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ASSESSMENT OF THE NURSING STUDENTS' KNOWLEDGE TOWARD THE ELDERLY HIP FRACTURES IN BAGHDAD CITY

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ABSTRACT

Background: One of the most serious fall injuries is a broken hip. It is hard to recover from a hip fracture and afterward many people are not able to live on their own. **Aims:** To assess the nursing students' knowledge toward the elderly hip fractures in Baghdad City. **Methods:** A descriptive design was conducted on female and male pediatric nurses who were working in neonatal intensive care units, started from November 15th, 2017 up to the end of 20th May 2018. A non-probability (purposive) sample of (100) undergraduates' college students / university of Baghdad from different levels (males and females), were selected. A questionnaire format was used for data collection, which consisted of (2) parts: the first part is related to the students' demographic data, which include (7) items such as; age, gender, marital status, residential area, occupational status, monthly income, and the second part is related to the students' knowledge about elderly hip fractures which include (30) items. The overall number of the items included in the questionnaire was (37) items. The items concerning student s' knowledge were rated on three level Likert scales; yes, uncertain, and no, and scored as 3, 2, and 1, respectively. **Results:** The study concluded that (54%) of students in sample study were male, (48%) of them were between (21 – 25) years old, (79%) of them were single. Regarding to the residential area, (85%) of them were live in Baghdad city. Furthermore, the finding of study indicated that (67%) of them were not working. Concerning to the monthly income (71%) of students says that the income is enough to somewhat. **Conclusions:** Our finding indicate that the students had a moderate level of knowledge with respect to the total mean score (MS) and to the total relative sufficiency (RS) which was (2.54%); (84.6%) respectively and the study recommended that there is a need for continuous nursing education program for all new nursing students, especially for 4th stage students, established by College of Nursing.

KEYWORD: Elderly, Hip, Fractures, knowledge, College.

INTRODUCTION

One of the most serious fall injuries is a broken hip. It is hard to recover from a hip fracture and afterward many people are not able to live on their own.[1] As the U.S. population gets older, the number of hip fractures is likely to go up. Each year at least 250,000 older people; those 65 and older are hospitalized for hip fractures and more than 95% of hip fracture are caused by falling, usually by falling sideways.[2] Women fall more often than men and they are often have osteoporosis, a disease that weakens bones and makes them more likely to break.[3] The chances of breaking your hip go up as you get older.[4] A hip fracture is an injury with serious consequences for life expectancy, recovery, and quality of life.[5] The management of treatment, rehabilitation, and after care is a challenge for orthopedic surgeons, geriatricians, and health care administrators.[6] Because of demographic changes the incidence of hip fractures is expected to increase for the next decades.[6] Therefore, hip fracture patients will increasingly need orthopedic and surgical beds in hospitals and rehabilitation beds in other institutions.[7] Most of fractures in western countries occur in females over 60 years and more than half of the patients are over 80 years old. 20-40% of patients are already institutionalized before fracture and the average number of concomitant illnesses ranges from 1,1 to 2,5 per patient.[8] The prognosis in regard to survival and recovery of function remains poor: mortality at 6 months ranges from 16% to 28% and at 1 year from 22% to 37%; only 40-60% of surviving patients recover to pre-fracture walking ability and less than 30% reach the same level of activities of daily living as before fracture.[9] The incidence of hip fractures has been increasing over the last decades and is expected to increase in the near future.[9] It is unlikely that efforts to prevent these injuries will have a substantial effect soon. Therefore, hip fracture patients will increasingly need orthopedic, surgical and rehabilitation beds.[10] Increased numbers and cost considerations have pressed hospital administrators to shorten the hospital stay of hip fracture

patients.[10] Rehabilitation programs have been developed with an additional aim: improvement of outcome. However, length of hospital stays and organization of care after hospital discharge differ between countries.[11] In 1990 there were an estimated 1,66 million hip fractures worldwide, approximately 1.197.000 in women and a further 463.000 in men.[12] The main purposes of this thesis were, to assess students' knowledge towards the anatomy of hip bones and to assess students' knowledge towards the fractures of hip bones occurred in elderly people.

