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EVALUATE THE QUALITY OF LIFE (QOL) OF PATIENTS SUFFERING FROM CEREBRO VASCULAR ACCIDENT (CVA) WITH HEMIPARESIS

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ABSTRACT

Background: Cerebrovascular accident (CVA), commonly known as stroke, is one of the leading causes of long-term disability worldwide. Hemiparesis, a common neurological complication following stroke, significantly affects the physical, psychological, social, and functional well-being of patients. Assessing the Quality of Life (QOL) among patients with CVA-associated hemiparesis is essential for understanding the burden of disease and improving patient-centered care. **Objective:** To evaluate the Quality of Life (QOL) of patients suffering from cerebrovascular accident (CVA) with hemiparesis and to identify the factors influencing their overall well-being. **Methods:** A prospective observational study was conducted among patients diagnosed with CVA with hemiparesis attending the neurology department of a tertiary care hospital. Eligible patients were enrolled based on predefined inclusion and exclusion criteria. Data regarding demographic characteristics, clinical history, type of stroke, duration of illness, comorbidities, and treatment details were collected using a structured data collection form. Quality of Life was assessed using a validated questionnaire such as the Stroke Specific Quality of Life (SS-QOL) scale or WHOQOL-BREF. Statistical analysis was performed to evaluate the association between clinical variables and QOL domains. **Results:** The study observed that patients with CVA and hemiparesis experienced considerable impairment in multiple domains of Quality of Life, particularly in mobility, self-care, social participation, emotional stability, and physical functioning. Elderly patients, those with severe hemiparesis, prolonged duration of illness, and presence of comorbid conditions showed comparatively lower QOL scores. Rehabilitation therapy, family support, and adherence to treatment were found to positively influence patient outcomes and overall QOL. **Conclusion:** CVA with hemiparesis has a substantial negative impact on the Quality of Life of affected patients. Early rehabilitation, multidisciplinary healthcare interventions, patient counseling, and continuous follow-up can improve functional recovery and enhance overall Quality of Life. Regular assessment of QOL should be incorporated into routine stroke management to optimize patient care and rehabilitation outcomes.

KEYWORDS: Cerebrovascular Accident (CVA), Stroke, Hemiparesis, Quality of Life (QOL), Stroke Rehabilitation, Neurological Disorders, Functional Disability, Health-Related Quality of Life (HRQOL).

INTRODUCTION

A cerebrovascular accident (cerebral vascular accident or brain attack)/stroke occur when a part of the brain is damaged because it is deprived of its blood supply. Blood carries oxygen and nutrients to the brain, so when the blood supply is cut off or limited, brain cells start to die. A cerebrovascular accident is also known as stroke (**Thore et al., 2007**). For the clinical category of cerebrovascular diseases, the stroke is, by a distance, the most significant entity, both in terms of prevalence and consequences. The stroke can result from either an occlusion of the vessel (Ischemia), which can be either transient (e.g., the transient ischemic attack, TIA) or of longer duration or from the rupture of a vessel, leading to regional haemorrhage, either within the cortical matter or in the Dural cavities.

Factors Affecting Quality of Life of patients suffering from Cerebro Vascular Accident

1) Age

The ageing process causes anatomical and morphological changes [**Thore et al., 2007, Jucker et al., 1990, Shao et al., 2010 & Anstrom et al., 2002**]. As a result of such anatomical changes, there is little surprise that in the aged brain there is a significant reduction in the cerebral blood flow (CBF), affecting mainly the cortex, and more sparingly the subcortical regions, as revealed by a variety of imaging techniques, from positron-emission tomography (PET) and single-photon emission computed tomography (SPECT) to high-resolution, contrast-enhanced MRI and arterial-spin labelling (ASL) [**Chen et al., 2011**]. However, as it has been pointed out [**Brown & Thore, 2011**], CBF is affected not only by morphological changes, but it is also modulated by a variety of functional parameters such as perivascular innervation [**Drake & Iadecola, 2007**], astroglial control of arteriolar constriction [**Takano et al., 2006**], and autocrine endothelial signalling in response to rheostatic forces and neural environment [**Faraci & Heistad, 1998**].

While the biological and medical consequences of a stroke are significant at any age, the incidence and the severity of a stroke are significantly increased with age. The paper from Russo et al. provides a systematic review, looking at the first stroke incident and shows that the trend continues for the very old (older than 80 years old).

