# Assessment of Nurses' Performance Regarding Care for Elderly Stroke Patients

**Nora Mohammed Nagep[1], Salwaa Ahmed Mohammed[2], Eman Fathy Amr[3]**

[1]Nursing Supervisor in Surgical Department Beni-Suef University Hospital, Egypt
[2]Assistant Professor of Nursing Administration Faculty of Nursing Beni-Suef University, Egypt
[3]Assistant Professor of Medical Surgical Nursing Faculty of Nursing-Beni-Suef University, Egypt

## ABSTRACT

**Background:** Aging is a natural process of accumulation of diverse deleterious change occurring in cells and tissue with advancing age that are responsible for the increased risk of chronic disease as stroke. **Aim:** To assess nurses' performance regarding care for elderly stroke patients. **Methods:** a descriptive research design was performed on a convenient sample consisted of 68 nurses were available at four departments which are male neurological department, female neurological department, neurological care unit, and medical care unit in Beni-Suef University Hospital, Egypt. **Tools:** Two tools were used to carry out this study. **Tool I**: Questionnaire sheet which consisted of two parts: Part (1) Nurses Socio-Demographic characteristics, Part (2) Assessment Nurses Knowledge. **Tool II** Nurses performance Checklist. **Results:** Study results reveals that, 100 % of studied nurses had correct knowledge regarding items: description of elderly stroke, the most important diagnostic test, healthy lifestyle of elderly stroke patients, and mortality probability from complications. On the other hand (39.7%, 36.8%, 33.8 %) of studied nurses had incorrect knowledge regarding items: warning signs of elderly stroke, specialty of follow up physician after discharge & information source about elderly stroke patients, and the main types of elderly stroke respectively. Present finding shows that, 100% of studied nurses had adequate performance regarding observation of changes in conscious level, and observation of mental status in sensation, 94.1 % of them had adequate performance regarding observation of the ability of talking, and observation of mental status in talking and awareness. 89.7% of nurses had adequate performance regarding observation of mental status in memory, concentration, as well as urination & defecation control.

**Conclusion**: There is a statistically significant relation between nurses' total knowledge & performance and their ages & years of experiences. There is no statistically significant relation between total nurses' knowledge& performance and their gender & qualifications. There is a highly statistically correlation between total nurses' knowledge and their total performance. **Recommendations:** Periodic assessment for nurses' performance regarding care for elderly stroke patients, provide continuous support for staff nurses to enhance their nurses' performance regarding care for elderly stroke patients, investigate the effect of proper nurses' performance regarding care for elderly stroke patients satisfaction and replicate this study on larger probability sample in different hospitals in order to generalize the result.

**Keywords:** Assessment, Performance, Elderly, Stroke Patient.

## Introduction

Aging is an essential part of all human life and this unwanted process of becoming old age is the most dominant risk factor for acute and chronic disease, as well as reduced physical, cognitive, affective, and social function. Elderly people suffering from chronic diseases such as stroke. Profound changes occur in the elder circulations that have the potential to stroke **(1).**

Stroke is a major and growing public health problem worldwide, with high morbidity, mortality, and cost. Despite recent improvements in the outcomes of patients with stroke through contemporary therapies, concerns exist as to whether the subjects included in major stroke clinical trials were representative of real-world patients. In particular, the elderly are under-represented in clinical trials and may be at an increased risk for worse outcomes **(2).** Strokes are more common in older people. Almost three-fourths of all strokes occur in people 65 years of age or over. A person may also have a transient ischemic attack (TIA). This has the same symptoms as a stroke, but only lasts for a few hours or a day and does not cause permanent brain damage. A TIA is not a stroke but it is an important warning signal. The person needs treatment to help prevent an actual stroke in the future **(3).**

The nurse plays a significant role in management of the stroke through their performances. Nurses' performances are focus on the training of technical skills for care, resulting in beneficial results for the older adults. Nurses provide interventions include social, emotional and psychological support as a form of assistance and improvement of the quality of life of the elderly stroke patients. The nurse is the professional who has the skills to educate the elderly stroke patients and their families to face this new reality. In addition, nurses play a fundamental role in the orientation and education of these patients and their families, both at the time of hospital stay and when discharged to return home **(4).**

