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*RESEARCH ARTICLE*

# THE EFFECT OF NURSING INTERVENTIONPROGRAM ON THE PHYSICAL AND FUNCTIONALABILITIES OF PATIENTS WITH RECENT STROKE

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## *Abstract*

**Background:** Strokes are life-changing events that not merely affect a person physically but also emotionally as it may result in physical disabilities, which lead to functional disabilities. The nurse can help stroke patients with best utilization of their remaining physical and functional abilities.

**Aim:** Assessment of the Physical and Functional Abilities of Patients with Recent Stroke.

**Methods:** A descriptive exploratory design was used to conduct the current study Awsim General hospital in (a) neurological inpatients ward, and (b) intensive care unit, Sample: Purposive sample (70) patients admitted to the study settings. Tools: four tools utilized for data collection, (1) Structured interviewing questionnaire consisting of two parts: Part one: Personal characteristics of patient with recent stroke, Part two: Medical history of patient with recent stroke ;( II) National Institutes of Health Stroke Scale (III) Barthel Index (activity of daily living) Scale. (4): Stroke Specific Quality of Life Scale (physical and functional.

**Results:** There is a highly significant improvement in all domains of quality of life, both physical and functional disability Shows that there is a positive correlation between the specific Quality of Life Scale, the National Institutes of Health Stroke Scale, and the Barthel Index of Activities of Daily Living at, also there is a highly statistically significant relation with p-value <0.001.

**Conclusion:** significant impact of stroke on the physical and functional abilities of recent stroke patients during the early post-stroke period.

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The findings emphasize that recent stroke patients experience considerable limitations in physical performance and functional independence, and Shows that there is a positive correlation between the specific Quality of Life Scale, the National Institutes of Health Stroke Scale and Activities of Daily Living, also there is no statistically significant relation with p-value >0.05.

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**Recommendations:** Regular assessment of physical and functional abilities should be incorporated into standard nursing care for recent stroke patients using validated assessment tools. And early implementation of targeted nursing interventions is recommended to enhance physical performance and promote functional independence.

## Introduction:-

Stroke is a major neurological emergency and a leading cause of mortality and long-term disability worldwide. It occurs when cerebral blood flow is abruptly interrupted due to vascular occlusion or when a cerebral vessel ruptures, resulting in intracranial hemorrhage. In both conditions, neuronal tissue is rapidly deprived of oxygen and glucose, leading to irreversible brain damage if timely intervention is not initiated (World Health Organization, 2024).Despite advances in acute stroke management, the global burden of stroke remains substantial, particularly due to the high prevalence of modifiable risk factors such as hypertension, diabetes mellitus, smoking, dyslipidemia, obesity, and physical inactivity. Hypertension, in particular, has been consistently identified as the most significant contributor to both ischemic and hemorrhagic strokes (Mayo Clinic, 2024). The persistence of these risk factors contributes not only to the initial occurrence of stroke but also to recurrent events and poor functional outcomes.Clinically, stroke presents with sudden-onset neurological deficits, including unilateral weakness or sensory loss, speech and language disturbances, visual impairment, impaired balance, and altered level of consciousness. These manifestations reflect the extent and location of cerebral injury and are critical determinants of patient prognosis (WHO, 2024). Stroke is broadly classified into ischemic stroke, hemorrhagic stroke, and transient ischemic attack (TIA). Although TIAs are transient in nature, they represent a critical warning sign for future disabling stroke and warrant immediate intervention (American Stroke Association, 2024).Stroke management encompasses three interrelated phases: primary and secondary prevention, acute medical management, and post-stroke rehabilitation.

While acute interventions focus on restoring cerebral perfusion or controlling hemorrhage, long-term functional recovery largely depends on the effectiveness of rehabilitation strategies. Post-stroke rehabilitation aims to reduce disability, enhance independence, and improve quality of life through structured, multidisciplinary interventions (Winstein et al., 2024).The consequences of stroke extend beyond physical impairments to include cognitive dysfunction, communication disorders, emotional disturbances, and social limitations. Common post-stroke complications such as hemiplegia, spasticity, aphasia, dysphagia, visual deficits, depression, and impaired executive function significantly restrict patients' ability to perform activities of daily living, thereby increasing dependence and caregiver burden (Feigin et al., 2023).In this context, nursing care represents a fundamental component of stroke rehabilitation. Nurses are uniquely positioned to deliver continuous, patient-centered interventions that target both physical and functional recovery. Evidence-based nursing strategies—including therapeutic positioning, sustained stretching, task-oriented repetitive training, facilitation of affected limb use, and patient education—play a pivotal role in minimizing complications, enhancing neuroplasticity, and promoting functional independence (Langhorne et al., 2024).Moreover, structured nursing education and follow-up have been shown to improve adherence to rehabilitation programs, reduce secondary complications, and support long-term recovery. Therefore, optimizing nursing intervention programs is essential for improving physical and functional outcomes among patients with recent stroke, particularly during the early rehabilitation phase when recovery potential is greatest

**Significance of the study:**

Stroke represents a major global public health challenge and remains one of the leading causes of mortality and long-term disability worldwide. Recent global estimates indicate that stroke accounts for approximately 11.9 million new cases annually, with nearly 94 million people living with stroke worldwide, and it is estimated that one in four adults will experience a stroke during their lifetime (World Health Organization [WHO], 2023). The global burden of stroke is particularly pronounced in low- and middle-income countries, where limitations in healthcare resources and rehabilitation services contribute to poor physical and functional outcomes

**(World Stroke Organization, 2024):-**

In Egypt, stroke constitutes a significant and growing healthcare burden and is considered one of the leading causes of long-term disability among adults. Increased survival rates following acute stroke have resulted in a higher prevalence of patients living with persistent physical and functional impairments, placing substantial strain on patients, caregivers, and healthcare systems (El Tallawy et al., 2020).Physical impairments are highly prevalent among patients with recent stroke. Evidence suggests that approximately 80–90% of stroke survivors experience motor deficits, including muscle weakness, impaired balance, and limited mobility, as reflected by elevated scores on the National Institutes of Health Stroke Scale (NIHSS) (El Tallawy et al., 2020). These impairments are strongly

associated with reduced functional independence, where assessments using the Barthel Index and Modified Rankin Scale demonstrate that many patients remain partially or totally dependent in basic activities of daily living (WHO, 2023).Furthermore, post-stroke fatigue affects nearly 60–66% of survivors and is significantly associated with poorer functional recovery (Roushdy et al., 2025). Given the high prevalence of persistent physical and functional limitations, evaluating the effect of nursing intervention programs on physical and functional abilities of recent stroke patients is of critical importance.

