ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
Vol. 4, Issue 11, Month: September 2025, Available at: https://hijnrp.journals.ekb.eg/

Biopsychosocial Needs and Quality of Life for Patients with Hemiplegia

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ABSTRACT

Background: Hemiplegia is defined as the paralysis of one side of the body. It is caused by disease or injury to the opposite hemisphere of the brain. People with hemiplegia often display difficulties in mobility, cardiopulmonary function, and sensory functioning. These difficulties affect their activities in daily living and thus have a negative impact on the quality of their life. **Aim of the study:** This study aimed to assess the biopsychosocial needs and quality of life for patients with hemiplegia. **Research design:** A descriptive exploratory research design was utilized to achieve the aim of the present study. **Setting:** This study conducted at special outpatient clinic at Fayoum university hospital. **Subject:** A Purposive sample includes 100 patients. **Tools of data collection**: **Tool I:** Patient's assessment tool. **Tool II:** Biopsychosocial needs assessment, (Physical needs assessment include assessment of the daily living activities using Barthel index scale, Psychological needs assessment and Social needs assessment). **Tool III:** Stroke Specific Quality of Life Scale (SS-QOL) questionnaire. **Results:** The results of this study revealed that 50% of patients had sever level of dependency while 70% of patients had poor quality of life. **Conclusion:** It was concluded that there was statistical significance relation between total biopsychosocial needs of patients with hemiplegia and their quality of life. **Recommendations:** Regular follow up for patients with hemiplegia to evaluate their health conditions and to detect complications early.

Keywords: *Biopsychosocial needs, Hemiplegia, Quality of Life.*

Introduction:

Based on **Xiong et al., (2025); Jambi et al., (2024)** Hemiplegia is defined as a severe neurological condition characterized by paralysis on one side of the body, most commonly caused by stroke. It leads to major impairments in movement, sensation, and daily functioning. Other causes include brain and spinal injuries or neurological diseases ***(Moon, 2022).*** Globally, hemiplegia contributes significantly to long-term disability, with millions affected worldwide ***World Health Organization, (2023).***

According to ***Tawfik (2022),*** it is essential to address the three biopsychosocial needs biological, psychological, and social as an integrated whole. Empirical literature suggests that patients' perceptions of their health, the perceived threat of the disease, and barriers within their social or cultural environment significantly influence their likelihood of engaging in health-promoting or treatment-related behaviors, such as adhering to medication regimens, participating in physical activity, and maintaining proper nutrition.

As indicated by ***Tan (2024),*** individuals with hemiplegia often experience substantial changes in their quality of life, affecting their physical, emotional, and social well-being. The degree of these changes is influenced by the severity of the condition, the individual's overall health status, and the availability of supportive care and resources.

According to ***Espernberger et al. (2021),*** the quality of life for individuals with hemiplegia is shaped by a complex interplay of physical, emotional, and social factors. Addressing these dimensions through comprehensive care, access to supportive resources, and the implementation of empowering strategies can significantly enhance overall well-being. With appropriate support, individuals with hemiplegia can optimize their quality of life and work toward achieving their full potential.

Significance of the Study

According to the ***World Health Organization (2020),*** over one billion people globally live with some form of disability, with an estimated 110 to 190 million adults experiencing significant difficulties in functioning. Hemiplegia is among the more common disabling conditions. In Egypt, the national census reported that approximately 1.4 million Egyptians live with disabilities. A biopsychosocial assessment provides a comprehensive evaluation of an individual's physical, psychological, and social needs. Conducting such an assessment is essential for identifying potential challenges faced by patients with hemiplegia, guiding the development of effective healthcare plans, and supporting recovery. Addressing the biopsychosocial needs of these patients is therefore a critical step in ensuring holistic and patient-centered care.

Aim of the study:

This study aimed to assess the biopsychosocial needs and quality of life for patients with hemiplegia through:

1- Assessment of biopsychosocial needs for adult patient suffering from hemiplegia.

2- Assessment of quality of life among adult patients suffering from hemiplegia.

Research questions:

1-What are biopsychosocial needs of patients with hemiplegia?

2-What is the level of quality of life for patients with hemiplegia?

3-What is the relationship between patients' needs and their quality of life regarding hemiplegia?