Nursing intervention include, presenting knowledge that nurses can structure and plan the actions aimed to the education of the elderly stroke patients and their families, for avoiding hospital readmissions **(5).**

### Significance of the Study

Stroke is a major health problem. It is the third leading cause of death worldwide. It leaves many of its survivors with physical and mental

disabilities, thus creating a major social and economic burden.  About 15 million people present with stroke annually in the world, and of these, five million die as a result of the event and a large part of the survivors present physical and/or mental squeal **(6)**. The incidence and prevalence of stroke in Egypt are high as the incidence is (10.13%). So researches are critically needed to be conducted in elderly with stroke to enhance rehabilitation and its outcome on elderly and their families. **(7).**

## Aim of the study:

to assess the nurses' performance regarding care for elderly stroke patients.

**Research questions**:
What is the nurses' performance regarding care for elderly stroke patients?

## Subjects and Methods

**Research Design:** A descriptive exploratory design was utilized to conduct this study.

**Setting**: This study was conducted in four departments which are male neurological department, female neurological department, neurological care unit, and medical care unit in Beni-Suef University Hospital.

**Subjects:** A convenience sample consisted of (68) nurses were available and distributed as the following (13 nurses) from Male neurological department, and (17 nurses) from female neurological department, (22 nurses) from Neurological Care Unit and (16 nurses) in the Medical Care Unit.

### Data Collections Tools

   Two data collection tools were used to carry out this study namely, Questionnaire sheet, and Nurse's performance Checklist.

**Tool I: Questionnaire sheet;** which consisted of two parts:

**Part (1): Nurses Socio-Demographic characteristics:**  This part was adopted from **(James. 2016) (8)** it was used to assess the nurses' demographic characteristics.

**Part (2): Assessment Nurses Knowledge Questioner:** This part was adopted from **(James. 2016) (8)**. It was used to assess nurse's level of knowledge about stroke. It was filled by nurses. It consisted of 15 questions in the form of multiple choice questions (MCQs).

**Tool II): Nurse's performance Checklist:** This tool was developed by the researcher based on recent relevant literature. **(9)** It was concerned with assessment of the nurses' performance regarding care for elderly stroke patients as reported by the nurse's under study.

## Data Collection Procedure

Data were collected in 4 months from first of October 2019 to the end of January 2020. The investigator visited the study setting for three days weekly. The investigator filled the observational checklist in the morning, afternoon and night shifts during actual nurse's work and documented steps of care for the patients in the previous mentioned settings. The Nurses performance Checklist was used prior to administration of the questionnaire to ensure the maximal realistic observations of the nurse's performance and minimize the possibility of bias. The nurse's practice was observed by the investigator while they were caring for patients.

Each nurse was observed by the investigator during practice using the observational checklist. It took about 30-45 minutes. Then, The Assessment nurses' knowledge questionnaire was filled by the nurses who providing care for patients. It took about 30-35 minutes. The answers were recorded by the nurse's themselves.

## Pilot Study

The pilot study was conducted to test feasibility and applicability of the study tools used in this study. It was carried out on 10% of total study subjects'. No modifications on tools were done after pilot study so that; the nurses who included in the pilot study were included in the main study group.

## Ethical Consideration

The ethical research considerations in this study included the following:

1. The research approval of protocol was obtained from Scientific Research Ethical Committee in Faculty of Nursing in Beni-Suef University before starting the study.
2. Approvals were obtained from the director of Beni-Suef University Hospital and directors in male neurological department, female neurological

department, neurological care unit, and medical care unit to conduct the study.
3. The investigator clarified the objective and aim of the study to nurses included in the study. Then a written consent was obtained from each nurse.
4. The investigator assured maintaining anonymity and confidentiality of the subjects' data.
5. Nurses were informed that they allowed participating or not in the study and that they had the right to withdraw from the study at any time without giving any reasons.
6. Ethics, values, culture, and beliefs were respected.