**Aim of the study**

The aim of this study is to evaluate the Effect of Nursing Intervention on The Physical and Functional Abilities of Patients with recent Stroke

**Through the following:**

- Assess physical and functional abilities of patients with recent stroke
- Design of nursing intervention program for patients with recent stroke.
- Implement the nursing intervention program on patients with recent stroke.
- Evaluate the effect of nursing on the physical and functional abilities of patients with recent stroke.

**Research hypotheses:-**

Implementing of nursing intervention program has positive effect on the physical and functional abilities of patients with recent stroke post-intervention

## Subjects and Methods:-

**Research design:-**

A quasi-experimental design was utilized to conduct the current study.

**Research setting:-**

This study was conducted at Awseem General Hospital and Millennium Hospital Giza, Egypt

**Subjects:-**

A purposive sample of 70 patients were recruited according to the inclusion criteria who suffered from a recent (within the 48 hour)

**Tools for datacollection:**

**Tool (1): Structured Interview Questionnaire: This was developed by the researcher and consisted of two parts:**

**Part one:** Personal characteristics of patients with recent stroke; it was developed to assess personal characteristics of the studied patients as age, sex, marital status, level of education, occupation, and smoking. **Part two:** Medical history of patients with recent stroke included Current medical history, Recent Stroke, Past medical history of chronic disease,and no history of disease.

**Tool (2): National Institutes of Health Stroke Scale (NIHSS):**

This tool was adopted and adapted by the researcher from Brott et al. (1989). The National Institutes of Health Stroke Scale (NIHSS) is a standardized assessment tool used for the assessment of neurological and physical abilities severity following a recent stroke. It consists of 11 items that assess different neurological functions. Level of consciousness assesses the patient's alertness and responsiveness. Best gaze evaluates horizontal eye movements. Visual fields assess the presence of visual loss. Facial palsy evaluates facial muscle movement and symmetry. Motor arm and motor leg assess the patient's ability to maintain limb position against gravity. Limb ataxia assesses coordination of voluntary movements. Sensory function evaluates response to pinprick or noxious stimuli. Best language assesses the patient's ability to comprehend and express language. Dysarthria evaluates clarity of speech articulation. Extinction and inattention assess the presence of neglect or inattention to sensory stimuli. Each item is rated using a 3- or 4-point ordinal scale according to the degree of impairment.

**Scoring System:**

The maximum score was 42 degrees; the higher scores indicate a greater level of severity (Wang et al., 2022):

- Very severe >60%>25
- Severe>50% -60%15-24

- Moderate<60 % - 50%5-14
- Mild< 50%1-4

**Tool (3): Barthel Index Scale:**
This tool was adopted from Shah et al. (1992) to measure independence in activities of daily living (ADL) for patients after stroke. It consisted of 10 weighted items (feeding, bathing, grooming, dressing, bladder control, bowel control, toileting, chair/bed transfer, mobility, and stair climbing) (Liu et al., 2022).

**Scoring system:**
- Severely disabled (dependent) >50%0-10
- Moderately disabled (interdependent) >50% -80% 11-18
- Mild (independent) >80 % - 100% 19-20

**Tool (4): Stroke Specific Quality of Life Scale (SS-QOL):**
The Stroke Specific Quality of Life Scale (SS-QOL) was developed by Williams et al. (2005) to assess a patient's physical and functional status following a stroke. The SS-QOL, which is a disease-specific QOL measure, consisted of 49 items encompassing 12 domains, which include 6 domain physical such as language (five questions), mobility (six questions), mood (five questions), thinking (three questions), upper extremity function (five questions), vision (three questions), and 6 domain functional such as work/productivity (three questions). energy (three questions), family role (three questions), personality (three questions), self-care (five questions), and social role (five questions). Each item is ranked on a five-point Likert scale in which level one means completely agreed, while level five means completely disagree.

Each item is scored using a three-point ordinal scale, reflecting the degree to which stroke-related problems affect the patient's daily activities. Responses are scored as strongly agree (1), neither agree nor disagree (2), and disagree (3). Higher scores indicate better perceived quality of life. The scoring system was modified from the original version to enhance clarity of responses and feasibility for patients with recent stroke.

**Scoring System:**
The total SS-QOL score ranges from 49 to 147, with higher scores indicating better quality of life. Quality of life levels were classified as follows:
Good quality of life: >75% (score 110–147)
Average quality of life: 50%–75% (score 74–109)
Poor quality of life: <50% (score 49–73)

**Pilot study:**
A pilot study was carried out on 10 % (7 patients) of the sample to test the applicability, feasibility, and practicality of the tools, and then the necessary modifications were made according to the results of the pilot study. So, the pilot study wasn't included in the study.

**Fieldwork:**
- After attaining the approval to conduct the study, the sample was collected from the Awsim General Hospital and Millennium Hospital Giza, Egypt. Actual field work was conducted in the period from the beginning of March 2023 up to the end of August 2025. It consisted of

**Preparatory phase:**
- During this phase, the researcher reviewed the current, local, and international related literature on various aspects of the study using books, periodicals, journals, magazines, and the Internet. This helped the researcher to be more acquainted with the study and with the process of designing.
- In accordance with Roy's Adaptation Model, stroke was considered the focal stimulus that disrupts patients' physiological and functional balance, while demographic characteristics, medical history, and environmental factors were considered contextual stimuli influencing patients' adaptation. Based on the literature review and the principles of Roy's Adaptation Model, the researcher developed the data collection tools and the nursing intervention program. The tools were designed to assess patients' demographic characteristics, medical history, physical abilities, and functional abilities, reflecting adaptive or ineffective responses within the physiological–physical mode and role function mode. The developed tools were examined for validity and reliability before implementation in the field work.

**Assessment phase:**

- This phase aimed to assess patients' physical condition, identify their functional needs, and determine the nature of their adaptive responses following stroke. According to Roy's Adaptation Model, this phase focused on assessing patients' behaviors and identifying focal, contextual, and residual stimuli affecting physical and functional abilities. Assessment was conducted at two main stages to comprehensively evaluate patients' status during the acute and early recovery phases of stroke.
- The first assessment was carried out within the first 48 hours of hospital admission in the neurological department. This aimed to determine patients' initial physical and functional status during the acute phase of stroke, when the focal stimulus is most intense. This stage reflected patients' early adaptive or ineffective responses within the physiological–physical and role function modes and served as the initial baseline assessment prior to implementation of the nursing intervention program.
- The second assessment was conducted one month following the stroke, when patients' physical conditions had become more stable and they were more cooperative. This assessment focused on reassessing patients' physical and functional needs and constituted the pre-intervention baseline assessment for the nursing intervention program.

