects of the empowerment education program in older adults with total hip replacement surgery" who found that about two thirds of studied groups were married. This finding was supported by **Ahmed and Abd-El Mohsen, (2018)** study about the "Effect of compliance to the discharge instructions among patients with internal fixation for hip fracture", which revealed that the majority of both studied groups were married.

As regard to educational level, less than one half of the study group had basic school, while nearly more than half in the study group had university and above, by comparing our finding with that of other countries this finding was supported by **Ahmed and Abd-El Mohsen, (2018)** who found that about two thirds of studied groups were secondary educated, but this finding disagrees with a study established by **Khalaf et al., (2017)** a study entitled "Functional outcomes of elderly women following hip fracture surgery" who showed that, more than one half of studied groups were illiterate. This finding was also disagreed with the study by **Khayya, (2016)** study about "prevalence of illiteracy among the study patients was more than predicted".

Concerning the place of residence, the current study showed that, all of studied groups in both groups lived in urban areas. From the researcher's point of view, this

data reflects the real picture because the population of the Gaza Strip has no rural areas. This present study disagrees with **Abd El-fatah et al., (2017)** who found that about two thirds of patients with FNF were living in rural areas and the rest of them were living in urban areas.

Related to occupation more than one third of the participants in the study group were working full time, but more than one third in the control group were unemployed. Because they are in a retirement age or their health condition forced them to stop working or delegated their responsibilities. This finding was supported by **Abd El-fatah et al., (2017)** who found that in the study entitled "Impact of rehabilitation program for elderly patients with hip fracture" who mentioned that more than two thirds of participants were working. this is supported by **Ahmed & Abd-El Mohsen, (2018)** who found that about more than half in both groups were working .

Regarding to housing condition, more than two thirds of the participants in the study group had owned home. Moreover, in this study, it was observed that those participants who live with their families. This finding similar with a study established by **Khalaf et al., (2017)** who showed that, more than two thirds of participants were live with their families. Also, the finding supported by **Abd El-fatah et al., (2017)** who observed that the majority of the participants in the study and control groups were living with family .

Lastly regarding to treatment costs, around two thirds of participants in both groups resorted to treatment by government on health insurance. In the Gaza Strip, all citizens receive free drugs or free medical service by government, but exception of

some work injuries. This finding was disagreed with **Farias et al., (2017)** in study about “Evaluation of the effectiveness of a care program for elderly patients with hip fracture” which revealed that, highest costs were related to treatment group. The patients with FNF in the normal care group used the intensive care unit more and had a 70% increase in average costs. The researcher think that the most Arab countries provide medical care by government.

As regarded to total patients’ knowledge about femoral neck fracture, the study revealed that, improved levels of total knowledge in after one month were better than pre and immediately post implementation educational program with statistical significance compared to control group. This results at the same line with **Henderson (2019)** study about “An educational intervention to prevent fractures in older women”. Also, another study supported by **Nasser and Atiyah (2017)** whose study was shown that the majority of participants in the both groups had poor level of total knowledge in pretest and all the participants in the study group get good level of total knowledge at post and test on the other hand the participant in the control group hold the same level of total knowledge at posttest.

This result may be explained the grand mean knowledge for participants in the study group that there were significant differences improvements in the post-test at (P value < 0.05) of the study group, it was may be attributed to receiving the educational program. also, was a significant difference between the study and control groups regarding the results of the post test at (P value < 0.05).

Concerning the satisfactory level of the study group as immediately post and after one month regarding educational program, the present study showed that, the most of participated had highest percentage satisfied in immediately post educational program, while nearly more than two thirds of them were satisfied after one month of the educational program implementing.

These results agreed with the studies supported by **El-Sebaie et al., (2021)**, about the “Effect of safety measures educational program on the incidence of infection, satisfaction, and anxiety level among orthopaedic patients with external fixation”; **Ahmed and Abd-El Mohsen (2018)** who reported that the implementation of an educational program increased the patients' satisfaction level immediately and after one month. This finding agrees with a study done by **Ghafoor et al., (2018)** study about "Adult patient satisfaction with nursing care" who found that more than half in studied groups are overall satisfied immediately post with the educational program which provided to studied patients, however only near one third in studied groups are dissatisfied with their services.

On other hand, this finding disagrees with study in China by **Zhang et al., (2020)** about “Inpatient satisfaction with nursing care in a backward region: a cross-sectional study from northwestern” who reported that, the fewest studied patients were satisfied with the nature of information nurses that had given to them (12%).