## Results

**Table (1): Percentage distribution of the studied nurses according to their demographic characteristics (n=68)**.

|  | Demographic characteristics | No. | % |
|---|---|---|---|
| 1. | **Age** | | |
| | - 18:<30 | 58 | 85.3 |
| | - 30:<40 years | 10 | 14.7 |
| 2. | **Gender** | | |
| | - Male | 24 | 35.3 |
| | - Female | 44 | 64.7 |
| 3. | **Level of Education** | | |
| | - Technical nursing institute | 46 | 67.6 |
| | - Bachelor of nursing | 22 | 32.4 |
| 4. | **Years of experience** | | |
| | - <5 years | 44 | 64.7 |
| | - 5:10 years | 17 | 25 |
| | - >10 years | 7 | 10.3 |
| 5. | **Training courses regarding stroke** | | |
| | - No | 26 | 38.2 |
| | - Quality courses | 1 | 22.1 |
| | - Infection control course | 17 | 25 |
| | - Geriatric care course | 3 | 4.4 |
| | - First aid course | 7 | 10.3 |
| 6. | **Sources of information about stroke** | | |
| | - During the studying years | 42 | 61.8 |
| | - From mass media | 26 | 38.2 |
| 7. | **Place of work** | | |
| | - Internal medicine department | 38 | 55.9 |
| | - ICU | 30 | 44.1 |

**Table (1):** shows that, 85.3 % of the nurse's ages ranged from 18 to < 30 years, 64.7 % of them were females. 67.6 % of studied nurses were graduated from Technical nursing institute, 64.7% had less than 5 years experiences and 38.2% of them hadn't training courses regarding stroke, 61.8% of them had sources of information about stroke during the studying years and 55.9 % were working at internal medicine department.

**Table (2): Percentage distribution of studied nurses' according to their knowledge regarding elderly stroke patient (n=68).**

| | Items | Correct | | Incorrect | |
|---|---|---|---|---|---|
| | | No. | % | No. | % |
| 1. | Brain functions | 64 | 94.1 | 4 | 5.9 |
| 2. | Description of elderly stroke | 68 | 100 | 0 | 0 |
| 3. | The main types of elderly stroke | 45 | 66.2 | 23 | 33.8 |
| 4. | Time of administering of anti-coagulant medications | 64 | 94.1 | 4 | 5.9 |
| 5. | Risk factors of elderly stroke | 49 | 72.1 | 19 | 27.9 |
| 6. | Common signs of elderly stroke | 64 | 94.1 | 4 | 5.9 |
| 7. | The most important diagnostic test | 68 | 100 | 0 | 0 |
| 8. | Proper nutrition of elderly stroke patients | 65 | 95.6 | 3 | 4.4 |
| 9. | Healthy lifestyle of elderly stroke patients | 68 | 100 | 0 | 0 |
| 10. | Specialty of follow up physician after discharge | 43 | 63.2 | 25 | 36.8 |
| 11. | Warning signs of elderly stroke | 41 | 60.3 | 27 | 39.7 |
| 12. | Mortality probability from complications | 68 | 100 | 0 | 0 |
| 13. | Common complications of elderly stroke | 65 | 95.6 | 3 | 4.4 |
| 14. | Nursing care for elderly stroke patients | 61 | 89.7 | 7 | 10.3 |
| 15. | Information sours about elderly stroke patients | 43 | 63.2 | 25 | 36.8 |

**Table (2):** shows that, 100 % of studied nurses had correct knowledge regarding items: description of elderly stroke, the most important diagnostic test, healthy lifestyle of elderly stroke patients, and mortality probability from complications. On the other hand (39.7%, 36.8%, 33.8 %) of studied nurses had incorrect knowledge regarding items: warning signs of elderly stroke, specialty of follow up physician after discharge & information sours about elderly stroke patients, and the main types of elderly stroke respectively.