**Planning phase:**

- The researcher prepared theoretical and practical educational material about the physical and functional abilities of patients with recent stroke, theoretical and practical, and printed it in the form of a nursing intervention program.
- Guided by Roy's Adaptation Model, an individualized plan of care was developed for each patient. Planning focused on identifying priorities, setting realistic goals, and determining expected outcomes aimed at enhancing adaptive responses. Nursing interventions were selected to modify stroke-related stimuli and strengthen patients' coping processes, with particular emphasis on promoting adaptation within the physiological–physical mode (improvement of physical abilities) and the role function mode (improvement of functional independence and performance of activities of daily living).

**Implementation phase:**

- During the implementation phase, patients in the study group received the nursing intervention program targeting physical and functional abilities according to their individualized needs. According to Roy's Adaptation Model, the nursing intervention program acted as a planned nursing action aimed at modifying stroke-related stimuli and enhancing patients' regulator and cognator coping mechanisms to promote effective adaptation.
- The instructions included theoretical and practical parts. This was done for six consecutive months, two sessions per week, and every session lasting 60-90 minutes. The first component of the nursing care strategy stressed mainly teaching patients and their families' basic concepts about stroke, such as its nature, types, causes, warning signs, and the effects of stroke on the physical and functional status.
- The second component focused on dealing with physical impairments. For limb disabilities as hemiplegia or spasticity, the researcher advised the family to follow the strategy to help patients retain their newly learned skills, since disabled people tend to avoid using impaired limbs, a behavior called learned non-use. However, the repetitive use of impaired limbs encourages brain plasticity and helps reduce disabilities.
- The practical component of the nursing care strategies stressed mainly on demonstrations to patients and caregivers regarding the correct position during eating or drinking to avoid aspiration and facilitate swallowing process. The chin tuck compensatory technique was practiced, providing airway protection by preventing entry of liquid into the larynx.

**Evaluation phase:**

- Evaluation was conducted using a pre- and post-intervention design. Each patient in both the study and control groups was evaluated twice during the study period using the same assessment tools. The first evaluation was conducted at baseline prior to implementation of the nursing intervention program.
- The second evaluation was conducted six months after implementation to assess the effectiveness of the nursing intervention program on patients' physical and functional abilities.
- According to Roy's Adaptation Model, improvement in these outcomes reflected positive adaptive responses within the physiological–physical and role function modes

**Administrative design:**
After the explanation of the study's aim and objectives, official permission was obtained from the Dean of the nursing faculty and the manager of Awsim Central Hospital. The following departments were asked for cooperation and permission to conduct the study.

**Ethical considerations:-**
The research was obtained from the Scientific Research Ethics Committee in the Faculty of Nursing, Helwan University, before starting the study. The researcher clarified the objective of the study to the patients included in the study to gain their confidence and trust. The researcher obtained oral consent from the patients. The researcher assured the maintenance of the anonymity and confidentiality of the subjects' data. The patients were informed that they were allowed to choose to participate or not in the study and that they had the right to withdraw from the study at any time.

**Statistical design:**
Recorded data were analyzed using the statistical package for social sciences, version 22.0 (SPSS Inc., Chicago, Illinois, USA). Quantitative data were expressed as mean standard deviation (SD). Qualitative data were expressed as frequency and percentage.

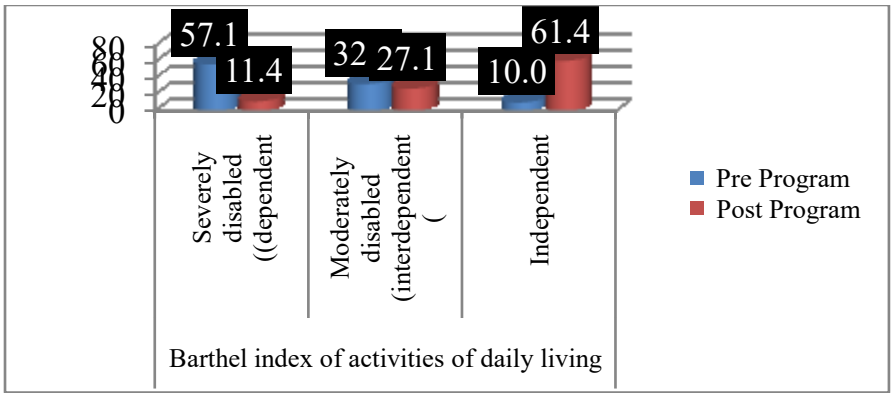


**Figure (1): Frequency and Percentage distribution of the studied patients regarding the level of the Barthel index of activities of daily living (pre & post-nursing intervention program).**

**Figure (3):** Frequency and Percentage distribution of the studied patients regarding the level of the Barthel index of activities of daily living (pre & post-nursing intervention program). Illustrates that 57.1%, 32.9%, and 10.0% of the studied patients are severely disabled (dependent), moderately disabled (interdependent), and independent pre-nursing intervention programs respectively, while 11.4%, 27.1%, and 61.4% of them are severely disabled (dependent), moderately disabled (interdependent), and independent post-nursing intervention programs respectively, regarding the level of Barthel index of activities of daily living

**Table (4): Mean score & Standard deviation descriptive of the studied patients regarding domains of stroke-specific quality of life scale (pre & post program) (n=70).**

| Stroke Specific Quality of Life Scale (SS-QOL) | Pre-nursing intervention Program (n=70) | | Post-nursing intervention Program [2months] (n=70) | | FU-nursing intervention Program [3months] (n=70) | | Pre vs. Post | | Pre vs. FU | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | ±SD | Mean | ±SD | Mean | ±SD | t-test | p-value | t-test | p-value |
| **Physical disability** | | | | | | | | | | |
| Vision | 7.40 | 1.85 | 11.25 | 2.81 | 12.04 | 3.01 | 5.561 | <0.001** | 6.061 | <0.001** |
| Language | 14.43 | 3.61 | 21.94 | 5.48 | 23.70 | 5.92 | 7.866 | <0.001** | 8.574 | <0.001** |
| Mobility | 8.50 | 1.87 | 23.12 | 5.09 | 24.74 | 5.45 | 8.132 | <0.001** | 8.864 | <0.001** |
| Mood | 7.80 | 1.87 | 21.22 | 5.09 | 22.49 | 5.40 | 16.734 | <0.001** | 18.240 | <0.001** |
| Thinking | 8.97 | 2.15 | 13.63 | 3.27 | 14.58 | 3.50 | 13.415 | <0.001** | 14.622 | <0.001** |
| Upper extremity function | 8.70 | 2.26 | 19.31 | 5.02 | 21.43 | 5.57 | 9.089 | <0.001** | 9.907 | <0.001** |
| **Functional disability** | | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Work/ Productivity | 3.73 | 0.82 | 10.90 | 2.40 | 11.66 | 2.57 | 16.110 | <0.001** | 17.560 | <0.001** |
| Energy | 3.80 | 0.91 | 9.58 | 2.30 | 10.35 | 2.48 | 15.003 | <0.001** | 16.353 | <0.001** |
| Family roles | 4.50 | 1.17 | 11.34 | 2.95 | 12.13 | 3.16 | 13.808 | <0.001** | 15.051 | <0.001** |
| Social roles | 9.50 | 2.09 | 18.24 | 4.01 | 19.33 | 4.25 | 12.846 | <0.001** | 14.002 | <0.001** |
| Self-Care | 7.67 | 1.92 | 20.85 | 5.21 | 22.31 | 5.57 | 8.704 | <0.001** | 9.487 | <0.001** |
| Personality | 4.27 | 1.11 | 11.61 | 3.02 | 12.89 | 3.35 | 8.246 | <0.001** | 8.988 | <0.001** |