MATERIALS AND METHODS

Design of the study: A descriptive design was conducted on female and male pediatric nurses who were working in neonatal intensive care units, started from November 15th, 2017 up to the end of 20th May 2018 to assess nursing students' knowledge toward the elderly hip fractures in Baghdad City.

Setting of the study: The present study was carried out in College of Nursing / University of Baghdad.

The Sample of the study: A non-probability (purposive) sample of (100) undergraduates' college students / university of Baghdad from different levels (males and females), were selected. The students were assigned for the study according to the following criteria: From 4th stage nursing college; those who were agreeing to participate in the study; and from male and female students.

Study instrument: The researcher constructed the study instrument because no existing tool was found to measure the desired information. The construction was based on the extensive review of relevant literature and related studies. A questionnaire format was used for data collection, which consisted of (2) parts: the first part is related to the students' demographic data, which include (7) items such as; age, gender, marital status, residential area, occupational status, monthly income and the type of study, and the second part is related to the students' knowledge about elderly hip fractures which include (30) items. The overall number of the items included in the questionnaire was (37) items. The items concerning student s' knowledge were rated on three level Likert scales; yes, uncertain, and no, and scored as 3, 2, and 1, respectively (Polit and Hungler, 2000).[13] The cutoff point was (2) and the low limit for acceptance Nurses' knowledge was (66.66), the relative sufficiency (RS) was calculated through the following formula: (Cut off point × 100) / (Number of scale level) = 66.66 Low = Less than (66.66), Pass (66.66- 77.77), moderate (77.78-88.88), and high (88.89- 100), and these were calculated according to following formula: (100 – 66.66) / 3= 11.11.

Part 1: Demographic characteristics sheet

The first part of the questionnaire sheet includes (7) items relative to the demographic data of the students which include; age, gender, marital status, residential area, occupational status, monthly income and the type of study.

Part 2: Nurses' knowledge: The second part of the questionnaire comprises (30) items that concerned with students' knowledge related to the elderly hip fractures.

Data collection: Data were collected through a direct interview and self- reporting techniques by using a constructed questionnaire.

Validity of the instrument

The content validity of the constructed questionnaire was determined by using a panel of experts to investigate the content of the questionnaire for the clarity and adequacy to achieve the objectives of the present study. They were (10) faculty members from the college of nursing university of Baghdad.

Conducting a Pilot Study: A purposive sample of (5) students from College of Nursing / University of Baghdad. The sample of the pilot study was excluded from the original sample of the study.

Statistical data analysis: In order to determine whether the objectives of the study were met or not, the following statistical procedures were used in analyzing the data of the study.

Descriptive statistical procedure

a- Tables (Frequencies, Percentages, and Cum. Percent).

b- Summary Statistics tables including: Mean of score (M.S.). Relative Sufficiency (R.S. %), and their assessment by cutoff point (66.67%) due to scores (1, 2, 3). As well as three level Likert scales; yes, uncertain, and no, and scored as 3, 2, and 1, respectively.

c- **Mean of score (MS):** The mean of score which was equal to (1.5-2.5) was considered significant, greater than (2.5) considered highly significant and less than (1.5) was considered non-significant. The mean of scores was computed with the owing:

$\overline{X} = \frac{\sum xi}{n}$; $\sum xi$ = Sum of the (3x Always, 2x Sometimes + 1x Never).

d- **Relative sufficiency (RS):** Relative sufficiency (RS) Less than (66.66) was considered low level, (66.66- 77.77) was considered pass, (77.78-88.88) was considered moderate, while (88.89- 100) was considered high level. Where Relative Sufficiency (R.S. %) is calculated by:

$$R.S.\% = \frac{Mean\ of\ Score}{no.\ of\ Scoring\ Scale} * 100\%$$

RESULTS

In this table shows that (54%) of students in sample were male, (48%) of them were between (21 – 25) years old,

(79%) of them were single. Regarding to the residential area, (85%) of them were live in Baghdad city. Furthermore, this table shows that (67%) of them were not working. Concerning to the monthly income (71%) of students says that the income is enough to somewhat [Table 1].