2) Gender

The causes of the sex differences in functional outcomes and QOL have yet to be fully elucidated. Differences are most often explained by the fact that compared with men, women are older, have poorer pre-stroke function, have more comorbidities such as depression, less social support, and are more likely to be widowed. However, adjustment for these factors does not adequately explain the observed differences in stroke outcomes between men and women [(**Holroyd et al., 2000**) & (**Carlo et al., 2003**)]. Stroke severity is often cited as a potential explanation for sex differences in stroke outcomes, although the available data suggest that differences in stroke severity between men and women are small to non-existent. Clearly, more studies that assess stroke survivors in both subjective (e.g., health-related QOL) and objective (e.g., cognitive functioning, depression) measures are needed to determine the causes of these differences in outcomes.

Only a few reports have looked at sex differences in QOL by use of stroke-specific instruments, such as the stroke impact scale or stroke-specific QOL scale. Almost all the studies show that women have lower overall QOL than do men after stroke. With respect to specific domains, several studies have found lower physical function scores among female stroke survivors. Several studies also showed that women have more depressive symptoms [(**Gargano & Reeves, 2007**), (**Everson et al., 1998**), (**Hermann, 1998**) & (**Eriksson et al., 2004**)] and are more likely to have clinically diagnosed depression after stroke than men (**Paradiso & Robinson, 1998**). Post-stroke depression is known to hinder functional recovery [(**Lai, 2005**) & (**Hermann 1998**)] and is associated with increased mortality (**Everson et al., 1998**). Depression is also more likely to result in lower scores for other stroke-related QOL domains, such as energy (or fatigue) and social functioning.

Table 1: Studies evaluating the QOL between males and females.

S.No.	Name of the study	Results
1.	Swedish Risk -Stroke Registry	54% of women versus 67% of men were independent in primary ADL at 3 months' follow-up (**Glader et al., 2002**)
2.	Framingham Study	34% of women were disabled at 6 months (Barthel index <60) compared with only 16% of men (**Kelly-Hayes et al., 2003**).
3.	Kansas City Stroke Study	Women initially had a 30% lower odds of achieving ADL independence (Barthel index ≥95) by 6 months compared with men, although this difference was greatly diminished after adjusting for age, stroke severity, depression, pre-stroke physical function, and comorbidities (**Lai et al., 2005**).
4.	Michigan registry study	Women had a 63% lower odd of achieving ADL independence (Barthel index ≥95) at 3 months after discharge, and adjustment for potential confounding factors including age and pre-stroke ambulatory status actually increased this disparity (**Gargano & Reeves, 2007**).
5.	The Canadian registry study	Reported significantly lower physical function (as measured by the 16-item stroke impact scale) for women than men, although no differences in QOL (measured by the health utilities index) were found 6 months after discharge (**Kapral et al., 2005**).
6.	Acute ischaemic stroke trial study	Women had significantly lower scores on the SF-36 physical functioning and mental health domains 6 months after enrolment, after adjustment for age, baseline stroke severity and pre-stroke.

3) Smoking

Smoking is a major cause of CVD and causes one of every three deaths from CVD. Smoking increases the risk of developing cardiovascular diseases, which includes coronary heart disease and stroke. Smoking damages the lining of your arteries, leading to a build-up of fatty material (atheroma) which narrows the artery. This can cause angina, a heart attack or a stroke. The carbon monoxide in tobacco smoke reduces the amount of oxygen in your blood. This means your heart has to pump harder to supply the body with the oxygen it needs. The nicotine in cigarettes stimulates your body to produce adrenaline, which makes your heart beat faster and raises your blood pressure, making your heart work harder. Your blood is more likely to clot, which increases your risk of having a heart attack or stroke.

4) Blood pressure

High blood pressure damages arteries throughout the body, creating conditions where they can burst or clog more easily. Weakened arteries in the brain, resulting from high blood pressure, put you at a much higher risk for stroke — which is why managing high blood pressure is critical to reduce your chance of having a stroke. There are two main types of strokes -- and high blood pressure makes both more likely.

a. Strokes caused by blocked blood flow.

In almost 9 out of 10 cases, you have a stroke because something, usually a clot, blocks the flow of blood to the brain. Doctors call this an ischemic stroke. Without oxygen, brain cells start dying within minutes. Usually a clot forms either at the site of a clogged blood vessel or someplace else in the body and then reaches the brain. The clots happen more often with high blood pressure because it speeds up arteriosclerosis, a condition that makes your arteries get harder, narrower, and clogged with fatty plaque. Hypertension also makes you more likely to have atrial fibrillation. It causes blood to collect in the heart, where a clot can form. AFib is very dangerous because it raises your chances of stroke fivefold. But there are treatments for it.

b. Strokes caused by bleeding in or around the brain.