**Figure (1): Percentage distribution of studied nurses' according to their total knowledge regarding elderly stroke patient (n=68).**
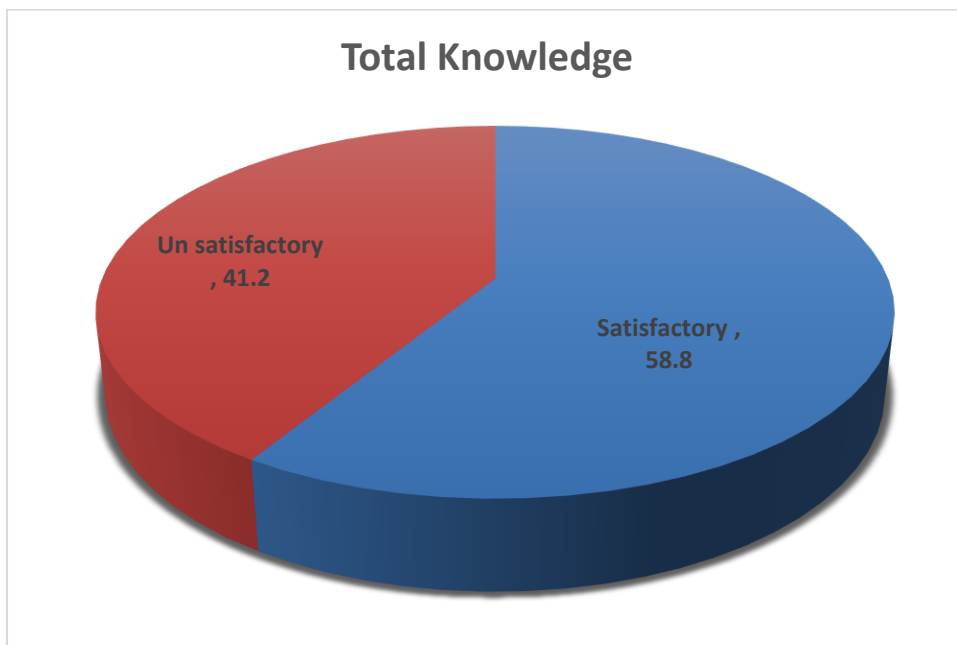


**Total Knowledge**

Un satisfactory , 41.2

Satisfactory , 58.8

**Figure (1):** show that, 58.8 % of studied nurses had satisfactory total knowledge regarding elderly stroke patient.

**Table (3): Percentage distribution of studied nurses' according to their performance regarding elderly stroke patients' assessment (n=68).**

| | Patients' Assessment Items | Adequate performance | | Inadequate performance | |
|---|---|---|---|---|---|
| | | No. | % | No. | % |
| 1. | Observation of changes in conscious level | 68 | 100 | 0 | 0 |
| 2. | Observation of voluntary and involuntary limb movements | 60 | 88.2 | 8 | 11.8 |
| 3. | Observation of neck stiffness | 47 | 69.1 | 21 | 30.9 |
| 4. | Observation of eye pupils | 61 | 89.7 | 7 | 10.3 |
| 5. | Observation of skin color and temperature | 50 | 73.5 | 18 | 26.5 |
| 6. | Observation of pulse, respiratory rate, and bold pressure | 60 | 88.2 | 8 | 11.8 |
| 7. | Observation of the ability of talking | 64 | 94.1 | 4 | 5.9 |
| 8. | Observation of fluid balance | 62 | 91.2 | 6 | 8.8 |
| 9. | Observation of presence of bleeding | 59 | 86.8 | 9 | 13.2 |
| 10. | Observation of mental status: | | | | |
| | - Memory | 61 | 89.7 | 7 | 10.3 |
| | - Concentration | 61 | 89.7 | 7 | 10.3 |
| | - Awareness | 64 | 94.1 | 4 | 5.9 |
| | - Talking | 64 | 94.1 | 4 | 5.9 |
| | - Sensation | 68 | 100 | 0 | 0 |
| | - Movement | 65 | 95.6 | 3 | 4.4 |
| | - Swallowing | 59 | 86.8 | 9 | 13.2 |
| | - Urination and defecation control | 61 | 89.7 | 7 | 10.3 |

**Table (3):** shows that, 100% of studied nurses had adequate performance regarding observation of changes in conscious level, and observation of mental

status in sensation, 94.1 % of them had adequate performance regarding observation of the ability of talking, and observation of mental status in talking and awareness. 89.7% of nurses had adequate performance regarding observation of mental status in memory, concentration, as well as urination & defecation control.