Table (1): Distribution of Nurses by their Demographic Characteristics Data.

Demographic Characteristics		Total sample (n=100)		Cumulative Percent
		F	(%)	
Gender	Male	54	54	54.0
	Female	46	46	100.0
Age (year)	21-25	48	48	48.0
	26-30	30	30	78.0
	31-35	15	15	93.0
	36- and more	7	7	100.0
Marital status	Single	79	79	79.0
	Married	21	21	100.0
Residential area	Baghdad	85	85	85.0
	Internal students' department	15	15	15.0
Occupation	Work	33	33	33.0
	Not work	67	67	100.0
Monthly income	Enough	15	15	15.0
	Enough to some where	71	71	86.0
	Not enough	14	14	100.0

Table (2) demonstrates students' knowledge towards the elderly hip fractures. Which clearly depicted that their knowledge concerning anatomy of hip bones were moderate level of knowledge with respect to the total mean score (MS) and to the total relative sufficiency (RS) which was (2.30); (76.6%) respectively. Regarding to students' knowledge towards the fractures of hip bones, the result indicated that knowledge was moderate level of knowledge with respect to the total mean score (MS) and to the total relative sufficiency (RS) which was (2.46); (82.0%) respectively. Finally, and concerning to students' knowledge towards Diagnosis and treatment of fractures the result indicated that knowledge was moderate level of knowledge with respect to the total mean score (MS) and to the total relative sufficiency (RS) which was (2.54); (84.6%) respectively.

Table (2): Assessment of students' knowledge toward the elderly hip fractures.

No	Standard items	N =100					
		Know	Uncertain	Do not know	M S	R S	Severity
		F	F	F			
A.	**The anatomy of hip bones**						
1	The pelvis is formed from, ilium, ischium, and pubis bones.	80	15	5	2.15	71.6	P
2	Hip joint forms from acetabulum, head and shaft of the femur.	40	8	52	1.88	62.6	L
3	The acetabulum is the part of the pelvis that forms the hip socket.	28	1	71	1.57	52.3	L
4	The head of the femur forms the ball of the hip joint.	70	6	24	2.46	82.0	M
5	Movements of hip joint are flexion, extension, adduction, and abduction only.	86	11	3	2.83	94.3	H
	Total	304	41	155	2.30	76.6	P
B.	**The fractures of hip bones**						
1	Fractures around hip limit all movements of hip associated with nerve pain.	80	15	5	2.75	91.6	H
2	Severe hip injury leads to early sign of osteoarthritis.	60	5	35	2.25	75.0	P
3	Posterior dislocation is more than anterior dislocation.	13	31	56	1.57	52.3	L
4	Fracture dislocation of hip increase the percent of	52	26	22	2.30	76.6	P

