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"A Hospital based Cross-Sectional Study to Assess the Functional Independence and Quality of Life and Determinants among Stroke Survivals at Selected Neuro Centers of Bagalkot''

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KEYWORDS

Stroke

Functional independence

Quality of life

Upper limb functionality

Determining factors

ABSTRACT:

Background :- Functional independence and Quality of life are commonly problem among stroke patients, which usually impede in proper management of neurological center and also can create serious brain issues if not treated properly.

Method: - The Descriptive study design was adopted for the present study. The sample for the present study includes 50 stroke patients from neurological unit at selected Hospitals of Bagalkot. Qualitative research approach was used, descriptive design was used, data was collected from at selected neuro centre study includes 50 subjects, by using convenient sample technique data was collected. Structured quality of life and functional independence tool was used to collect the data. Data was analyzed using descriptive Statistics.

Result :- The Result Shows that neurological patient have 58% of mild to moderate level functional of independence and 60% having moderate level of quality of life. There is a statistically weak negative co-relation between functional of independence and quality of life among stroke patients. Indicating that there is a negative co-relation between functional of independence and quality of life among stroke patients.

Conclusion: The Result Shows that neurological patient have 58% of mild to moderate level functional of independence and 60% having moderate level of quality of life. There is a statistically weak negative co-relation between functional of independence and quality of life among stroke patients. Indicating that there is a negative co-relation between functional of independence and quality of life among stroke patients.

1. Introduction

According to the World Health Organization (WHO), a cerebrovascular accident (CVA) or stroke is defined as "a cerebrovascular disease with clinical signs of focal disorders of brain function, that develops rapidly, with symptoms lasting 24 h or more or leading to death, with no other apparent cause than a vascular origin" [**1**].

This condition continues to be the second leading cause of death and the third leading cause of death and disability combined worldwide. Globally, [**2**]. In Spain, CVA has been the third highest cause of death since 2020 (with a higher prevalence in the female gender), with COVID-19 and ischemic heart diseases ahead, according to the latest data from the National Institute of Statistics (INE) [**3**]. According to data from Ibericctus, there is an annual incidence of 187 per 100,000 inhabitants [**4**], although according to other studies based on INE data the annual stroke incidence is 252 per 100,000 inhabitants. Likewise, in Spain it is considered the first cause of disability in adulthood and the second of dementia, seriously impacting the lives of patients and families and causing a significant health and social burden [**1**,**5**].

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Stroke is a multifactorial disorder associated with a series of risk factors which can be classified into modifiable (such as hypertension, dyslipidemia, lack of physical activity, alcohol consumption, smoking) and non-modifiable (such as age, sex, race, ethnic group or genotype before stroke) risk factors [**1**,**6**,**7**]. It is important to add that, after age, hypertension is the most associated factor. Likewise, obesity should be considered because in addition to being an independent risk factor, it is also a powerful determinant of the evolution of stroke [**1**].

As expected, stroke has a great impact on both the physical and mental health of the affected patients and their quality of life (QoL), which is directly related to the severity of the episode and the number of comorbidities that the patient suffers. Therefore, the assessment of physical and mental health is of great importance to determine both the consequences and the possible treatment of stroke [**8**].

According to the International Classification of Functioning, Disability and Health (ICF), stroke can cause impairments in function and alterations of body structures that lead to functional limitations [**9**]. Significant impairment in upper limb function can be observed in more than 80% of stroke survivors [**10**,**11**]; which, in turn, is usually associated with the QoL in all its areas. This acquired deficit can significantly impair Activities of Daily Living (ADL), so that between 23% and 53% of patients have total or partial dependence [**11**]. These can determine the level of functional impairment that the patients have in their daily lives, and are a clinically relevant outcome measure to assess the level of recovery after stroke [**12**,**13**].

2. Methods

Study design and participants: - Correlation descriptive Research design was adopted for the present study. Convenient sampling technique was used for this study to select the sample for the study. Data were collected for 30 days from 08\06\2024 to 08\07\2024 at inpatients department of HSK hospital and research centre Bagalkot and Morab neuro center. The study was conducted among 50 stroke patient at inpatients department of HSK hospital and research centre Bagalkot and Morab neuro center, & obtained administrative permissions and enrolled all the patients approaching IPD service. The study was explained to prospective participants; their consent was obtained and enrolled. The same procedure of enrolment of subjects was carried out until the required number of subjects was enrolled.

Inclusion criteria: - The study includes the stroke patients attending the OPD bases in HSK Hospital, Morab neuro centre, Rakesh neuro centre Bagalkot, Available at the period of data collection,Willing to participate in the study, Able to Speak, Read and write Kannada or English language

Exclusion criteria :- Who are not able to co-operate throughout the period of study, not willing to participate in the study, Unable to speak read and write Kannada or English language.

Sample size estimation: - The estimation was done using the result (Mean and standard deviation). The confidence level was 95 %(Alpha =5%), The Z alpha value at 5% level of significance is 1.96. The power of test was 80%. The sample size estimated by statistician is 46.