p-value>0.05 is insignificant; *p-value <0.05 is significant; **p-value <0.001 is highly significant

**Table (4):** There is a highly significant improvement in patients in all domains of quality of life.Across both physical disability domains (vision, language, mobility, mood, thinking, upper extremity function) and functional disability domains (work/productivity, energy, family roles, social roles, self-care, personality), mean scores showed a marked increase from pre-intervention to post-intervention at two months, with further sustained or slightly enhanced improvements at three months follow-up. The paired t-tests revealed statistically significant differences between pre- and post-intervention, as well as pre- and follow-up, with all p-values <0.001.

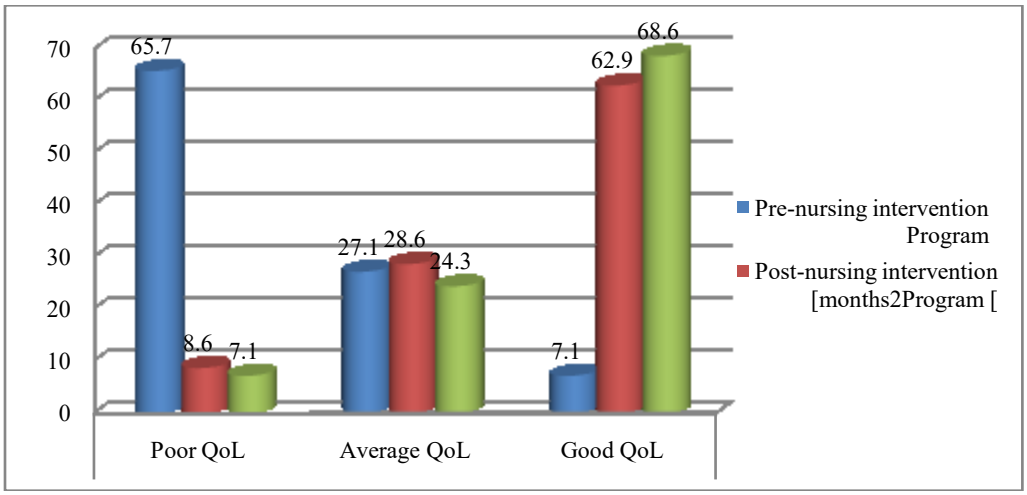


**Figure (2):Percentage distribution of the studied patients regarding level of stroke-specific quality of life scale (SS-QOL) (pre & post nursing intervention program).**

**Figure (2):** shows a clear improvement in stroke-specific quality of life among the studied patients. Before the nursing intervention program, 65.7% of patients had poor quality of life, 27.1% had an average level, and 7.1% had good quality of life. Two months post-intervention, poor quality of life decreased to 8.6%, average quality of life was 28.6%, and good quality of life increased to 62.9%. At the three-month follow-up, poor quality of life further declined to 7.1%, average quality of life reached 24.3%, and good quality of life rose to 68.6%, indicating a sustained positive impact of the nursing intervention program.

**Table (5): Relation between levels of studied patients of stroke-specific quality of life scale (SS-QOL) according to their socio-demographic data (N=70).**