Subjects and methods:

Research design:

A descriptive exploratory research deign was utilized to conduct the study**.** It’s a methodological approach that integrates both exploratory and descriptive elements to systematically investigate phenomena where limited prior knowledge exists. It aims to explore new insights, generate preliminary understanding, and provide an accurate description of variables, populations, or conditions as they naturally occur, without manipulating the study environment. This design often serves as a foundational phase in research, guiding the development of hypotheses and informing future, more structured studies ***(Olawale et al., 2023).***

Setting:

The current study was carried out in Neurology Outpatient Clinic at El Fayoum university hospital.

Subject:

Purposive sample include 100 patients at neurology unit and outpatient clinic in the previous mentioned settings within period of six months and met the inclusion criteria were recruited in the study sample.

So, the sample size was calculated by adjusting the power of the test to 80% and the confidence interval to 95% with margin of error accepted adjusted to 5% and a known total population of 100 patients using the following equation:

Type I error (α) = 0.05

Type II error (B) = 0.2

With power of test 0.80

$$\boxed{n = \frac{N \times p(1-p)}{\left[\left[N - 1 \times \left(d^2 \div z^2\right)\right] + p(1-p)\right]}}$$

Nxp(1-p)	=(240*(0.20*(1-0.20)))/
N-1	=(240-1)*
d2/z2	=0.0025 / 3.8416+
p(1-p)	=0.20*(1-0.20)
N	=100

N= Community size

z= Class standard corresponding to the level of significance equal to 0.95 and 1.96

d= The error rate is equal to 0.05

p= Ratio provides a neutral property = 0.20

Inclusion criteria include the following:

Adult patients confirmed diagnosis with permanent hemiplegia, Patients were from both genders (male & female) and free from psychiatric disorders.

Exclusion criteria:

Patients who have temporary hemiplegia or still under diagnosis, Patients who have mental illness and Patients who are unconscious.

Tool of data collection and techniques:

Data will be collected using the following tools:

Tool I: Patient’s assessment tool: It was designed by the investigator to assess needs of patients with hemiplegia based on related and recent literature review.

It includes the following parts:

Part (1): concerned with socio-demographic data include (age, gender, marital status, level of education, occupation, family member, residency, home ventilation and monthly income). It is adapted from **Luitel, et al., (2019)**.

Part (2): concerned with past medical history of patients under study (history chronic illness, pervious surgery, previous hospitalization, smoking, family history of neurological disorders, present medical history, receiving pervious information about the disease problem, duration of hemiplegia, causes of hemiplegia and receiving physiotherapy sessions). It is adapted from **Sposato, et al. (2022); McGlinchey, et al., (2019).**

Tool II: Biopsychosocial needs assessment:

It includes three categories of patients' needs including:

Part 1: Assessment of the daily living activities using barthel index scale. It is a standardized tool to assess functional status as a measurement of the patient's ability to perform activities of daily living independently; it is adapted from **Liu and Unick, (2015).**

Barthel Index Scale (BI) include ten variables describing activities of daily living and mobility are scored, a higher number being a reflection of greater ability to function independently following hospital discharge. Time taken and physical assistance required to perform each item are used in determining the assigned value of each item. The Barthel Index measures the degree of assistance required by an individual on 10 items of mobility and self-care (ADL).

Total scores of 10 items are classified as following;

- 0-20 indicates "total" dependency.
- 21-60 indicate "severe" dependency.
- 61-90 indicate "moderate" dependency.
- 91-99 indicates "slight" dependency.

Part 2: Psychological needs assessment:

It includes assessment of anxiety, depression and stress levels using depression and anxiety stress scale scoring (DASS) among studied patients; it is standardized scale, was adopted from **Gomez, (2013)** and modified based on **(Coker, et al.., 2018).** Each individual is required to indicate the presence of a symptom. Each item is scored from 0 to 3.

DASS scoring system:

The scale to which each item belongs is indicated by the letter D (Depression), A (Anxiety), S (Stress). For each scale (D & A and S) sum the scores for identified items.

The total score of each item was categorized as following:

	Depression	Anxiety	Stress
Normal	0-9	0-6	0-10
Mild	10-12	7-9	11-18
Moderate	13-20	10-14	19-26
Severe	21-42	15-42	26-42

Part 3: Social needs assessment according to social dysfunction rating scale

It was used to assess social needs among patients under study by using social dysfunction rating scale; it is a standardized scale adopted from **(Kaur, etal., 2019).** It is a 6 point likert scale ranged from not present to severe, it consists of 21 statement classified under three main readings, self-confidence (4 statements), interpersonal relations system (6 statements), and performance system (11 statements). Translation and retranslation in to Arabic language was done.