Figure (2): Percentage distribution of studied nurses' according to their total performance regarding elderly stroke patients (n=68).
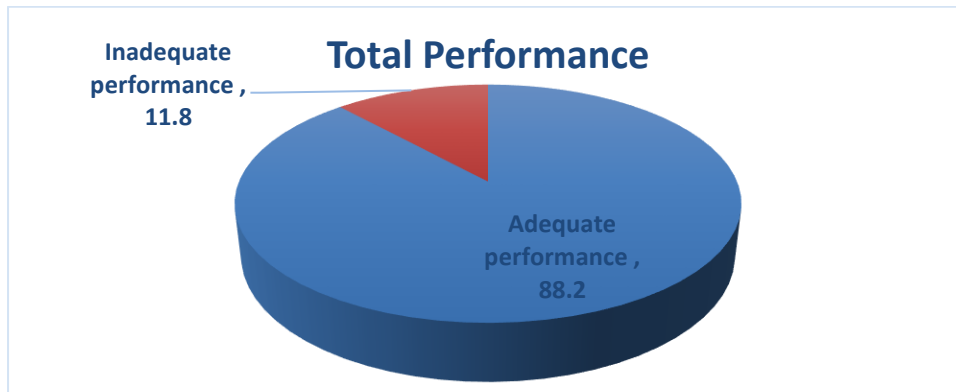


**Figure (2):** show that, 88.2% of studied nurses had adequate total performance regarding elderly stroke patients.

**Table (4): The relation between studied nurses' demographic characteristics and their total knowledge regarding elderly stroke patients (n=68).**

| Demographic characteristic | NO. | Satisfactory knowledge | | Unsatisfactory knowledge | | $X^2$ | P-Value |
|---|---|---|---|---|---|---|---|
| | | No. | % | No. | % | | |
| Age | | | | | | 8.21 | .003* |
| 18:<30 | 58 | 30 | 44.1 | 28 | 41.2 | | |
| 30:<40 years | 10 | 10 | 14.7 | 0 | 0 | | |
| Gender | | | | | | 1.19 | .311 |
| Male | 24 | 12 | 17.6 | 12 | 17.6 | | |
| Female | 44 | 28 | 41.2 | 16 | 23.6 | | |
| Years of experience | | | | | | 10.33 | .006* |
| <5 years | 44 | 20 | 29.4 | 24 | 35.3 | | |
| 5:10 years | 17 | 13 | 19.1 | 4 | 5.9 | | |
| >10 years | 7 | 7 | 10.3 | 0 | 0 | | |
| Level of Education | | | | | | 1.22 | .406 |
| Technical nursing institute | 46 | 28 | 41.2 | 18 | 26.5 | | |
| Bachelor of nursing | 22 | 12 | 17.6 | 10 | 14.7 | | |

(*) Statistically satisfactory at p<0.05.

**Table (4):** shows that, there is a statically significant difference between studied nurses' total knowledge and their ages and years of experiences. There is no statically significant difference between studied nurses' total knowledge and their gender and level of education.

**Table (5): The relation between studied nurses' demographic characteristics and their total performance regarding elderly stroke patient (n=68).**

| Demographic characteristic | NO | Adequate performance | | Inadequate performance | | $X^2$ | P-Value |
|---|---|---|---|---|---|---|---|
| | | No. | % | No. | % | | |
| Age | | | | | | 23.1 | .000** |
| 18:<30 | 58 | 58 | 85.3 | 0 | 0 | | |
| 30:<40 years | 10 | 6 | 8.8 | 4 | 5.9 | | |
| Gender | | | | | | 2.6 | .144 |
| Male | 24 | 24 | 35.3 | 0 | 0 | | |
| Female | 44 | 36 | 52.9 | 8 | 11.8 | | |
| Years of experience | | | | | | 34.7 | .000** |
| <5 years | 44 | 40 | 58.8 | 4 | 5.9 | | |
| 5:10 years | 17 | 17 | 25 | 0 | 0 | | |
| >10 years | 7 | 3 | 4.4 | 4 | 5.9 | | |
| Level of Education | | | | | | 2.32 | .178 |
| Technical nursing institute | 46 | 38 | 55.8 | 4 | 5.9 | | |
| Bachelor of nursing | 22 | 22 | 32.3 | 0 | 0 | | |

(**) Highly statistically satisfactory at p<0.01.