	complication.						
5	Compound fractures run a higher risk of infection than simple fracture.	61	33	6	2.55	85.0	M
6	Infection of hip joint leads to limitation of all movements of joint with high fever.	78	14	8	2.70	90.0	H
7	Limping is due to only hip diseases and fractures.	22	7	71	1.51	50.3	L
8	Diabetic patient increases the percentage of complication of fractures of hip joint.	61	33	6	2.55	85.0	M
9	The hip fractures occur in a higher percentage in women than men	75	15	10	2.65	88.3	M
10	Osteoporosis is the major predisposing factor for hip fracture.	78	18	4	2.74	91.3	H
11	Hip fracture is a series of injury that commonly affect elderly people.	90	10	0	2.90	96.6	H
12	Hip fracture usually affects elderly due to having weaker bones.	85	10	5	2.80	93.3	H
13	The hip fracture occurs after a slip and fall accident.	86	11	3	2.83	94.3	H
14	The term broken hip usually refers to a break at the top of femur or acetabulum or both of them that contains the hip socket.	40	8	52	1.88	62.6	L
15	The most common complication of hip fractures is a vascular necrosis of the femoral head.	80	15	5	2.15	71.6	P
16	Venous thrombosis is the most common complications after hip fracture in the elderly.	72	20	8	2.64	88.0	M
	Total	1033	271	296	2.46	82.0	M
C.	**Diagnosis and treatment of fractures**						
1	MRI is best than C.T scan in diagnosis of osteonecrosis of hip joint.	20	15	65	1.55	51.6	L
2	Hip fractures are most commonly treated with surgery.	80	17	3	2.77	92.3	H
3	The surgery may include screws only or plates and that help hold the bones together.	40	8	52	1.88	62.6	L
4	In some cases, replacement of hip may be needed.	78	12	10	2.68	89.3	H
5	A hip replacement will replace the hip joint with artificial implant partial or totally.	85	10	5	2.80	93.3	H
6	There are different types of implants that are made various materials.	78	14	8	2.70	90.0	H
7	None treated fractures around hip joint in elderly lead to D.V.T., bed sores, and pulmonary embolism.	92	6	2	2.90	96.6	H
8	Diet and exercises can play a big role in preventing osteoporosis and keep bones strong.	85	10	5	2.80	93.3	H
9	Hip replacement surgery is one of the most common procedures performed by orthopedic due to high amount of hip fracture.	80	17	3	2.77	92.3	H
	Total	638	109	153	2.54	84.6	M

MS= Mean of score, Low = Less than (66.66), Pass (66.66- 77.77), moderate (77.78- 88.88), and high (88.89- 100).

DISCUSSION

Throughout the course of the present study, it has been noticed that that (54%) of students in sample study were male, (48%) of them were between (21 – 25) years old, (79%) of them were single. Regarding to the residential area, (85%) of them were live in Baghdad city. Furthermore, this table shows that (67%) of them were not working. Concerning to the monthly income (71%) of students says that the income is enough to somewhat. This part includes include (30) items with 3 sections, the first section is dealing with the information of students concerning anatomy of hip bones which includes (5) items, while the second section is dealing with student knowledge concerning the fractures of hip bones, which included (16) items, the third section is concerning to students' knowledge about the diagnosis and treatment of elderly hip joint. The result in tables [2] indicated that students had a moderate level of knowledge with respect to the total mean score (MS) and to the total relative sufficiency (RS) which was (2.54%); (84.6%) respectively. This result is agreeing with Stone et al[14]; who mentioned that nurses working in orthopedic units need to have specialized knowledge, skills, and experience to provide timely, appropriate care to critically ill patients with complex care problems. Also, this result is agreeing with Marci Nilsen[15] and Debbie

Massey[16], they stated that critical care nurses need to have specialized knowledge, skills, and experience to provide appropriate and timely interventions to prevent costly and potentially fatal outcomes. Furthermore, this result is agreeing with Cox H[17] and Leslie[18], who mentioned that nurses in critical care settings in elderly care units need advanced skills and a broad knowledge base to care for patients with severe illness and complex problems. However, the value of the nursing practice in critical care settings is often underestimated in the current healthcare system because of the failure to show the evidence of the contribution of nurses to the quality of patient care in ICUs. Therefore, nursing professionals are concerned about how to display this evidence.[18] Also, this result is supported by Wheatley I[19] and Purling A[20], who mentioned that working with aged population, geriatric medicine will become increasingly important. Geriatrics involves knowledge of the interaction between diseases, psychosocial and environmental factors and aging and such knowledge is necessary when working with frail old people.

CONCLUSIONS

Concerning students' knowledge towards elderly hip fractures; the result indicated that students had a moderate level of knowledge with respect to the total mean score (MS) and to the total relative sufficiency (RS) which was (2.54%); (84.6%) respectively. There is a need for continuous nursing education program established at the College of Nursing include all students, and specially the students in 4th stage.

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