These are "haemorrhagic" strokes. They tend to be more serious and deadlier than clot-based ones. A weak blood vessel breaks open, usually because of an aneurysm, a spot that has ballooned up from pressure. High blood pressure damages arteries and makes them more likely to tear or burst.

Hypertension also can cause clots that lead to temporary "mini strokes." Transient ischemic attack, or TIA, is when a clot dissolves or gets dislodged on its own. Most people fully recover from TIAs, but they are a warning that a full-blown stroke may be coming. Hypertension makes a TIA more likely the same way it does for an ischemic stroke -- by narrowing the arteries and making it more likely for plaque and blood clots to form.

5) Diabetes mellitus

Diabetes is a major risk factor for stroke and is associated with an increase in overall stroke mortality. The metabolic syndrome associated with insulin resistance is also a significant risk factor for stroke. The etiology of stroke in diabetics is frequently microvascular disease from fibrinoid necrosis, which causes small subcortical infarcts designated as lacunar strokes. Diabetics also have an increased incidence of large vessel intracranial vascular disease. Although strict control of blood sugar has not been shown to reduce the overall incidence of stroke in diabetics, careful management of other associated risk factors, particularly hypercholesterolemia and hypertension, are imperative for the prevention of stroke in diabetic patients.

Diabetes is treatable, but even when glucose levels are under control it greatly increases the risk of heart disease and stroke. That's because people with diabetes, particularly type-2 diabetes, may have the following conditions that contribute to their risk for developing cardiovascular disease.

- High blood pressure (hypertension)
- Abnormal cholesterol and high triglycerides
- Obesity
- Lack of physical activity
- Poorly controlled blood sugars (too high) or out of normal range

Table 2: Quality of life scales used for stroke.

TYPE	NAME & SOURCE	APPROXIMATE TIME TO ADMINISTER	STRENGTHS	WEAKNESSES
Level of Consciousness Scale	Glasgow Coma Scale	2 Minutes	Simple, valid, reliable.	None observed.
Stroke deficit Scales	NIH Stroke Scale	2 Minutes	Brief, reliable, can be administered by non-neurologists	Low sensitivity.
	Canadian Neurological Scale	5 Minutes	Brief, valid, reliable	Some useful measures omitted.
Global Disability Scale	Rankin Scale	5 Minutes	Good for overall assessment of disability.	Walking is the only explicit assessment criterion. Low sensitivity.

Measures of Disability/Activities of daily living (ADL)	Barthel Scale	5-10 Minutes	Widely used for stroke. Excellent validity and reliability	Low sensitivity for high-level functioning.
	Functional Independence Measure (FIM)	40 Minutes	Widely used for stroke. Measures mobility, ADL, cognition, functional communication.	"Ceiling" and "floor" effects.
Mental Status Screening	Folstein Mini-Mental State Examination	10 Minutes	Widely used for screening.	Several functions with summed score. May misclassify patients with aphasia.
	Neurobehavioral Cognition Status Exam (NCSE)	10 Minutes	Predicts gain in Barthel Index scores. Unrelated to age	Does not distinguish right from left hemisphere. No reliability studies in stroke. No studies of factorial structure. Correlates with education.
Assessment of Motor Function	Fugl-Meyer	30-40 Minutes	Extensively evaluated measure. Good validity and reliability for assessing sensorimotor function and balance.	Considered too complex and time-consuming by many.
	Motor Assessment Scale	15 Minutes	Good, brief assessment of movement and physical mobility	Reliability assessed only in stable patients. Sensitivity not tested.
	Motricity Index	5 Minutes	Brief assessment of motor function of arm, leg, and trunk.	Sensitivity not tested.
Balance Assessment	Berg Balance Assessment	10 Minutes	Simple, well established with stroke patients, sensitive to change.	None observed.
Mobility Assessment	Rivermead Mobility Index	5 Minutes	Valid, brief, reliable test of physical mobility.	Sensitivity not tested.
Assessment of Speech & Language Functions	Boston Diagnostic Aphasia Examination	1-4 Hours	Widely used, comprehensive, good standardization data, sound theoretical rationale.	Time to administer long; half of patients cannot be classified.
	Porch Index of Communicative Ability (PICA)	½-2 Hours	Widely used, comprehensive, careful test development and standardization.	Time to administer long. Special training required to administer. Inadequate sampling of language other than one word and single sentences.
	Western Aphasia Battery	1-4 Hours	Widely used, comprehensive.	Time to administer long. "Aphasia quotients" and "taxonomy" of aphasia not well validated.
Depression Scales	Center for Epidemiological Studies Depression (CES-D)	< 15 Minutes	Brief, easily administered, useful in elderly, effective for screening in stroke population.	Not appropriate for aphasic patients
	Hamilton Depression Scale	< 30 Minutes	Observer rated; frequently used in stroke patients.	Multiple differing versions compromise interobserver reliability.
Measures of	Frenchay Activities	10-15 Minutes	Developed specifically	Sensitivity and