| Socio-demographic data | Pre nursing intervention Program | | | | | | Post nursing intervention Program | | | | | | FU- nursing intervention Program | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Poor QoL (n=46) | | Average QoL (n=19) | | Good QoL (n=5) | | Poor QoL (n=6) | | Average QoL (n=20) | | Good QoL (n=44) | | Poor QoL (n=5) | | Average QoL (n=17) | | Good QoL (n=48) | |
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Age "years"** | | | | | | | | | | | | | | | | | | |
| 20 > 30 years | 11 | 23.9 | 1 | 5.3 | 1 | 20.0 | 2 | 33.3 | 4 | 20.0 | 7 | 15.9 | 1 | 20.0 | 1 | 5.9 | 11 | 22.9 |
| 31 > 49 | 6 | 13. | 4 | 21. | 1 | 20. | 1 | 16. | 3 | 15. | 7 | 15. | 1 | 20. | 4 | 23. | 6 | 12. |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| years | | 0 | | 1 | | 0 | | 7 | | 0 | | 9 | | 0 | | 5 | | 5 |
| 50 > 60 years | 29 | 63.0 | 14 | 73.7 | 3 | 50.0 | 3 | 50.0 | 13 | 65.0 | 30 | 68.2 | 3 | 60.0 | 12 | 70.6 | 31 | 64.6 |
| **Chi-square test** | 5.57 | | | | | | 2.586 | | | | | | 3.098 | | | | | |
| **p-value** | 0.525 | | | | | | 0.859 | | | | | | 0.542 | | | | | |
| **Gender** | | | | | | | | | | | | | | | | | | |
| Male | 26 | 56.5 | 15 | 78.9 | 2 | 40.0 | 4 | 66.7 | 15 | 75.0 | 24 | 54.5 | 3 | 60.0 | 10 | 58.8 | 30 | 62.5 |
| Female | 20 | 43.5 | 4 | 21.1 | 3 | 60.0 | 2 | 33.3 | 5 | 25.0 | 20 | 45.5 | 2 | 40.0 | 7 | 41.2 | 18 | 37.5 |
| **Chi-square test** | 3.898 | | | | | | 0.2504 | | | | | | 0.542 | | | | | |
| **p-value** | 0.142 | | | | | | 0.286 | | | | | | 0.963 | | | | | |
| **Marital status** | | | | | | | | | | | | | | | | | | |
| Married | 27 | 58.7 | 14 | 73.7 | 3 | 60.0 | 3 | 50.0 | 14 | 70.0 | 27 | 61.4 | 4 | 80.0 | 8 | 47.1 | 32 | 66.7 |
| Un married | 19 | 41.3 | 5 | 26.3 | 2 | 40.0 | 3 | 50.0 | 6 | 30.0 | 17 | 38.6 | 1 | 20.0 | 9 | 52.9 | 16 | 33.3 |
| **Chi-square test** | 1.313 | | | | | | 0.904 | | | | | | 2.745 | | | | | |
| **p-value** | 0.519 | | | | | | 0.636 | | | | | | 0.254 | | | | | |
| **Educational level** | | | | | | | | | | | | | | | | | | |
| Read & write | 11 | 23.9 | 3 | 15.8 | 1 | 20.0 | 4 | 66.7 | 9 | 45.0 | 2 | 4.5 | 3 | 60.0 | 6 | 35.3 | 6 | 12.5 |
| Not read & write | 16 | 34.8 | 9 | 47.4 | 1 | 20.0 | 0 | 0.0 | 8 | 40.0 | 18 | 40.9 | 2 | 40.0 | 8 | 47.1 | 16 | 33.3 |
| Secondary education | 13 | 28.3 | 5 | 26.3 | 1 | 20.0 | 1 | 16.7 | 3 | 15.0 | 15 | 34.1 | 0 | 0.0 | 3 | 17.6 | 16 | 33.3 |
| University education | 6 | 13.0 | 2 | 10.5 | 2 | 40.0 | 1 | 16.7 | 0 | 0.0 | 9 | 20.5 | 0 | 0.0 | 0 | 0.0 | 10 | 20.8 |
| **Chi-square test** | 4.091 | | | | | | 25.374 | | | | | | 17.421 | | | | | |
| **p-value** | 0.664 | | | | | | <0.001** | | | | | | <0.001** | | | | | |
| **Occupation** | | | | | | | | | | | | | | | | | | |
| Work | 16 | 34.8 | 10 | 52.6 | 2 | 40.0 | 3 | 50.0 | 9 | 45.0 | 16 | 36.4 | 2 | 40.0 | 7 | 41.2 | 19 | 39.6 |
| Not work | 30 | 65.2 | 9 | 47.4 | 3 | 60.0 | 3 | 50.0 | 11 | 55.0 | 28 | 63.6 | 3 | 60.0 | 10 | 58.8 | 29 | 60.4 |
| **Chi-square test** | 1.785 | | | | | | 0.701 | | | | | | 0.013 | | | | | |
| **p-value** | 0.41 | | | | | | 0.704 | | | | | | 0.993 | | | | | |
| **Smoking** | | | | | | | | | | | | | | | | | | |
| Yes | 18 | 39.1 | 9 | 47.4 | 3 | 60.0 | 5 | 83.3 | 16 | 80.0 | 9 | 20.5 | 4 | 80.0 | 10 | 58.8 | 16 | 33.3 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No | 28 | 60.9 | 10 | 52.6 | 2 | 40.0 | 1 | 16.7 | 4 | 20.0 | 35 | 79.5 | 1 | 20.0 | 7 | 41.2 | 32 | 66.7 |
| **Chi-square test** | 1.019 | | | | | | 24.298 | | | | | | 7.522 | | | | | |
| **p-value** | 0.601 | | | | | | <0.001** | | | | | | 0.023* | | | | | |

**Table (5):** Illustrates that there is a highly statistically significant relation between the studied patients' level of stroke-specific quality of life scale (SS-QOL) , educational level and smoking post-nursing intervention program with p-value <0.001.

**Table (6): Relation between levels of studied patients of national institutes of health stroke scale (NIHSS) according to their socio-demographic data (N=70).**

| Socio-demographic data | Pre nursing intervention Program (baseline) | | | | | | | | Post nursing intervention Program(discharge) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mild (n=8) | | Moderate (n=12) | | Severe (n=27) | | Very severe (n=23) | | Mild (n=32) | | Moderate (n=26) | | Severe (n=8) | | Very severe (n=4) | |
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Age "years"** | | | | | | | | | | | | | | | | |
| 20 > 30 years | 2 | 25.0 | 2 | 16.7 | 7 | 25.9 | 2 | 8.7 | 8 | 25.0 | 4 | 15.4 | 0 | 0.0 | 1 | 25.0 |
| 31 > 49 years | 2 | 25.0 | 1 | 8.3 | 3 | 11.1 | 5 | 21.7 | 4 | 12.5 | 4 | 15.4 | 3 | 37.5 | 0 | 0.0 |
| 50 > 60 years | 4 | 50.0 | 9 | 75.0 | 17 | 63.0 | 16 | 59.3 | 20 | 62.5 | 18 | 69.2 | 5 | 62.5 | 3 | 37.5 |
| **Chi-square test** | 6.682 | | | | | | | | 6.327 | | | | | | | |
| **p-value** | 0.670 | | | | | | | | 0.707 | | | | | | | |
| **Gender** | | | | | | | | | | | | | | | | |
| Male | 6 | 75.0 | 8 | 66.7 | 13 | 48.1 | 16 | 69.6 | 22 | 68.8 | 13 | 50.0 | 7 | 87.5 | 1 | 25.0 |
| Female | 2 | 25.0 | 4 | 33.3 | 14 | 51.9 | 7 | 30.4 | 10 | 31.3 | 13 | 50.0 | 1 | 12.5 | 3 | 75.0 |
| **Chi-square test** | 3.413 | | | | | | | | 6.693 | | | | | | | |
| **p-value** | 0.332 | | | | | | | | 0.082 | | | | | | | |
| **Marital status** | | | | | | | | | | | | | | | | |
| Married | 5 | 62.5 | 8 | 66.7 | 15 | 55.6 | 16 | 69.6 | 22 | 68.8 | 14 | 53.8 | 6 | 75.0 | 2 | 50.0 |
| Un married | 3 | 37.5 | 4 | 33.3 | 12 | 44.4 | 7 | 30.4 | 10 | 31.3 | 12 | 46.2 | 2 | 25.0 | 2 | 50.0 |
| **Chi-square test** | 1.135 | | | | | | | | 2.169 | | | | | | | |
| **p-value** | 0.769 | | | | | | | | 0.538 | | | | | | | |
| **Educational level** | | | | | | | | | | | | | | | | |
| Read & write | 2 | 25.0 | 2 | 16.7 | 7 | 25.9 | 4 | 17.4 | 2 | 6.3 | 10 | 38.5 | 2 | 25.0 | 1 | 25.0 |
| Not read & write | 0 | 0.0 | 5 | 41.7 | 12 | 44.4 | 9 | 39.1 | 7 | 21.9 | 13 | 50.0 | 4 | 50.0 | 2 | 50.0 |
| Secondary education | 3 | 37.5 | 4 | 33.3 | 6 | 22.2 | 6 | 26.1 | 15 | 46.9 | 2 | 7.7 | 1 | 12.5 | 1 | 25.0 |
| University education | 3 | 37.5 | 1 | 8.3 | 2 | 7.4 | 4 | 17.4 | 8 | 25.0 | 1 | 3.8 | 1 | 12.5 | 0 | 0.0 |
| **Chi-square test** | 9.155 | | | | | | | | 24.729 | | | | | | | |
| **p-value** | 0.423 | | | | | | | | <0.001** | | | | | | | |
| **Occupation** | | | | | | | | | | | | | | | | |
| Work | 5 | 62.5 | 5 | 41.7 | 6 | 22.2 | 12 | 52.2 | 13 | 40.6 | 9 | 34.6 | 4 | 50.0 | 2 | 50.0 |
| Not work | 3 | 37.5 | 7 | 58.3 | 21 | 77.8 | 11 | 47.8 | 19 | 59.4 | 17 | 65.4 | 4 | 50.0 | 2 | 50.0 |
| **Chi-square test** | 6.677 | | | | | | | | 0.819 | | | | | | | |
| **p-value** | 0.083 | | | | | | | | 0.845 | | | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Smoking** | | | | | | | | | | | | | | | | |
| Yes | 6 | 75.0 | 6 | 50.0 | 6 | 22.2 | 12 | 52.2 | 2 | 6.3 | 22 | 84.6 | 3 | 37.5 | 3 | 75.0 |
| No | 2 | 25.0 | 6 | 50.0 | 21 | 77.8 | 11 | 47.8 | 30 | 93.8 | 4 | 15.4 | 5 | 62.5 | 1 | 25.0 |
| **Chi-square test** | 5.135 | | | | | | | | 37.804 | | | | | | | |
| **p-value** | 0.128 | | | | | | | | <0.001** | | | | | | | |