Statistical analysis: - The data obtained is analyzed in terms of objectives of the study using descriptive and inferential statistics. The plan of data analysis is as follows: Organisation of data in master sheet/computer. Computation of frequencies and percentage for the analysis of socio-demographic data. Computation of mean, median, mode and standard deviation. Correlation for find out relationship between stroke survivals and quality of life.

Ethical clearance :- The present study was accepted from institutional ethical committee of B.V.V.S Sajjalashree Institute of Nursing Sciences Navanagar Bagalkot.

3. Results

TABLE I. DESCRIPTION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS.

SL NO	SOCIO-DEMOGRHAPIC VARIABLES	F	P
1)	AGE.		
	1. 18year to 28year	6	12%
	2. 29year to 38year	12	24%
	3. 38year to 48year	17	34%
	4. 49year and above	15	30%
2)	**GENDER**		
	1. MALE.	30	60%
	2. FEMALE	20	40%

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	3. TRANSGENDER	0	0%
3)	**ALCOHOL CONSUMPTION**		
	1. YES	17	34%
	2. NO	33	66%
4)	**EDUCATION**		
	1. **NO FORMAL EDUCATION**	19	38%
		16	32%
	2. **SSLC**	6	12%
	3. **PUC**	9	18%
	4. **DEGREE AND ABOVE**		
5)	**OCCUPATION**		
	1. **PRIVATE**	11	22%
	2. **GOVERNMENT**	7	14%
	3. **KOOLY**	17	34%
	4. **BUSINESS.**	15	30%
6)	**RESIDENCE**		
	1. URBAN	17	34%
	2. RURAL	33	66%
7)	**MONTHLY INCOME**		
	1. **BELOW 10,000 RS.**	20	40%
	2. **10001 – 20000 RS.**	18	36%
	3. **20001 - 30000 RS.**	8	16%
	4. **30001 AND ABOVE.**	4	8%
8)	**NUMBER OF CHILDREN**		
	1. **0**	58	3%
	2. **1**	28	14%
	3. **2**	8	29%
	4. **3** and above	6	4%
9)	**HYPERTENSION**		
	1. YES	21	42%
	2. NO	29	58%
10)	**MYOCARDIAL INFRACTION**		
	1. YES	4	2%
	2. NO	46	98%
11)	**DIABETES MELLITUS**		
	1. YES	20	40%
	2. N0	30	60%
12)	**DOMINANT HAND**		
	1. YES	46	92%
	2. NO	4	8%
13)	**PARALYSIS**		
	1. YES	15	30%
	2. NO	35	70%

Age majority (34%) stroke patients were in the age group of 39-48 years, Gender majorities (60%) of stroke patient were male, Alcohol consumption diagram majorities (66%) were no, Education majority (38%) of stroke patients have no formal education, Occupation majority (34%) of stroke patients were kooly, Monthly income majority (40%) of stroke patients were having income below 10,000 Rs, Number of children majority (58%) stroke patients were in 0 children, Hypertension majorities (58%) of stroke patient they don't have hypertension, Myocardial infarction majorities (98%) of stroke patient don't have myocardial infarction, Diabetes mellitus majorities (60%) of stroke patient don't have diabetes mellitus, Dominant hand majorities (92%) of stroke patient have right dominant hand, Paralysis majorities (70%) of stroke patient don't have paralysis .

TABLE 2: Assessment & description of level of functional independent of stroke patients.

LEVEL OF FUNCTIONAL INDEPENDENCE	**18-126 SCORE**	**NUMBER OF FREQUENCY**	**%**
Mild independence	18-54	6	12%
Moderate independence	55-90	29	58%
Fully independence	91-126	15	30%
Total	18- 126	50	100 %

Majority of (58%) of Stroke disease patients has moderate level of independence, (30%) of Stroke disease patients has fully independence, and lowest (12%) of Stroke disease patients has mild independence.

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TABLE 3: Assessment & description of level of quality of life of stroke patients.

LEVEL OF QUALITY OF LIFE	49-245 SCORE	NUMBER OF FREQUENCY	%
poor quality of life	49-114	3	6%
moderate quality of life	115-180	30	60%
good quality of life	181-245	17	34%
Total	49-245	50	100%

Majority of (60%) of Stroke disease patients has moderate quality of life, (34%) of Stroke disease patients has good quality of life, and (6%) of Stroke disease patients level has poor quality of life.

TABLE 4: Correlation between functional independent and quality of life of stroke patients

Stroke patients value	mean	median	SD	correlation
Functional independent	78	81	16	-0.443
Quality of life	164	166	28	

Significant negative co-relation between the functional independence & quality of life among stroke.

As the calculated 'r' value (-0.443) for the Hypothesis: **H1: There will be a negative correlation between functional independence and quality of life among stroke patients.** Hence it is clear that there is a statistically weak negative correlation between functional independence and quality of life among stroke patients. Indicating that there is a negative co-relation between functional independence and quality of life among stroke patients. Hence calculated "r" is **(-0.443)** there is a negative correlation between functional independence and quality of life among stroke patients. Therefore **H1**: is rejected.