Instrumental ADL	Index		for stroke patients; assesses broad array of activities.	interobserver reliability not tested; sensitivity probably limited.
Family Assessment	Family Assessment Device (FAD)	30 Minutes	Widely used in stroke. Computer scoring available. Excellent validity and reliability. Available in multiple languages.	Assessment subjective; Sensitivity not tested; "ceiling" and "floor" effects.
Health Status/ Quality of Life Measures	Medical Outcomes Study (MOS) 36- Item Short-Form Health Survey	10-15 Minutes	Generic health status scale SF36 is improved version of SF20. Brief, can be self – administered or administered by phone or interview. Widely used in the United States.	Possible "floor" effect in seriously ill patients (especially for physical functioning); Suggest it should be supplemented by an ADL scale in stroke patients.
	Sickness Impact Profile (SIP)	20-30 Minutes	Comprehensive and well-evaluated. Broad range of items reduces "floor" or "ceiling" effects.	Time to administer is somewhat long. Evaluate behaviour rather than subjective health; Needs questions on well-being, happiness, and satisfaction.

METHODOLOGY

Study Site: In patient ward, Department of General Medicine**,** Tertiary Care Hospital, Kakinada.
Study Duration: 6 Months
Sample Size: 84 cases
Study Design: Cohort Study

Inclusion Criteria

- Patients ≥ 31 years of Age.
- Patients of both Genders.
- Patients who are diagnosed as suffering from cerebrovascular accident (stroke) with hemiparesis.

Exclusion Criteria

- Patients who are not diagnosed as cerebrovascular accident (stroke) with hemiparesis.
- Patients who are at severe condition.
- Out patients are not included.
- Patients/ Patient's care givers who are not willing to cooperate.

Source of Data Collection

- Case sheet received from cerebrovascular accident (stroke) with hemiparesis patients.
- Direct interaction with Patient/Patient's representatives.

Method of Data Collection

- Patient demographics like age, gender, social history, past medical history, patient's vitals, etc. were collected in a specially designed data collection form.
- SF-36 scale is a set of generic, coherent, and easily administered quality-of-life measures. These measures rely upon patient self-reporting which consists of eight scaled scores which are the weighted sums of the questions in their section. Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight. The lower the score the more disability. The higher the score the less disability i.e., a score of zero is equivalent to maximum disability and a score of 100 is equivalent to no disability.
- Eight health concepts include physical functioning, bodily pain, role limitations due to physical health problems, and role limitations due to personal or emotional problems, emotional well-being, social functioning, energy/fatigue, and general health perceptions. It also includes a single item that provides an indication of perceived change in health.

The above said scale was tabulated in a data collection form to make the final interpretation easier.

Study Instrument

The SF-36 consists of eight scaled scores, which are the weighted sums of the questions in their section. Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight. The lower the score, the more disability. The higher the score the less disability i.e., a score of zero is equivalent to maximum disability and a score of 100 is equivalent to no disability. To calculate the scores it is necessary to purchase special software. Pricing depends on the number of scores that the researcher needs to calculate.

The eight sections are

- Vitality
- Physical functioning
- Bodily pain

- General health perceptions
- Physical role functioning
- Emotional role functioning
- Social role functioning
- Mental health

Table 4: HOW TO SCORE SF-36 QUESTIONNAIRE.