p-value>0.05 is insignificant; *p-value <0.05 is significant; **p-value <0.001 is highly significant

**Table (25)** Illustrates that there is a highly statistically significant relation between the studied patients' level of Institutes of Health Stroke Scale (NIHSS), educational level, and smoking post-nursing intervention program with a p-value <0.001.

**Table (7): Relation between levels of studied patients of Barthel index of activities of daily living according to their socio-demographic data (N=70).**

| Socio-demographic data | Pre nursing intervention Program | | | | | | Post nursing intervention Program | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Severely disabled (dependent) (n=40) | | Moderately disabled (interdependent) (n=23) | | Independent (n=7) | | Severely disabled (dependent) (n=8) | | Moderately disabled (interdependent) (n=19) | | Independent (n=43) | |
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| **Age "years"** | | | | | | | | | | | | |
| 20 > 30 years | 11 | 27.5 | 1 | 4.3 | 1 | 14.3 | 2 | 25.0 | 4 | 21.1 | 7 | 16.3 |
| 31 > 49 years | 4 | 10.0 | 6 | 26.1 | 1 | 14.3 | 2 | 25.0 | 2 | 10.5 | 7 | 16.3 |
| 50 > 60 years | 25 | 62.5 | 16 | 69.6 | 5 | 71.4 | 4 | 50.0 | 13 | 68.4 | 29 | 67.4 |
| **Chi-square test** | 8.35 | | | | | | 1.787 | | | | | |
| **p-value** | 0.214 | | | | | | 0.938 | | | | | |
| **Gender** | | | | | | | | | | | | |
| Male | 26 | 65.0 | 13 | 56.5 | 4 | 57.1 | 6 | 75.0 | 14 | 73.7 | 23 | 53.5 |
| Female | 14 | 35.0 | 10 | 43.5 | 3 | 42.9 | 2 | 25.0 | 5 | 26.3 | 20 | 46.5 |
| **Chi-square test** | 0.503 | | | | | | 2.971 | | | | | |
| **p-value** | 0.778 | | | | | | 0.226 | | | | | |
| **Marital status** | | | | | | | | | | | | |
| Married | 26 | 65.0 | 13 | 56.5 | 5 | 71.4 | 5 | 62.5 | 12 | 63.2 | 27 | 62.8 |
| Un married | 14 | 35.0 | 10 | 43.5 | 2 | 28.6 | 3 | 37.5 | 7 | 36.8 | 16 | 37.2 |
| **Chi-square test** | 0.694 | | | | | | 0.001 | | | | | |
| **p-value** | 0.707 | | | | | | 0.999 | | | | | |
| **Educational level** | | | | | | | | | | | | |
| Read & write | 9 | 22.5 | 5 | 21.7 | 1 | 14.3 | 5 | 62.5 | 8 | 42.1 | 2 | 4.7 |
| Not read & write | 13 | 32.5 | 11 | 47.8 | 2 | 28.6 | 2 | 25.0 | 9 | 47.4 | 15 | 34.9 |
| Secondary education | 13 | 32.5 | 4 | 17.4 | 2 | 28.6 | 1 | 12.5 | 2 | 10.5 | 16 | 37.2 |
| University education | 5 | 12.5 | 3 | 13.0 | 2 | 28.6 | 0 | 0.0 | 0 | 0.0 | 10 | 23.3 |
| **Chi-square test** | 3.615 | | | | | | 27.097 | | | | | |
| **p-value** | 0.729 | | | | | | <0.001** | | | | | |
| **Occupation** | | | | | | | | | | | | |
| Work | 15 | 37.5 | 9 | 39.1 | 4 | 57.1 | 5 | 62.5 | 7 | 36.8 | 16 | 37.2 |
| Not work | 25 | 62.5 | 14 | 60.9 | 3 | 42.9 | 3 | 37.5 | 12 | 63.2 | 27 | 62.8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Chi-square test** | 0.969 | | | | | | 1.906 | | | | | |
| **p-value** | 0.616 | | | | | | 0.386 | | | | | |
| **Smoking** | | | | | | | | | | | | |
| Yes | 18 | 45.0 | 8 | 34.8 | 4 | 57.1 | 7 | 87.5 | 18 | 94.7 | 5 | 11.6 |
| No | 22 | 55.0 | 15 | 65.2 | 3 | 42.9 | 1 | 12.5 | 1 | 5.3 | 38 | 88.4 |
| **Chi-square test** | 1.271 | | | | | | 44.516 | | | | | |
| **p-value** | 0.530 | | | | | | <0.001** | | | | | |

p-value>0.05 is insignificant; *p-value <0.05 is significant; **p-value <0.001 is highly significant

**Table (7):** Illustrates that there is a highly statistically significant relation between the studied patients' level of Barthel index activities of daily living, educational level, and smoking post-nursing intervention program with p-value <0.001.