Scoring system:

Each item was responds from 0-3, classified as the following:

0: severe
1: moderate
2: mild
3: no/normal

The total score (100) is categorized as following:

0- <40: high level of social dysfunction.
40- <60: moderate level of social dysfunction.
60- <80: mild level of social dysfunction.
80- <100: no social dysfunction.

Tool (III): Stroke Specific Quality of Life Scale (SS-QOL) questionnaire:

The Stroke Specific Quality Of Life scale (SS-QOL) is a patient-centered outcome measure intended to provide an assessment of health-related quality of life specific to patients with hemiplegia. Patients must respond to each question of the SS-QOL. It is a self-report scale containing 49 items in 12 domains. The total score ranges from 49 to 245, with higher scores indicating a better QOL, this scale was adapted from (**Safdar, et al., 2023; Williams, et al., 1999).**

***Based on (Omar, & Hassan, 2018)* The score was categorized in to:**

- Good quality of life: ≥ 70%
- Poor quality of life: <70

The total score (245) is categorized as following:

49-122 = Poor quality of life
123-163 = Fair quality of life**.**
164- 204= Very good quality of life.
205- 245 = Excellent quality of life**.**

Content validity:

The validity of the developed tools was tested by a panel of 5 experts from medical surgical nursing department, faculty of nursing, Helwan University **(Approval code:36).** The experts reviewed the tools for clarity, relevance, comprehensiveness, understanding, applicability and easiness for administration. According to their suggestions, some modifications were done (where some items and questions were omitted and others were added based on recommendation from the experts).

Reliability:

Reliability of the tool was tested to determine the extent to which the questionnaire items are related to each other. The Cronbach’s alpha model, which is a model of internal consistency, was used in the analysis. Statistical equation of Cronbach's alpha reliability coefficient normally ranges between 0 and 1. Higher values of Cronbach's alpha (more than 0.7) denote acceptable reliability

Ethical consideration:

An official permission was obtained from the administrative authority of the selected setting for then current study. The researcher obtained consent from the studied patients, explaining the purpose and nature of the study, stating the possibility to withdraw at any time. Confidentiality of data assured by using codes to identify participants.

Pilot study:

A Pilot study was carried out with 10% (10 patients) of the sample under study to test the applicability, clarity and efficiency of the tools, then the tools modified according to the results of the pilot study. **Modifications included:** rephrasing and rearrangement of some questions. After modification, the final form of the tools was developed. Patients who shared in pilot study excluded from the study sample.

Field Work:

- Study was conducted within six months from March 2024 to the end of Augest 2024.
- Before starting in data collection; the purpose of the study was simply explained to the patients and their families who agree to participate in the study prior to any data collection.
- An oral informed consent was obtained from each participant prior to data collection
- the researcher visited the selected setting regularly, two days per week, select patient according to inclusion criteria
- Each participant was individually interviewed using a structured interview schedule to assess their needs, and quality of life. The interviews were conducted during outpatient visits at the neurology clinic in a quiet and private setting to ensure comfort and confidentiality. Data collection was carried out using three validated tools. range of cases about 1 to 3 per day from the two days of working field to gather data using the previously mentioned tools.
- Each interview session lasted approximately **45 to 60 minutes**, depending on the patient's condition and ability to respond. The researcher explained the purpose of the study and obtained informed consent before proceeding. Participants were guided through the questions, and assistance was provided as needed to ensure accurate and complete responses.

Statistical Design:

Data were extracted from the interview questionnaire and computerized in IBM SPSS statistic for windows, version 20.0. Armonk, NY: IBM Crop. Data analyzed was done using a software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variable, and mean and standard deviations for quantitative variables. The statistical analysis was done using the mean, standard deviation, unpaired student t-test and ANOVA test. The **P-value< 0.05** considered as statistical significant.

Results:

Table 1: Distribution of patient Socio-demographic data for the study group (n=100).

Variable	Studied group (n= 100)	
Age group		
• 20 to less than 35	4	4
• From 35 to less than 55	26	26
• Equal to or more than 55	70	70
Mean ± SD	59.22±11.66	
Gender		
• Male	56	56
• Female	44	44

Table 1: (cont.,) Distribution of patient Socio-demographic data for the study group (N=100).