ASSOCIATION BETWEEN FUNCTIONAL & QUALITY OF LIFE INDEPENDENCE OF STROKE PATIENTS WITH SELECTED SOCIO-DEMOGRAPHIC VARIABLES

TABLE 5 : Association between functional independence of stroke patients with selected Socio-demographic variable

SI.NO	Socio-demographic variables	DF	Chi-square	association
1	Age	1	3.125	Not association
2	Gender	1	0.125	Not association
3	Alcohol consumption	1	0.089	Not association
4	Education	1	8.116	**Association***
5	Occupation	1	2.456	Not association

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6	Residence	1	1.219	Not association
7	Monthly income	1	0.821	Not association
8	Number of children	1	0.116	Not association
9	Hypertension	1	0.456	Not association
10	Myocardial infraction	1	1.298	Not association
11	Diabetes mellitus	1	0.520	Not association
12	Dominant hand	1	3.267	Not association
13	Paralysis	1	0.2717	Not association

Calculated Chi-square and Yates correction value is lesser than table value for socio demographic variables Age (X^2= 3.125, P=0.077), Gender (X^2=0.125, P=1), Alcohol consumption (X^2=0.089,P=0.765), Occupational status(X^2=2.456, P=0.034), Residence(X^2=1.219, P=0.269), Monthly income (X^2=0.821, P=0.37),Number of children (X^2=0.116, P=0.732), Hypertension (X^2= 0, P=1), MI(X^2=1.298, P=0.254), DM (X^2=0.520, P=0.470), Dominant hand(X^2=3, P=0.083),Paralysis(X^2=0.271, P=0.602), **H2**: is for these socio demographic variables is rejected. Chi-square value is greater than the table value for socio demographic variables Education(X^2=8.116,P=0.004), therefore **H2**: is for this socio demographic variables accepted for education.

TABLE 6 : Association between quality of life of stroke patients with selected Socio-demographic va.riable.

SI.NO	Socio-demographic variables	DF	Chi-square	association
1	Age	1	0.01	not association
2	Gender	1	0.48	Not association
3	Alcohol consumption	1	1.7	Not association
4	Education	1	1.69	Not association
5	Occupation	1	0.08	Not association
6	Residence	1	3.63	Not association
7	Monthly income	1	0.41	Not association
8	Number of children	1	0.37	Not association
9	Hypertension	1	1.15	Not association
10	Myocardial infraction	1	0.35	Not association
11	Diabetes mellitus	1	0.01	Not association
12	Dominant hand	1	0.13	Not association
13	Paralysis	1	0.14	Not association

Calculated Chi-square and Yates correction value is lesser than table value for socio demographic variables Age (X^2= 0.01, P=1), Gender (X^2=0.48, P=0), Alcohol consumption (X^2= 1.7, P=0), Education (X^2=1.69, P=0), Occupational status (X^2=0.08, P=1), Residence(X^2=3.63, P=1), Monthly income (X^2=0.41, P=1),Number of children (X^2=0.37, P=1), Hypertension (X^2= 1.15, P=0), MI(X^2=0.35, P=1), DM

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(X^2=0.01, P=1), Dominant hand(X^2=0.13, P=1),Paralysis(X^2=0.14), P=1), calculated Chi-square and Yates correction value is lesser than the table value for socio demographic variables, therefore **H2**: is rejected for all socio demographic variables.

DISCUSSION:

The percentage wise distribution of the gender majorities (60%) of stroke patient were male and (40 %) of stroke patient were female.

The findings of the study were almost similar and consistent to the study conducted by **Josefa Gonzzalez, Paula Rodrigyez Fernandez in the year 2023** A cross sectional study Determining factors of functional independence and quality of life of patients one month after having suffered a stroke. The distribution of gender was homogenous, with 54.3%men and 45.7% women.

The percentage wise distribution of the diabetes mellitus Majorities (60%) of stroke patient don't have diabetes mellitus, and (40 %) of stroke patient have diabetes mellitus.

The findings of the study were almost similar and consistent to the study conducted by **Josefa Gonzzalez, Paula Rodrigyez Fernandez in the year 2023** A cross sectional study Determining factors of functional independence and quality of life of patients one month after having suffered a stroke. The stroke patients have diabetes mellitus for about 19.75% among 16 patients.

Conclusion:

Age majority (34%) stroke patients were in the age group of 39-48 years, Gender majorities (60%) of stroke patient were male, Alcohol consumption diagram majorities (66%) were no, Education majority (38%) of stroke patients have no formal education, Occupation majority (34%) of stroke patients were kooly, Monthly income majority (40%) of stroke patients were having income below 10,000 Rs, Number of children majority (58%) stroke patients were in 0 children, Hypertension majorities (58%) of stroke patient they don't have hypertension, Myocardial infarction majorities (98%) of stroke patient don't have myocardial infarction, Diabetes mellitus majorities (60%) of stroke patient don't have diabetes mellitus, Dominant hand majorities (92%) of stroke patient have right dominant hand, Paralysis majorities (70%) of stroke patient don't have paralysis .

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