**Table (8): Correlation matrix between total score of Stroke Specific Quality of Life Scale (SS-QOL), National Institutes of Health Stroke Scale (NIHSS), and Barthel Index of Activities of Daily Living at post-nursing intervention program (n=70).**

| | | Stroke Specific Quality of Life Scale (SS-QOL) | National Institutes of Health Stroke Scale (NIHSS) | Barthel Index of Activities of Daily Living |
|---|---|---|---|---|
| **Stroke Specific Quality of Life Scale (SS-QOL)** | r-value | | 0.577 | 0.470 |
| | p-value | | <0.001** | 0.005* |
| **National Institutes of Health Stroke Scale (NIHSS)** | r-value | 0.577 | | 0.747 |
| | p-value | <0.001** | | <0.001** |
| **Barthel Index ofk Activities of Daily Living** | r-value | 0.470 | 0.747 | |
| | p-value | 0.005* | <0.001** | |

r-Pearson Correlation Coefficient; p-value >0.05 is insignificant; *p-value <0.05 is significant; **p-value <0.001 is highly significance

**Table (8):** Shows that there is a positive correlation between the specific Quality of Life Scale (SS-QOL), the National Institutes of Health Stroke Scale (NIHSS), and the Barthel Index of Activities of Daily Living at post-nursing intervention program of the studied patients, also there is a highly statistically significant relation with p-value <0.001

## Discussion:-

Stroke is an important acute and disabling condition worldwide, and the management of stroke patients often requires large amounts of time and prodigious monetary and social resources. Physical and functional impairment following stroke are considered the most challenging for these patients. Thereforethe present study was carried out aiming toThe study aimed to evaluate the Effect of Nursing Intervention on The Physical and Functional Abilities of Patients with recent Stroke.Regarding socio-demographic characteristics the present study examined reveal that the majority were middle-aged, predominantly male, and mostly married. A considerable proportion of participants demonstrated low educational attainment, with the majority unemployed and more than half non-smokers. This overview provides a comprehensive understanding of the socioeconomic and health-related profile of the sample, which is essential for interpreting the outcomes of the nursing intervention program.The predominance of middle-aged patients, with nearly two-thirds aged between 50 and 60 years, aligns with El-Sayed (2022), in “Demographic Predictors of Stroke Incidence in Middle-Aged Adults”, who reported that this age group represents the largest proportion among recent stroke survivors.

Similarly,This finding is of special concern where morethanthehalfofthesubjectsweremalesis consistent with Zhang et al. (2021), whose dissertation “Gender-Related Risk Factors in Acute Stroke Patients” highlighted that men are at higher risk of stroke due to behavioral and vascular factors. Regarding marital status, majority of participants were married, agree with Ahmed & Khalil (2020) in “Family Support and Stroke Recovery Outcomes”, who found that married patients often rely on spousal support during rehabilitation.Regarding educational background, the

current study revealed that half of the patients had low educational attainment (illiterate or able to read and write only), agree with by Mostafa (2019) in "Education Level and Stroke Awareness in Egyptian Patients", which indicated that lower education is common among stroke populations. Furthermore, the majority of participants were unemployed, consistent with Gad (2020) in "Socioeconomic Status and Stroke Outcomes", who highlighted unemployment as frequent among stroke survivors. Regarding Smoking more than half of the participants were non-smokers. This finding aligns with Nour (2021) in "Risk Behavior Profiles Among Non-Smoking Stroke Patients", who reported low smoking prevalence in certain stroke cohorts. However, Regarding the current medical history, all of the studied patients were diagnosed with recent stroke. In relation to past medical history, approximately one third of the patients had diabetes mellitus, whereas a minority had hypertension.

Researcher point of view, this finding can be scientifically explained by the cumulative vascular damage associated with chronic conditions such as diabetes mellitus and hypertension, which increase susceptibility to cerebrovascular events and, consequently, are frequently documented in the medical history of patients with recent stroke. The current study is a agree with Feigin et al. (2021) in the study entitled "Global, Regional, and National Burden of Stroke and Its Risk Factors". reported that hypertension and diabetes mellitus remain among the most prevalent chronic comorbidities in patients with recent stroke and represent major contributors to the global burden of cerebrovascular disease.The present study demonstrated a statistically significant improvement in neurological status among the studied patients following the nursing intervention program. At baseline, most patients presented with severe to very severe neurological deficits, while a small proportion exhibited mild impairment. Following the intervention, a clear improvement in NIHSS severity distribution was observed. By discharge, the majority of patients were classified within the mild to moderate categories, accompanied by a marked reduction in severe and very severe neurological deficits. This shift in neurological status was highly statistically significant. Indicating the effectiveness of the nursing intervention program in improving neurological outcomes among recent stroke patients.The present study is consistent with Xue et al. (2023) in the study entitled Effects of predictive nursing intervention on cognitive impairment and neurological function in ischemic stroke patients.

The authors reported a statistically significant reduction in NIHSS severity levels following nursing intervention, with a decrease in severe neurological deficits and a corresponding increase in mild and moderate deficits at discharge. Similarity consistent with Chen et al. (2024) in "Effect of comprehensive nursing on quality of life and swallowing function in patients with ischemic stroke".found significant improvement in neurological status as measured by NIHSS after comprehensive nursing care, including a reduction in severe impairment and an increase in mild neurological deficits. Regarding Activities of Daily Living. The present study demonstrated a marked improvement following the nursing intervention. Before the intervention, the majority of patients were severely de one-third was moderately dependent, and a small minority was independent. After the nursing intervention, the proportion of fully independent patients became the majority, those moderately dependent decreased to one-quarter, and the severely dependent group was reduced to a minority, demonstrating a clear improvement in functional independence. This reflects a clear enhancement in functional autonomy, indicating that the nursing intervention effectively promoted a transition from dependency toward independence in daily activities.The present findings are consistent with previous research As demonstrated in Meena et al. (2025), Level of functional independence in post-stroke patients: A prospective observational study, structured rehabilitation resulted in a notable increase in Barthel Index scores and a significant reduction in patients classified as totally dependent Regarding Function and physical abilities of the studied patient (Quality of Life).The Current study demonstrated that the nursing intervention program resulted in statistically significant improvements across all domains of stroke-specific quality of life, including energy, family roles, language, mobility, mood, personality, self-care, social roles, thinking, upper extremity function, vision, and work/productivity.