Step 1: Scoring Questions

QUESTION NUMBER	ORIGINAL RESPONSE	RECORSDED VALUE
1, 2, 20, 22, 34, 36	1	100
	2	75
	3	50
	4	25
	5	0
3, 4, 5, 6, 7, 8, 9, 10, 11, 12	1	0
	2	50
	3	100
13, 14, 15, 16, 17, 18, 19	1	0
	2	100
21, 23, 26, 27, 30	1	100
	2	80
	3	60
	4	40
	5	20
	6	0
24, 25, 28, 29, 31	1	0
	2	20
	3	40
	4	60
	5	80
	6	100
32, 33, 35	1	0
	2	25
	3	50
	4	75
	5	100

Step 2: Averaging Items to Form 8 Scales

SCALE	NUMBER OF ITEMS	AFTER RECORDING AS PER TABLE 1, AVERAGE THE FOLLOWING ITEMS
Physical functioning	10	3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Role limitations due to physical health	4	13, 14, 15, 16
Role limitations due to emotional problems	3	17, 18, 19
Energy/ fatigue	4	23, 27, 29, 31
Emotional well being	5	24, 25, 26, 28, 30
Social functioning	2	20, 32
Pain	2	21, 22
General health	5	1, 33, 34, 35, 36

Statistical method used

Mean and standard deviation was calculated for the age. Association between improvement in quality of life and treatment was calculated using **Wilcoxon Signed rank test**. Association between factors affecting and quality of life was calculated using **Mann Whitney U test**.

Ethical committee clearance

Ethical Committee approval was obtained from the Institutional Ethics Committee.

Institutional ethical committee approved our study. It doesn't involve any administration of drugs to humans or animals and as there is no collection of specimen or serum samples, informed consent form was collected from the patients to collect the data.

RESULTS

Table-5: Socio-Demographic & Clinical Characteristics of stroke patients.

S.No	VARIABLES	FREQUENCY	PERCENTAGE
1.	**Gender**		
	Male	65	77.4
	Female	19	22.6
2.	**Age**		
	30-39	7	8.33
	40-65	57	69.04
	66-80	20	23.8
3.	**Smoker**		
	Yes	50	59.5
	No	34	40.4
4.	**Diabetes**		
	Yes	41	48.8
	No	43	51.1
5.	**Hypertension**		
	Yes	53	63.09
	No	31	36.9
6.	**Previous Episodes**		
	Yes	16	19.04
	No	68	80.9
7.	**Alcohol**		
	Yes	49	58.33
	No	35	41.66

Table-6: Comparison of quality of life of stroke patients before and after treatment.

S.No	DOMAIN	W	$N_{s/r}$	Z	p-value
1.	Physical Functioning	-3394	84	-7.57	<0.0001
2.	Role limitations due to Physical Health	3040	80	7.29	<0.0001
3.	Role limitations due to Emotional Problems	2380	71	6.82	<0.0001
4.	Energy/ Fatigue	-2088	82	-4.83	<0.0001
5.	Emotional Well Being	-1030	84	-2.3	0.0107
6.	Social Functioning	-1874	87	-4.27	<0.0001
7.	Pain	-1623	83	-3.68	0.0001
8.	General Health	-3427	84	-7.64	<.0001

Table-7: Association of Factors & QOL of stroke patients.

S.NO	FACTOR	U_A	Z	p-VALUE
1.	Hypertension	1070.5	-2.3	0.0107
2.	Previous Episodes	254	3.3	0.0005
3.	Gender	899.5	-3.01	0.0013
4.	Smoker	888	-0.34	0.3669
5.	Alcohol	819	0.34	0.3669
6.	Diabetes	832	0.44	0.33

DISCUSSION

In this study, the percentage age of male and female between 30-39 years was 8.33, 40-65 years was 69.04 & 66-80 years was 23.8 respectively. The most prevalent age group was found to be 40-65. In a study, about 64.44% of patients were older than 65 years (**Javier Carod-Artal et al., 2000**). According to another study, the majority (68.9%) of the patients are in the age category of 40-49 years (**Rhoda A et al., 2013**). According to another study, subjects aged 65-75 years had better MHSS than those <65 years (**M.D.Patel et al., 2007**). As per a study, the patients with between age groups 55-64 years have high prevalence of stroke (**TarasovÁ M. et al., 2008**). Considering participant characteristics, the profile was similar to that of other investigations conducted in Brazil, in which the occurrence of stroke was more frequent among individuals over 60 years of age (**Dinalva L. Cabral et al., 2012**).