Variable	Studied group (n= 100)	
Place of residence		
• Urban	42	42
• Rural	58	58
Occupation		
• Don't work	84	84
• Official Job	16	16
Educational Level		
• Not read and write	24	24
• Basic education	26	26
• Intermediate education	28	28
• Highly education	22	22
Marital Status		
• Married	34	34
• Divorce	14	14
• Single	24	24
• Widow	28	28
Family member Numbers		
2 persons	18	18
3 persons	58	58
More than 3 persons	24	24

Table (1) Illustrates that, as regarding demographic characteristics, the mean age of the studied patients was 59.22 ± 11.66. **Concerning gender**, the table revealed that 56%males and 44% females. Regarding to Marital status, it was found that 34 % of the subject were married; with 58% of study group have 3 family members. Regarding the educational level 28% of study group were can intermediate educated, versus 22% studied patients had highly educated. For occupation, 84% were not working.

Table 2: Distribution of medical history for the study group (n=100).

Present medical history	**Study group (N=100)**	
	N	**%**
Knowing the disease, you suffered from		
• Yes	76	76
• No	24	24
The sources of knowledge about the disease		
• Doctor	40	40
• Doctor and Nurse	44	44
• Doctor and Internet	12	12
• Internet and TV	4	4
Symptoms suffering from it		
• Muscle weakness	10	10
• Feeling tingling	12	12
• Hypertension	0	0
• Muscle weakness and feeling tingling	28	28
• Muscle weakness and Hypertension	34	34
• Muscle weakness and Inability to close your eye	10	10
• Feeling tingling and Hypertension	6	6
Extremity associated with hemiplegia		
• Right upper and lower extremity.	42	42
• Left upper and lower extremity.	58	58
Symptom associated with hemiplegia		
• Difficult of speaking	4	4
• Dysphasia	4	4
• Inability to move unaffected extremity	16	16
• Difficult of breath	10	10
• Difficult of speaking- dysphasia	22	22
• Difficult of speaking& Inability to move unaffected extremity	16	16

Table (2) Illustrates that, as regarding present history, it was found that 76% of studied patients had received pervious information related to hemiplegia, 44% studied patients received information from doctor and nurse, the result showed that 34% of the study subjects suffered from muscle weakness and hypertension. The result showed that 58% of the studied patients suffer from paralysis in left upper and lower extremity.

Table 3: Distribution of past medical history and family history for the study group (n=100).

Past medical history	Study group (N=100)	
	N	%
Past medical History		
- Hypertension	12	12
- Stroke	10	10
- Brain inflammations	4	4
- Diabetes mellitus	4	4
- Respiratory diseases	10	10
- Brain injuries	6	6
Smoking		
- Yes	44	44
- No	56	56
Family history		
- Stroke	40	40
- Brain injuries	12	12
- Brain inflammations	8	8
- Hemiplegia / quadriplegia	10	10

Table (3) Illustrates that, past medical history, it was found that 36% of the studied patients had hypertension and stroke. Regarding pervious surgery, the result showed that 68% of the studied patients had pervious surgery. In addition, 90% of patients had pervious hospitalization related to neurology disorder. Regarding smoking, this study showed that 44% of the study subjects were smokers. While 40% studied patients had a family history of stroke and also 12% of them had a family history of brain injury.

As illustrated in Fig. 1, was found that 4% of patients had moderate dependency, 70% of them had severe dependency, while 26% studied patients had total dependency.

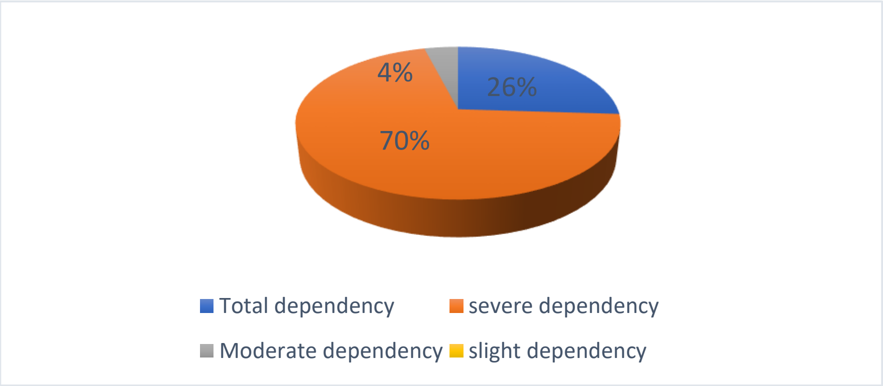

Fig. 1: Distribution of patients under study according to their total performance of daily living activities using Barthel index scale (n=100).

