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REVIEW STUDY ON ASSESSMENT OF HEALTH RELATED QUALITY OF LIFE (HRQOL) AMONG STROKE PATIENTS

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ABSTRACT

Stroke is a second leading cause of disability. Generally it occurs when the blood supply to the brain is disrupted and it affects all aspects of an individual's life. Quality of life (QoL) in stroke patients which has not received sufficient attention in India. The aim of the study was to assess the Health related quality of life in Cerebrovascular accident patients. Study 1 is descriptive study was done at B.J Government medical college and sassoon general hospital, pune conducted to assess health related quality of life after stroke and study 2 is a community based longitudinal study was done in chintamani town of chikkaballapur district taluk karnataka India during period of March 2013-december 2014. Study 1: The results showed that Mean health related quality of life (HRQOL) score of CVA patients was 82.77 in study 2 Among the 150 cases, 136 (91%) survived until the end of 6th month. The mean age of the persons with stroke was 61.3±15 years with a majority being males (69.3%). QoL showed significant improvements in all physical, psychological and social domains by the end of the 6th month of follow up, so we need to educate the people on causes and prevention of risk factors of stroke and also educate the patient's caregivers on care of Cerebrovascular accident patients.

INTRODUCTION

Cerebrovascular disorders are refers to any functional abnormality to the central nervous system that occur when the normal blood supply to the brain is disrupted.[1] According to World Health Organization (WHO) stroke was defined as "rapidly developing clinical signs of focal (or global) disturbance of cerebral function, that lasts for more than 24 hours or

longer it may leads to death, with no apparent cause other than of vascular origin. Stroke is a catastrophic event that affects in all aspects of an individual's life. Currently stroke outcome assessments are often limited for neurological impairment and functional disability.[2] Stroke has multitude of negative consequences on individual's life ranging from institutionalization, and loss of independence to cognitive and communication difficulties. This requires a major adjustment in social function and psychology of stroke survivors. It has a detrimental effect, on both short term and long term QoL.[3,4] After an episode of stroke, QoL is reported to have decreased by more than 40% compared with pre-stroke QoL.[5] Stroke rehabilitation is not well developed in India due to lack of personnel.[6]

Many stroke survivors experience feelings of hopelessness, helplessness, anxiety, and dehumanization.[7] after stroke. Therefore we intended to assess the QoL among stroke survivors, which can be helpful in maximising their recovery and improvement in health related quality of life.[8]

The ability to performing Activities of Daily Living (ADL) may require many adaptive changes as well as assistance from the family members. Home management for the patient may be a challenging situation for the care giver if they are ignorant about the care of the patient. Meeting the educational needs of the family care giver is essential to optimize the quality of life for both the patient and family.[9]

Epidemology

Stroke is one of the leading cause behind death and disability in India. According to the world wide stroke incidence and prevalence rate were computed by age, sex, and stroke type. In 5 year period from 1985-1989 during that period the 496 incidences cases of stroke were found and incidence rate was 145 per 100,000 population. The estimated 5.7M deaths in 2005, and 87% of these deaths were lower in rate in middle income countries. The number of global deaths is projected to rise 6.5M in 2015.[10] In total 1.89M population prevalence rate was 317.3 (314.0-748.2) /100000 population. Comparable to in year 2013, 535 thousand (87.0-625.3) new strokes cases 2.09M (2.06-4.93).[11]

The estimated prevalence rate of stroke was 84-262/100,000 in rural and 334-424/100,000 in urban areas. The incidence rate was 119-145/100,000 based on the recent population studies. Stroke accounts for about 10% of all deaths in industrial countries.

Stroke is a major global public health problem. According to global burden of diseases (GBD) study in 1990, stroke is the second leading cause of death in world wide. According to the study GBD reporting nearly 5.87 million of stroke deaths occurred in 2010.[12] Prevalence range between 45-471/100,000 to 262/100,000. In 2013 global ischemic stroke (IS) and hemorrhagic stroke (HS) incidence in total 100000 the ischemic stroke in men were 132.77 (95% 125.34-142.77) and hemorrhagic stroke were 64.89 (95% 59.82-68.85) in women ischemic stroke were 98.85 (95% 92.11-106.62) and hemorrhagic stroke were 45.48(95% 42.43-48.53). In 1990 male incidence rate is 147.40 and in women 113.31. In 2013 incidence rate for male 37.27 and female is 28.18.[13]

MATERIAL AND METHODS

Study 1 is descriptive study was done at B.J Government medical college and sassoon general hospital pune conducted to assess health related quality of life after stroke. This study comprises of 100 cerebrovascular accident patients admitted in hospitals. Stroke specific quality of life scale was used for assessing quality of life of stroke patients. The mean score for health related quality of life was 146.8. It shows that health related quality of life negatively affected of stroke patients.