Before the intervention, the majority of stroke patients experienced marked difficulties across most quality-of-life domains. Following implementation of the nursing intervention program, there was a clear reduction in reported difficulties, with a corresponding increase in patients reporting minimal or no impairment across all domains. These improvements were statistically significant, confirming the effectiveness of the nursing intervention program in enhancing overall stroke-specific quality of life. The current findings are consistent with Pinkney, et al. (2021)intitled "Multidisciplinary Rehabilitation and Quality of Life after Stroke: A Systematic Review." This study concluded that nursing-led and multidisciplinary rehabilitation programs significantly improved overall stroke-specific quality of life, particularly in domains related to energy, mobility, mood, self-care, social roles, and work productivity. Similarity These findings are consistent with Ali (2013) in "Effect of Nursing Care Strategy on the Functional and Physical Abilities of Patients Following Stroke", which found that application of individualized

nursing care strategies significantly improved physical and functional quality-of-life outcomes among stroke patients at follow up compared to routine care.The current study revealed that the majority of patients experienced poor quality of life, about one third reported an average level, and a minority had good quality of life. Following the intervention, the majority of patients achieved good quality of life, while about one third showed an average level and only a minority remained with poor quality of life.

This pattern persisted at the three-month follow-up, where the majority continued to report good quality of life, around one quarter to one third had an average level, and a small minority experienced poor quality of life. From the researcher's point of view, the improvement in stroke-specific quality of life is mainly due to the nursing intervention program, which helped patients better understand their condition Regarding level of stroke-specific quality of life scale. The current study revealed that the majority of patients experienced poor quality of life, about one third reported an average level, and a minority had good quality of life. Following the intervention, the majority of patients achieved good quality of life, while about one third showed an average level and only a minority remained with poor quality of life. This pattern persisted at the three-month follow-up, where the majority continued to report good quality of life, around one quarter to one third had an average level, and a small minority experienced poor quality of life. From the researcher's point of view, the improvement in stroke-specific quality of life is mainly due to the nursing intervention program, which helped patients better understand their condition and cope more effectively with post-stroke limitations.The current study agrees with Safdar et al. (2023) in the study entitled "Level of Quality of Life among Post Stroke Patients: A Cross-Sectional Survey", which reported that the majority of post-stroke patients had poor quality of life, a smaller proportion had fair quality of life, and only a minority demonstrated good quality of life using the Stroke-Specific Quality of Life Scale (SS-QOL). In addition agrees with Kim et al. (2022) in the study entitled "Impact of Rehabilitation on Quality of Life in Stroke Patients", which showed that stroke survivors experienced significant improvement in stroke-specific quality of life following rehabilitation interventions, with a shift from poor to good quality of life levels after intervention and during follow-up.Regarding relation between levels of studied patients of stroke-specific quality of life scale according to their socio-demographic data.

The findings of present study revealed a highly statistically significant association ($p < 0.001$) between the Stroke-Specific Quality of Life Scale (SS-QOL) scores of the studied patients and their socio-demographic characteristics, particularly educational level and smoking status. This indicates that social determinants play a critical role in shaping post-stroke quality of life and can influence the effectiveness of nursing intervention programs.The findings of present study agree with Sun et al. (2023), in "Socioeconomic status and health-related quality of life after stroke: a systematic review and meta-analysis", reported that stroke survivors with lower socioeconomic status—primarily lower educational attainment—had significantly poorer HRQoLoutcomes.Regardingrelation between levels of studied patients of national institutes of health stroke scale according to their socio-demographic data The present study demonstrated that there is a highly statistically significant relation between the studied patients' level of Institutes of Health Stroke Scale (NIHSS), educational level, and smoking post-nursing intervention program with a p-value <0.001. this result may be related to the patients' ability to understand and follow nursing instructions, which is often higher among educated patients, in addition to the negative impact of smoking on neurological recovery. Patients who were non-smokers appeared to respond better to the nursing intervention, which was reflected in lower NIHSS scores after the program.The current study agree with Li et al. (2020) in entitled "Education Level and Long-Term Mortality, Recurrent Stroke, and Cardiovascular Events in Patients With Ischemic Stroke" reported a statistically significant association between lower educational level and higher stroke severity measured by the National Institutes of Health Stroke Scale (NIHSS).

Regarding relation between levels of studied patients of Barthel index of activities of daily living according to their socio-demographic data.The present study demonstrated that there is a highly statistically significant relation between the studied patients' level of Barthel index activities of daily living, educational level, and smoking post-nursing intervention program with p-value <0.001. From researcher point of view, the educational level affects how well patients understand and follow nursing instructions and participate in rehabilitation, which is reflected in their ability to perform activities of daily living. On the other hand, smoking has a negative effect on physical recovery and stamina, reducing patients' engagement in self-care and rehabilitation activities.The current study agree with Addo et al. (2020), entitled "Socioeconomic Status and Functional Outcomes After Stroke: A Systematic Review", reported that lower educational attainment was significantly associated with poorer functional outcomes following stroke. Patients with lower levels of education demonstrated reduced independence in activities of daily living, as reflected by functional outcome measures such as the Barthel Index.

Regarding Correlation. The present study revealed that there is high statistically significant positive correlation between the Stroke-Specific Quality of Life Scale, the National Institutes of Health Stroke Scale (NIHSS), and the Barthel Index at the post–nursing intervention phase indicates that improvements in neurological status and functional independence occurred simultaneously with improvements in quality of life ($p < 0.001$). This relationship related to nursing interventions focused on neurological monitoring, early mobilization, and support of activities of daily living, which collectively enhance patients' functional abilities and self-care capacity. The current study is consistent with the findings of Ramos-Lima et al. (2018) in the study entitled "Quality of Life after Stroke: Impact of Clinical and Sociodemographic Factors". reported a statistically significant association between stroke severity, measured by the National Institutes of Health Stroke Scale, and stroke-specific quality of life (SS-QOL), where higher NIHSS scores were associated with lower SS-QOL scores ($p < 0.001$).

## Conclusion:-

There are highly statistically significant relation between the Stroke-Specific Quality of Life Scale scores of the studied patients and their socio-demographic characteristics, particularly educational level and smoking status. Also there is a highly statistically significant relation between the studied patients' level of Institutes of Health Stroke Scale ,educational level, and smoking. Additionally there were highly statistically significant relation between the studied patients' level of Barthel index activities of daily living, educational level, and smoking. There are high statistically significant positive correlation between the Stroke-Specific Quality of Life Scale, the National Institutes of Health Stroke Scale, and the Barthel Index at the post–nursing intervention phase indicates that improvements in neurological status and improvements in physical and functional

## Recommendations:-

- Implement structured nursing intervention programs for recent stroke patients in emergency departments and stroke units, as they have a significant positive effect on improving physical and functional abilities.
- Provide continuous education and training programs for nurses focusing on updated stroke care guidelines, early rehabilitation, and functional recovery strategies.
- Integrate patient and family education programs into the nursing care plan to enhance self-care abilities and promote independence after hospital discharge.
- Develop standardized nursing protocols and guidelines that clearly outline nursing interventions aimed at improving physical and functional outcomes among recent stroke patients.

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