As illustrated in Fig. 2, 68% of patients under study had a moderate degree of depression and 20% studied patients had a mild degree of depression. Regarding anxiety level, 44% of patients under study had moderate anxiety degree, while 28% had severe anxiety and only 8% had normal degree. Regarding stress level, 74% had mild degree of stress, while 12% studied patients had moderate degree of stress.

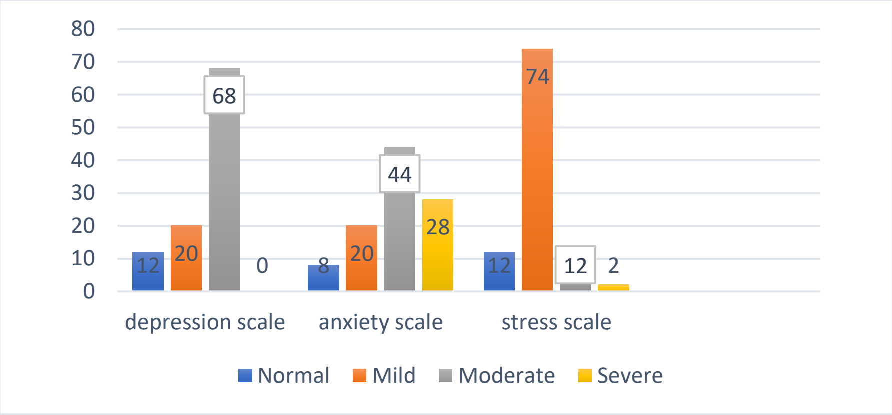

Fig. 2: Distribution of psychological needs among patients under study according to the DASS scale (n=100).

As illustrated in Fig. 3, 72% of patients under study had severe social dysfunction and 24% had moderate social dysfunction, while only 4% had mild social dysfunction.

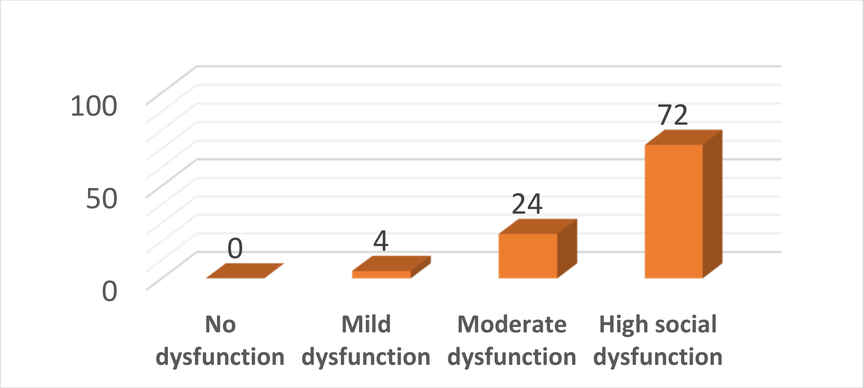

Fig.3: Distribution of patients under study according to their total social needs using social dysfunction scale (n=100).

As illustrated in Fig. 4, 50% of patients under study had poor quality of life and 40% had fair quality of life, while only 10% had very good quality of life.

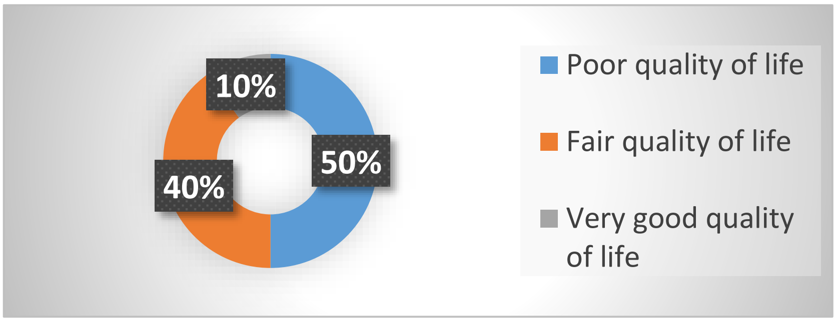

Fig. 4: Distribution of patients under study according to their total patient's Quality of Life (N=100).