The finding of this study supported the second hypothesis in this study.

Regarding to patients’ activities daily living, the present study revealed that, both study and control groups had dependent in all items of activities of daily living, and there no statistically significantly different

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between all items of ADLs among study & control groups pre educational program implementation, while highly statistically significant differences compared between study & control groups of educational program implementation immediately post ($P<0.001$) and after one month ($P<0.001$) .

This finding agrees with **Khalaf et al., (2017)** who found a statistically significant between all items of ADLs among both groups post educational program implementation immediately post and after one month and improving functional outcomes.

The present study agrees with **Lin et al., (2009)** who found that, the activities daily living of the study group was significantly higher than that of the control group after nursing instruction was provided for fracture patients. The present study disagrees with **Dyer et al., (2016)** in a study entitled “A critical review of the long-term disability outcomes following hip fracture” who noted that one year after hip fracture, approximately one third of the patients had still unable to walk independently and more than half of the patients require assistance at least for doing one the basic of ADL.

This finding of the study revealed that, the level of dependency immediately post and after one months from educational program implementation according to Barthel index finding presented that, the highest mean score of the study group had restored their ADLs and improved activities of daily living at immediately post and after one months of educational program implementation compared to few of the control group. This result agrees with **Abd El-fatah et al., (2017)** who reported that level of dependency after one months from

femoral neck fracture repair according to Barthel index result presented that less than one fifth of the intervention group had returned to their ADL at one months after femoral neck fracture surgery compared to no one of the control group was done.

Concerning correlation between the total of knowledge score and activities of daily living (ADLs) among the study group, the finding showed that, there was a positive correlation with higher statistically significant between the total of knowledge score and their activities of daily living of the study group immediately post and after one month of educational program implementation ($P<0.001$).

This result is in the same line with study by **Mohammed et al., (2018)** who shown that there was a positive correlation with highly statistically significant between post total knowledge score and post total daily activities score of the study group as ($P<0.001$).

From researcher view, it may be destined that the total daily activities scores between participants were significantly high in those who have good knowledge .

This result was supported with the third hypothesis in this study.

To sum up the discussion of the current study, the study results documented that, the participated with femoral neck fracture patients showed better improvement of the knowledge about fracture, physical activities practices and daily activity living at immediately post and after one month of educational program implementation as compared to pre of educational program implementation. In addition to, most of the patients under study were satisfied with the educational program

which support completely in the study hypothesis.

Conclusion:

There was a significant improvement on patients' knowledge, satisfaction and outcomes among patients with femoral neck fracture post implementation educational program than before, with a highly statistically significant difference at ($P \leq 0.001$). And there was positive correlation between the total knowledge score and activities of daily living (ADLs) score of the study group immediately post and after one month with statistically significant immediately post ($P < 0.001$) and after one month ($P < 0.001$) which support the stated hypothesis.

Recommendations:

- The educational program implementation should be included in routine nursing care as a protocol pre and post femoral neck fracture surgery and at the time of follow up phase.
- Studying factors affecting patients' satisfaction with the therapeutic regimen post femoral neck fracture surgery .
- Further researches are recommended periodically to be carried out on new approaches in the area of management of patients with femoral neck fracture and evaluate its effect on patients' activities daily living.
- Studying factors affecting patients' satisfaction with the therapeutic regimen post femoral neck fracture surgery.

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تأثير برنامج تعليمي على الرضا والنتائج بين مرضى كسر عنق الفخذ

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كسور عنق الفخذ هي واحدة من أكثر أنواع الكسور شيوعاً التي تحدث عند كبار السن في جميع أنحاء العالم ، والتي ترتبط بمعدلات كبيرة في الوفيات والمرض والعجز. لذا هدفت هذه الدراسة الي تقييم أثر برنامج تعليمي على الرضا والنتائج لدى مرضى كسر عنق الفخذ وقد أجريت هذه الدراسة في قسم جراحة العظام في مستشفى الشفاء الطبي في قطاع غزة- فلسطين علي ٣٤ مريض. حيث خلصت الدراسة بنجاح البرنامج التعليمي في رفع مستوى الرضا وتحسين النتائج بين مرضى كسر عنق الفخذ بعد شهر من تنفيذ البرنامج. وأوصت الدراسة بأن هناك حاجة إلي تنفيذ برامج تعليمية كبرتوكول قبل وبعد واثناء جراحة كسر عنق الفخذ.