Study 2 is a community based longitudinal study was done in Chintamani town of Chikkaballapur District Taluk Karnataka India. Total 150 stroke cases were taken during period of March 2013-december 2014, and it was approved by the institutional review board of M.s Ramaiah Medical College, Bangalore. This study was conducted on quality of life among stroke survivors. The patients were interviewed by using a semi-structured questionnarie and were followed up for 6th month period. QOL was assessed at baseline at 3rd month and 6th month using stroke specific QOL scale and barthel index scale.[14,15]

RESULTS

Table 1: Percentage wise distribution of cva patients according to their demographic characteristics n=100.

S.no	Demographic variables	No.of patients	Percentage
1	**Age**		
	31-40	11	11
	41-50	18	18
	51-60	27	27
	61-70	44	44
2	**Gender**		
	Male	79	79
	Female	21	21
3	**Education**		
	Illiterate	18	18
	Primary	25	25
	Secondary	29	29
	Higher secondary	21	21
	Graduation & above	07	07
4	**Monthly Income**		
	<5000	05	05
	5000-10000	63	63
	10001-15000	22	22
	>15000	10	10
5	**Affected side**		
	Right	53	53
	Left	47	47

Table 2: Distribution of cva patients with regards to level of health related quality of life, n=100.

Category	Frequency	Percentage
Poor	21	21
Average	79	79
Good	00	00
Excellent	00	00

Table 3: Mean health related quality of life score among cva patients n=100.

Category	Mean	SD	Mean percentage
Health related quality of life	82.77	21.10	28.06

Table 4: Base line characteristics of the stroke survivors.

Variables	Levels	N (%)
Sex	Male	104(69.3)
	Female	46(30.7)
Age (years)		
	35-44	12(8)
	45-54	20(13.3)
	55-64	34(22.7)
	65-74	46(30.7)
	75-84	24(16)
	>85	6(4)
Marital status	Married	113(75.3)
	Unmarried	1(0.7)
	Divorced/ separated	3(2)
	Widow/ widower	33(22)
Religion	Hindu	127(85)
	Muslim	22(15)
	Christian	1(1)
Socio-economic class	High	2(1)
	Upper middle	10(7)
	Lower middle	39(26)
	Poor	99(66)
	1-4	50(33)
	5-9	90(60)
	>10	10(7)
Subtypes of stroke	Ischemic stroke	52(35)
	Intracerebral hemorrhage	5(3)
	Unspecified type	93(620
Total 150		

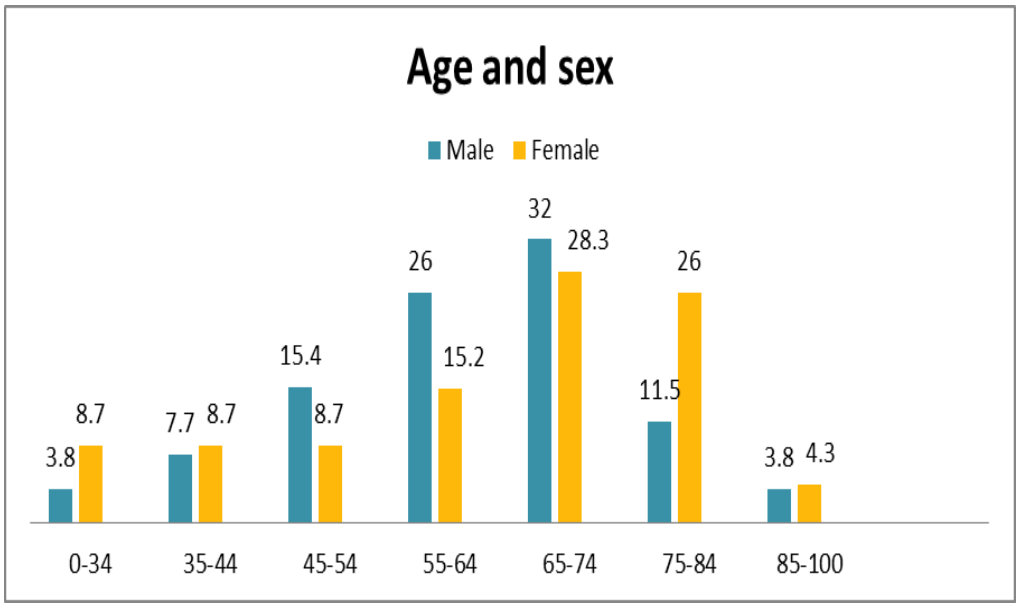

Figure 1.