**Table (5):** shows that, there is highly statically significant relation between studied nurses' total performance and their ages and years of experiences. There is no statically significant relation between studied nurses' total performance and their gender and Level of education.

**Table (6): Correlation between studied nurses' total knowledge and their total performance regarding elderly stroke patient (n=68).**

| | | Total knowledge | Total performance |
|---|---|---|---|
| Total knowledge | R | 1 | .481 |
| | P | -- | .000** |
| Total performance | R | .481 | 1 |
| | P | .000** | -- |

(**) Highly statistically significant correlation at P-value <0.01

**Table (6):** shows that, there is a highly statically correlation between studied nurses' total knowledge and their total performance.

## Discussion

Stroke is sudden focal/global neurological deficit characterized by loss of motor control, altered sensation, cognitive or language impairment, disequilibrium, or coma. Stroke is basically divided into two main categories, ischemic and hemorrhagic. **(10)**.

Nurses should organized efforts to help stroke patients maximize all opportunities for returning back to an active and productive lifestyle. Nurses use knowledge and practice gained from learning or working with therapists to routinely integrate therapy into activities of daily living and into nurse-patient communication (**11**).

Regarding demographic characteristics, the current study revealed that majority of the nurse's ages ranged from 18 to < 30 years, two thirds of them were females. This finding was in agreement with **(12)** who conducted a research titled "Development and validation a nursing care protocol with educational interventions for family caregivers of elderly people after stroke" and found that majority of nurses were females.

The current study revealed that majority of nurses had less than 5 years experiences. This result was in agreement with **(12)** who conducted a study entitled "Special article health promotion and exercise planning older person with post-stroke"

The current study also revealed that; nearly two quarter of nurses hadn't training courses regarding stroke, more than half of nurses had sources of information about stroke during the studying years and during working at internal medicine department. This result was in disagreement with **(13).**

Regarding nurses' total knowledge about elderly stroke patient, the current study revealed that all of studied nurses had correct knowledge regarding items: description of elderly stroke, the most important diagnostic test, healthy lifestyle of elderly stroke patients, and mortality probability from complications. From the researcher point of view, this result might be due to that staff nurses were interested about knowledge of patients with stroke to help patients on rehabilitation after stroke. This result was in accordance with **(14)** who conducted a research entitled "Mechanical thrombectomy in elderly stroke

patient" and found that majority of nurses had correct knowledge about stroke. Conversely, this result was in disagreement with **(15)** who conducted a study entitled "The educational needs of nursing staff when working with hospitalized older people" and found that majority of nurses hadn't correct knowledge about stroke.

Concerning nurses' total knowledge about elderly stroke patient, the current study revealed that majority of studied nurses had satisfactory total knowledge regarding elderly stroke patient. From the researcher point of view, this result might be due to staff nurses had training courses about stroke. In the same line, this result was supported by **(16)** who conducted a study titled "Nursing home care intervention post stroke (SHARE) 1 year effect on the burden of family caregivers for older adults" and found that majority of studied nurses had satisfactory total knowledge regarding elderly stroke patient. Conversely, this result was in disagreement with **(17)** who conducted a study entitled "Post-stroke risk factors, signs and symptoms of onset and outcomes as perceived by expert nurses" and found that majority of studied nurses had unsatisfactory total knowledge regarding elderly stroke patient

Regarding nurses' performance about elderly stroke patients, the current study asserted that all of studied nurses had adequate performance regarding observation of changes in conscious level, and observation of mental status and sensation. From the researcher point of view, this finding might be due to staff nurses acquired knowledge from private hospital they working in, this lead to increase their skills with elderly stroke. This result was in agreement with **(18)** who conducted a study entitled "Educational preparation and training of the family caregivers of elderly patients with stroke in the pre-discharge period" and concluded that majority of nurses had adequate performance with elderly stroke patients.