In this study, the percentage of occurrence of stroke in male and female was 77.4% & 22.6% respectively. In this study we can understand that the prevalence is more in male than in female. Statistically gender of the patient

is significant (**p- value=0.0013**). In another study, the predominance of male is 65% whereas female is 35% (**Deborah S. Nichols et al., 2005**). In another study, the prevalence of male is 51.6% whereas that of female is 48.4% (**Ki-Jong Kim et al., 2006**). In another study, the predominance is more in male with 53.6% whereas that of female is 46.4% (**M.D.Patel et al., 2007**). Considering participant characteristics, the profile was similar to that of other investigations conducted in Brazil, in which the occurrence of stroke was more frequent among individuals over 60 years of age and with a slight predominance of women. According to another study, the predominance of women affected by stroke may have been related to age, because naturally women live longer than men (**Dinalva L. Cabral et al., 2012**). But in a study, the prevalence of female (55.9%) is greater than male (43.1%) (**Rhoda A et al., 2013**).

In this study, the percentage of alcoholics is 58.33%. The population who are alcoholic have higher chances of risk than normal population since drinking alcohol raises blood pressure & atrial fibrillation that increases the risk of stroke by 5 times.

The percentage of diabetic (48.8) and non-diabetic (51.1) are found in this study. There is no such a significant association between quality of life and diabetes. But the people having substantial inter individual variability, in several other factors. Other results found to be stroke disability were significantly higher in diabetic patients when compared with non-diabetic (P=0.005 and P=0.016, respectively) (**Salah-eddine megherbi et al., 2003**). Diabetes increased the relative risk by 1·9, 95% Cl 1·1-3·3(**H. Nakayama et al., 2006**). .younger people with diabetes do not seem to be at high risk of CVA (**Gillin L Booth et al., 2006**). Diabetes is an important modifiable risk factor for stroke, especially ischemic strokes (**Rong Chen et al., 2016**). In this study diabetes does not have any significance role that affects quality of life in stroke patients.

Smoking can increase the risk of stroke by increasing blood pressure & reducing oxygen content in the blood. European society of cardiology found that patient who resumed smoking after a stroke increased their risk of death by 3 times (**sciencedaily.com**). A study conducted to identify the risk of smoking in stroke patient found that there is a strong association between smoking & stroke risk with current smokers having atleast 2-4 fold increased risk of stroke compared with lifelong non-smoker (**Reena S Shah et al., 2012**). In another study the risk increased to 6 fold, when this population was compared to non-smokers who had never been exposed to environmental tobacco smoke. In a separate study, the 6 fold increase in risk persisted when cigarette smoking women with smoking spouses when compared with smoking women with non-smoking spouses (**Bonita R et al., 1999**).

Hypertension was statistically significant (**p-value = 0.0107**) to quality of life of stroke patient as high blood pressure put extra stress on blood vessel walls. This can cause the blood vessel to weaken or breakdown, eventually leading to stroke. A study conducted on influence of hypertension on stroke outcome in which patient are divided into sub groups which are, 1st – patient with aggressive lowering of blood pressure on admission and 2nd – patient with moderate hypertension and it was found that aggressive lowering of high BP in HS found to have the positive effect on outcome, reducing the blood enhancement and rehaemorrage improving the short- term outcome and quality of life in patients with CVA (**Mumladze L. et al., 2016**). A prospective observational study was conducted to determine the association of acute blood pressure values with independent factors (demographic factors clinical characteristics, early complications) in stroke patients and found that the high acute BP values are additionally associated with detrimental complications in the first day after stroke onset and affect the quality of life of the patients. Altering BP levels may have different effects in patients with stroke subtypes of different pathogenic mechanism. Thus, a differentiated therapeutic approach in matters of BP regulation in patient with acute stroke of different aetiology might be considered (**K.N.Vemmos et al., 2004**).

This study investigated HRQoL among adults with stroke and the factors associated with this. **Olsson & Sunnerhagen** found no differences among the eight domains of the SF-36, in comparison with motor & cognitive FIM. Similar results were obtained in the studies by **Kong & Yang**. However, other studies have established a positive relationship between HRQoL & functionality for different domains. As with other studies, there is no significant association between QOL & level of education, presence of comorbities or side of the brain affected. It is clear that identifying factors & undertaking appropriate therapies for them must have a priority role in promoting quality of life among people affected by stroke.

CONCLUSION

According to this study we can conclude that Hypertension, Previous Episodes & Gender are significant while, Diabetes, Smoker & Alcohol are non-significant in CVA with hemiparesis. We can also conclude that males are more prone to CVA than Females. Hypertensive patients are more affected then non-hypertensive patients.

As hypertension is modifiable risk factor we can prevent it by using Medication, Dietary changes as well as Life style modification.

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