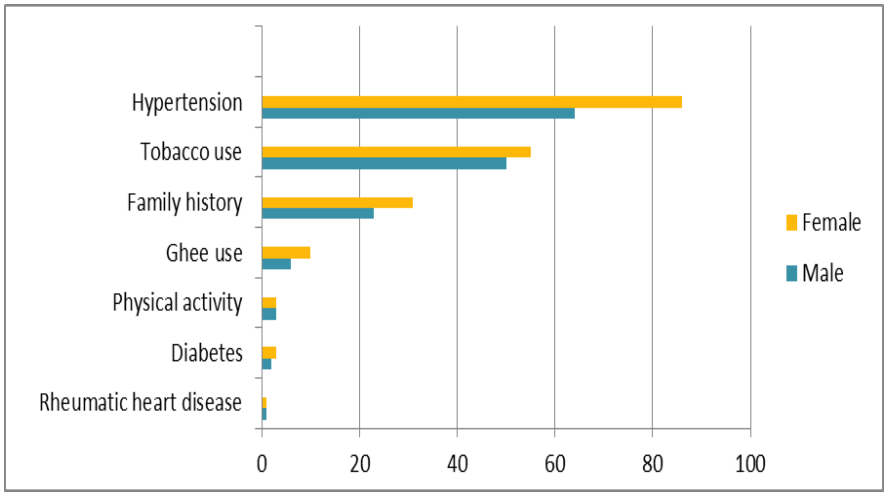

Figure 2.

Table 5: Distribution of presenting symptoms among the persons with stroke.

Symptoms	No(%)
Disturbed conscious	78(52)
Speech disturbances	107(71)
Limb weakness	147(98)
Double vision/ blurred vision	68(45)
Impaired memory	68(45)

Table 6: Distribution of domain wise stroke specific quality of life scores among the persons with stroke.

Median (IQR)				
SSQOL components	After 28 days	3rd month	6th month	P value
Physical component	58(20-82)	80(60-100)	82(65-100)	<0.0001
Physiological component	63(41-75)	75(56-80)	75(64-80)	<0.0001
Social relationship component	19(7-29)	27(18-35)	28(18-35)	<0.0001

Table 7: Activities of daily living assessed using barthel index among persons with stroke.

Grades of dependency	After 28 days of stroke N (%)	At 3rd month N (%)	At 6th month N (%)
Total dependency(0-20)	33(22)	4(2.7)	2(1.3)
Severely dependent(25-55)	55(36.7)	24(16)	10(6.7)
Moderately dependent(60-90)	62(41.3)	108(72)	124(82.7)
Independent(95-100)	19(7-29)	1(0.7)	1(0.7)

Table 8: Univariate analysis of stroke specific quality of life at 6th month.

Variables	Satisfied QOL(>185)	QOL(<184)	P value	Univariate OR (CI 95%)	Multivariate OR (CI 95%)
Age (years)					
>61	35 (45.5)	48 (5.8)	0.012	0.434(0.224-0.839)	NS
<60	42 (54.5)	25 (34.2)			
Education					
Low (1-3)	4 (5.2)	4 (5.5)	0.938	0.945(0.227-3.928)	NS
High (4-6)	73(94.8)	69 (94.5)			
Occupation					
Non skilled (5-9)	30(39)	34 (46.6)	0.346	0.732(0.383-1.401)	NS
Skilled(1-4)	47(61)	39 (53.4)			
Speech disturbances					
Yes	49 (63.6)	58 (79.5)	0.032	0.453(0.217-0.942)	NS
No	28 (36.4)	15 (20.5)			
Disturbed consciousness					
Yes	33 (42.9)	45 (61.6)	0.021	0.467(0.243-0.897)	NS
No	44 (61.1)	28(38.4)			
Weakness					
Yes	74 (96.1)	73 (100)	0.088	1.986 (1.692-2.332)	NS
No	3 (3.9)	0			
No. Of family members					
1-4	29 (37.7)	21 (28.8)	0.248	1.496 (0.754-2.968)	NS
5-15	48 (62.3)	52 (71.2)			
Gender					
Male	51 (66.2)	53 (72.6)	0.398	1.351 (0.672-2.716)	NS
Female	26 (33.8)	20 (27.4)			