Also, regarding nurses' performance about elderly stroke patients, the current study revealed that majority of nurses had adequate performance regarding observation of the ability of talking, and observation of mental status in talking , awareness,  observation of mental status in memory, concentration, as well as urination & defecation control. From the researcher point of view, this result might be due to staff nurses are reading and updating information about stroke to increase their skills with elderly stroke. This result was supported with **(19)** who conducted a study entitled "Implementation and feasibility of the stroke nursing guideline in the care of patients with stroke" and found that majority of

nurses had adequate performance with ability of talking with elderly patient's stroke.

Regarding the relation between studied nurses' demographic characteristics and their total knowledge regarding elderly stroke patients, the current study revealed that there is a highly statically significant difference between studied nurses' total knowledge and their ages and years of experiences. There is no statically significant difference between studied nurses' total knowledge and their gender and level of education. In the same line, this finding was in harmony with **(20)** who conducted a study entitled "Comparative study of risk factors in young adults and elderly stroke patients" and found that there is a statically significant difference between studied nurses' total knowledge and their years of experiences. Conversely, this study was in disagreement with **(21)** who conducted a study entitled "Comparison of bone density on the dominant and no dominant sides between healthy elderly individuals and stroke patients" and found that there is no statically significant difference between studied nurses' total knowledge and their gender which is contradict with current study finding.

Regarding the relation between studied nurses' demographic characteristics and their total performance about elderly stroke patient, the current study revealed that there is a highly statically significant relation between studied nurses' total performance and their ages and years of experiences. There is no statically significant relation between studied nurses' total performance and their gender and Level of education. This finding was in congruence with **(22)** who conducted a study entitled "Common and specific risk factors for ischemic stroke in elderly: Differences based on type of ischemic stroke and aging" and found that there no statically significant relation between studied nurses' total performance and their Level of education. Also, this result was in agreement with **(23)** who conducted a study entitled "Stroke in Elderly: Current Status and Future Directions" and found that there a highly statically significant relation between studied nurses' total performance and their ages and years of experiences.

Regarding correlation between studied nurses' total knowledge and their total performance about elderly stroke patient, the current study revealed that there is a highly statically correlation between studied nurses' total knowledge and their total performance. This result was supported by **(24)** who conducted a study entitled "Clinical improvement of nursing intervention in swallowing dysfunction of elderly stroke patients" and found that there was a highly

statically correlation between studied nurses' total knowledge and their total performance. Conversely, this finding was in disagreement with **(25)** who conducted a study entitled "Relationship between improvement in GNRI, a nutritional index, and improvement in motor FIM in elderly stroke patients hospitalized" and found that there is no statically correlation between studied nurses' total knowledge and their total performance.

## Conclusion

Based on the finding of the current study it can be concluded that, more than half of nurses had satisfactory total knowledge regarding elderly stroke patient. Majority of nurses had adequate total performance regarding elderly stroke. There is a statistically significant relation between total nurses' knowledge and their ages and years of experiences. There is no statistically significant relation between total nurses' knowledge and their gender and their qualifications. There is a highly statistically significant relation between total nurses' performance and their ages and years of experiences. There is no statistically significant relation between total nurses' total performance and their gender and qualifications. There is a highly statically correlation between total nurses' knowledge and their total performance.

## Recommendations

In the light of results of the present study, the following recommendations were suggested:

1. Periodic assessment for nurses' performance regarding care for elderly stroke patients.
2. Provide continuous support for staff nurses to enhance their nurses' performance regarding care for elderly stroke patients.
3. Provide sufficient continuous training and teaching for nurses caring for elderly stroke patients.
4. Investigating the effect of proper nurses' performance regarding care for elderly stroke patients' satisfaction.
5. This study should be replicated on larger probability sample in different hospitals in order to generalize the result.

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