Table 4: Relation between total patient's Quality of Life and demographic data

Items	Total patient's Quality of Life	
	R	P
Age group	-0.581	0.000*
Gender	-0.014	0.891
Place of residence	-0.052	0.606
Occupation	0.265	0.008
Educational Level	0.416	0.000*
Marital Status	-0.223	0.02*
Family member Numbers	-0.439	0.000*
House Ventilation	-0.276	0.005*
Monthly income enough for the treatment	-0.246	0.01*

Table 4, Illustrates that, there was a highly statistically significant relation between patients' total QOL, age, occupation, educational level, marital status, family member numbers, house ventilation, and monthly income with p-value= (≤ 0.001).

Table 5: Relation between total quality of life score and the mean score of physical, psychological, social needs of patients with hemiplegia (n= 100).

Items	Total patients quality of life	
	R	P
Total patient's physical needs	0.473	0.000*
Total patient's psychological needs	-0.623	0.000*
Total patient's social needs	-0.446	0.000*

Table 5, Illustrates that, there was a highly statistically significant relation between total needs and quality of life among patients with hemiplegia with p-value 0.001.

Discussion:

Hemiplegia is one of the more common disabling conditions. It is defined as the paralysis of one side of the body. It is caused by disease or injury to the opposite hemisphere of the brain. People with hemiplegia often display difficulties in mobility, cardiopulmonary function and sensory functioning. These difficulties affect their activities in daily living and thus have a negative impact on the quality of their life ***(Tawfik, et al., 2022).***

Socio-demographic characteristics of the patients under the study showed that, majority of patients under study their age group was equal or more than 60 years with mean age 59.22±11.66years, more than half of them were male. From the researcher point of view, this result may be due to the age-specific hemiplegia rates are higher in men as some reports found that women are less likely to go for in-hospital interventions and most differences disappear after age although functional outcomes and quality of life after hemiplegia are consistently poorer in women. This result is in congruent with **Wang, et al.., (2021)** in a study titled "Clinical efficacy of comprehensive nursing in patients with cerebral hemorrhagic hemiplegia" and reported that more than half of the study their sample aged ≥ 60 years old.

Regarding occupation and educational level, the result of this study revealed that one third of the patient under study had moderate educational level and majority of patients had no work or house wife. From the researcher point of view, this result may be due to that most patient suffer from motor impairments that obstructing the completion of tasks or their participating in some work although higher educational levels may experience better health outcomes and improved ability to manage their condition.

In the same context **Rutkowski, et al., (2021),** reported in a study titled" Post-stroke fatigue: a factor associated with inability to return to work in patients< 60 years—a 1-year follow-up" found that two third of their subjects were not return to work after stroke. Also, this finding was in consistent with **Drake, et al., (2022)** in their study entitled " The relationship of socio-demographic factors and patient attitudes to connected health technologies: a survey of stroke survivors" revealed that one quarter of patient unemployed because patients who have experienced a stroke often face significant challenges in their physical environment that can hinder their ability to work effectively.

As regards to the past medical history of patients under study, it was found that in this study, about more than one third of study group had hypertension and stroke and majority of patient had pervious hospitalization related to stroke and neurological disorder. From the researcher point of view, Stroke is a common cause of hospitalization due to the need for immediate medical attention to minimize brain damage and improve outcomes.

In the same context, **Li, et al., (2023)**, reported in a study titled " Prevalence, risk factor and outcome in middle-aged and elderly population affected by hemiplegic shoulder pain: An observational study" that the most patients under study suffered from stroke and shoulder pain. Also, **Nutakki, et al., (2021),** reported in a study titled " Risk factors and outcomes of hospitalized stroke patients in Lusaka, Zambia" that the most studied patients had hypertension, it is a major risk factor for stroke, significantly increasing the likelihood of ischemic and hemorrhagic stroke, and potentially leading to hemiplegia.

Regarding total score of daily living activities according to Barthel scale, the current study revealed that majority of studied patients were able to perform daily living activity with severe dependency, while less than one third of them had total dependency of activities of daily living. In addition, only four percent of the studied patients had moderate dependency. From researcher point of view, this result may be due to that the majority of patients with hemiplegia were physically impaired which hinder their ability to perform ADL.

Additionally, **Hormozi, et al.., (2019),** in their study titled "Iranian version of barthel index: validity and reliability in outpatients' elderly" in which they found that the majority of patients under study are at greater risk for physical dependence, also patients with high level of dependency may result in undesirable's outcome concerning their quality of life because they rely on help from other.