DISCUSSION

In study 1 44% of sample belongs to 61-70 yrs of age and 27% belongs to 51-60 years of age. 79% samples were male. Most 29% of samples were having secondary education, 63% of sample belongs to 5000-10000 income group 53% of sample was having right side affected. 21% of CVA patients were having poor HRQOL and 79% of CVA Patients having average HRQOL. This indicates that quality of life of stroke patients was negatively affected on health. The mean HRQOL score of stroke patients was 82.77. This indicates that stroke patients need adequate nursing care and education to improve health related quality of life. Participants were equally divided into study group and control group. SSQOL was used to assess the quality of life of stroke patients. The Data was collected after 3rd and 6th month of admission. The results shows that significant improvement among the study group patients at

3 rd and 6th month in both physical and functional domains as well as in total QOL. Hence to improve health related quality of life of stroke patients need adequate and long term nursing care providing the continuous care at home and prevent the complication, caregivers playing important role.[16]

In study 2 Assessement of quality of life using SSQOL among stroke survivors for effect of type of stroke and type of therapy to predict the care needed by the patients. Out of 150 stroke patients were interviewed, among them 104 were males and 46 were females. By comparing with all age groups 65– 74 years, males and females accounted for 32% and 28% respectively; the mean age of the persons with stroke was 61.33%. 75.3% stroke patients were married majority of them belongs to Hindu religion (85%). It was found that 66% of the stroke survivors belonged to poor socioeconomic status and majority of the stroke patients were agriculturist by occupation. In this study, 50 (33%) persons with stroke patients having family size of 1-4. In subtypes of stroke, majority 93 (62) shows unspecified type. Out of 150 patients 96 had history of hypertension compared to other risk factors. Almost stroke patients had limb weakness 147(98) followed by speech disturbances, disturbed conscious, double vision/ blurred vision, impaired memory.

The quality of assessment was done by SSQOL was carried out at 28 days, 3rd and 6th month the three domains were taken physical component, physiological component, and social relationship component. Physical component at 28th day was 58(20-82), 80(60-100) at 3rd month, 82(65-100) at 6th month. Physiological component at 28th day was 63(41-75), 75(56-80) at 3rd month, 75(64-80) at 6th month. Social relationship component at 28th day was 19(7-29), 27(18-35) at 3rd month, 28(18-35) at 6th month. The p-value for three domains was same <0.0001. We found that the quality of life of stroke survivors had improved after first visit i.e 3rd month of follow up, and domain wise improvement are seen in 3rd month.

Daily living activities are assessed by using barthel index scale in patients after 28 days of stroke and at 3rd & 6th month. In this grades of dependency were taken, total dependent (0-20) was 33(22) after 28 days, 4(2.7) at 3rd month, 2(1.3) at 6th month. Severely dependent (25-55) was 55(36.7) after 28 days, 24(16) at 3rd month, 10(6.7) at 6th month. Moderately dependent (60-90) was 62(41.3) after 28 days, 108(72) at 3rd month, 124(82.7) at 6th month. Independent (95-100) was 19 (7-29) after 28 days, 1(0.7) at 3rd month, 1(0.7) at 6th month. So BI score was improved at 6th month of follow up i.e their daily activities and the QOL also improved.

The univariate odds ratio shows statistical significance with age, altered consciousness, activities of living as the significant predictor for an improved quality of life. The others such as educational level, occupational level, symptoms of the patient and the number of family members did not shows the statistical significance, and in multivariate logistic regression analysis only the above two factors i.e. age $p<0.015$ and disturbed consciousness $p<0.026$ for better quality of life among the stroke survivors. So the stroke survivors who had more number of family members, shows good quality of life at the 6^{th} month. In this study out of 150 cases, 136 cases survived beyond 3 months who were completely followed till the end of sixth month and no mortality was observed in these 3 months.

CONCLUSION

We need to educate the people on causes and prevention of risk factors of stroke, and need to refer and ensure transportation to tertiary care facilities within 4 hours of onset It is important to strengthen primary health care services by focusing on risk factor intervention and targeting behaviour modification such as reduced smoking, alcohol & salt consumption pattern and increased physical activity and adopting healthy diet and also emphasis on the availability of the treatment and its accessibility and also educate the patients as well as their caregivers on care of Cerebrovascular accident patients.

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Conflict of interest

We declare that we have no conflict of interest.

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