Regarding psychological needs assessment using DASS scale, findings of the present study revealed that most of patient under study had mild stress and moderate depression level. This result is consistent with **Almhdawi, et al., (2021),** in a study titled “Post-stroke depression, anxiety, and stress symptoms and their associated factors: a cross-sectional study" that there was evidence of depression and anxiety in patients with stroke. Also, **Yuliana, et al., (2023),** in a study titled “Associations among disability, depression, anxiety, stress, and quality of life between stroke survivors and their family caregivers” that one third of subject study had depression.

Regarding to the social needs assessment according to social dysfunction scale, the current study revealed that about one third of patients under study had moderate social dysfunction, while most of them had severe social dysfunction. From researcher point of view, this result may be due to the effect of their disease that limit their movement and hinder proper interaction with other community members.

This finding agree with **Zhou & Kulick, (2023),** who stated in a study about " Social support and depression among stroke patients: A topical review " that the findings showed that the most patient under study need social support to enhance their ability to reintegrate into daily life, connect with others, and access community resources, ultimately improving their social interactions and overall quality of life.

As regarding specific stroke quality of life, the findings of the present study revealed that there was half of patients under study had poor quality of life. From researcher point of view, Severe dependency in daily activities can significantly impact the quality of life for individuals with depression and social dysfunction. As dependency increases, quality of life often decreases, leading to reduced autonomy, increased stress, and decreased overall well-being. Effective interventions should focus on reducing dependency, treating depression, and enhancing social support to improve quality of life.

This finding in line with **Atigossou, et al., (2023),** who conducted "Association between post-stroke psychological disorders, activity limitations and health-related quality of life in chronic stroke survivors in Benin" the findings showed that post-stroke depression and anxiety negatively impact activities and health-related quality of life in chronic stroke survivors.

Regarding to correlation between patients’ demographic data and their quality of life, there was a highly statistically significant correlation between patients' total QOL, age, occupation and educational level, Higher educational attainment is associated with better quality of life. This might be due to improved health literacy, access to resources, and ability to navigate healthcare systems and stable occupations are linked to better quality of life. This could be related to financial stability, social support, and sense of purpose but older age is associated with lower quality of life. This might be due to age-related health decline, increased comorbidities, and reduced functional ability.

This finding in line with**, Bártlová et al., (2022).** who conduct a study of "Quality of life of post-stroke patients" the study revealed significant relationships between demographic factors and quality of life. Specifically, male respondents and those with higher education levels tended to report better quality of life. Occupational stability was also positively correlated with quality of life, with employees having higher scores compared to pensioners. Furthermore, quality of life scores decreased with increasing age, highlighting the need for targeted support for older adults. These findings underscore the importance of considering demographic factors in understanding and addressing quality of life among patients.

The present study findings indicated that, there was a statistical significant positive relation between physical need and quality of life of patients with hemiplegia, which indicated that the effective fulfillment of physical needs can help improve their overall quality of life and promote better health outcomes. Conversely, a negative relation exists between psychological needs and social dysfunction highlights the importance of addressing psychological needs to promote social functioning and overall quality of life. By prioritizing psychological needs, individuals can improve their social relationships, increase their sense of well-being, and enhance their overall quality of life.

This finding in line with**, Gandolfi, et al., (2021).** who conduct a study of " Health-related quality of life and psychological features in post-stroke patients with chronic pain: a cross-sectional study in the neuro-rehabilitation context of care. " the study revealed that effective meeting psychological and social needs leading to better quality of life for individuals affected by stroke.

Conclusion:

Based on the findings of this study, it can be concluded that the majority of patients under study had a severe level of dependency in performing activities of daily living, severe social dysfunction, and a mild level of stress. The study also showed that half of the patients had a poor quality of life. Moreover, a statistically significant relationship was found between the patients' total needs and their level of quality of life.

Recommendation

Based on the findings of the present study, the following recommendations are suggested:

Recommendations related to patients:

- Regular follow up for all patients with hemiplegia to evaluate their health conditions and to detect complications early.
- Simple booklet written in an Arabic language should be developed, for patients with hemiplegia and includes all needed information

Recommendations related to researchers:

- Replication of the study on a large probability sample selected from different geographical areas in Egypt is recommended to obtain more generalized data.
- Further research studies are needed to focus on studying factors affecting quality of life of patient with hemiplegia.

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