Post Cerebrovascular Accident Patients" ' Quality of Life Attends to Physiotherapy Units In Diyala General Hospitals

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Abstract
Cerebrovascular accident (CVA) is one of the most common medical emergency condition known as the fourth leading disease for death in the United States after cardiac disease, cancer and chronic respiratory diseases. It is the most popular disabling neurological disease. This study aims to assess the determinants of health related quality of life of patients with stroke using generic quality of life instruments WHOQOL-BREF and Stroke Impact Scale (SIS) 3.0 specific measurement tools - measuring the quality of life CVA patients . A descriptive cross-sectional study conducted at Diayal general hospital, included 440 participants collected from 9th February/2022 to 9th June/2022. The sample was collected under the supervision of neurologist. The age of onset of first stroke was 33.2% of samples at age range from 70 to 79 years old where represent the age at which the illness is started with Mean±SD (Range) 65.2±10.1 (28-93), also the highest percentage registered28.0% of more than 24 months duration of an illness with Mean±SD (Range) 15.5±15.7 (1-72), and the number of stroke shows highest percentage were46.6% two time of strokes.The overall Generic HRQOL measurement tools level of the Cerebrovascular accident patient who participate in the study was poor response and the overall specific HRQOL measurement for CVA patients were moderate response

Keywords: Quality of life, Cerebrovascular accident, Diyala.

1. Introduction

Each year, the November issue of the International Journal of Stroke (IJS) coincides with World Stroke Day, which this year is on Saturday 29 October. World Stroke Day is
coordinated by the World Stroke Organization (WSO) and is an opportunity for us all to highlight the enormous global burden of stroke and to promote campaigns to reduce its incidence and impact. In this month's issue, to coincide with World Stroke Day 2022, we publish the important Global Stroke Statistics 2022.[1] Cerebrovascular diseases are the major cause of death in European Union. In diseases of the circulatory system, where cerebrovascular disease stands out, stroke is the one with the most significant expression [2]. young stroke may have detrimental effects on quality of life at an age in which individuals are productive members of society [3].
Recovery post stroke could take months to years and is a formidable journey with many individuals not regaining their previous level of function [4]. The etiology of ischemic stroke is due to either a thrombotic or embolic event that causes a decrease in blood flow to the brain. In a thrombotic event, the blood flow to the brain is obstructed within the blood vessel due to dysfunction within the vessel itself, usually secondary to atherosclerotic disease, arterial dissection, fibromuscular dysplasia, or inflammatory condition. In an embolic event, debris from elsewhere in the body blocks blood flow through the affected vessel. The etiology of stroke affects both prognosis and outcomes.[5][6]
Generic HRQOL measurement tools utilized across a wide range of populations and health care interventions, whereas specific HRQOL measurement tools are designed to measure HRQOL only specific subpopulations [7]. Disease-specific HRQOL measurement tools are designed to assess HRQOL of patients with scales and questions that are specific (related) to a disease or health condition [8].

2 Materials and Methods

The study is a descriptive cross-sectional study that was conducted in Diyala governorate in Iraq at 6 hospitals that were randomly selected (multistage sampling). The duration of data collection lasted four months, The period of data collection lasted 4 months, it began on 9th February 2022 ending on 9th May 2022. The place of study was 3 hospitals included 440 participants. Study sample was collected under the supervision of neurologist. The questionnaire consist of two part; socio-demographic, general information. To assess QOL of patient, validated well known questionnaire form general QOL Questionnaire WHO-BERF, and stroke impact scale- specific quality of life Questionnaire was used. 26 item questions make up this questionnaire designed to assess general quality of life and 59 questions to assess specific quality of life and the patient's responses are rated on a Likert scale of 1 to 5. This is determined by giving the

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response categories of "not difficult at all," "a little difficult," "somewhat difficult," , "very difficult", "extremely difficult" scores of, 1, 2, 3,4 and 5respectively, total score categorization into poor, fair and good where poor <50% (<=177 score) , fair 50-74 % (178-236score) , good ≥ 75% (>236 score) in generic quality of life instruments WHOQOL-BREF and total score categorization into poor, fair and good where poor <50% (<=78 score) , fair 50-74 % (79-104score) , good ≥ 75% (>104 score) in Stroke Impact Scale (SIS) 3.0 specific measurement tools [9], Inclusion criteria: Patients who live in Diyala Governorate, Adult Stroke patients (18 years or more) of both sexes, had been hospitalized for diagnosis of post stroke, at least with one month and more post stroke.

Able to communicate verbally, completed scan and other investigations dependent to provide the medical diagnosis of stroke. Exclusion criteria: Patients who live outside Diyala governorate, Patient less than 18 years old, Uncooperative patient, those patients provide incomplete or conflicting information during filling out a questionnaire, Patients who cannot be talking, Patients with acute phase of stroke.

3. Statistical data Analysis

Analysis of data was carried out using the available statistical package of SPSS-28 (Statistical Packages for Social Sciences- version 28). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum). The significance of difference for different percentages (qualitative data) was tested using Pearson Chi-square test (2-test) with the application of Yate's correction whenever applicable. Statistical significance was considered whenever the P-value was equal to or less than 0.05.

4. Results

Table (1) illustrate shows the distribution of studied sample according to general information concerning to age of onset of first stroke was 33.2% of samples at age range from 70 to 79 years old where represent the age at which the illness is started with Mean±SD (Range) 65.2±10.1 (28-93), also the highest percentage registered28.0% of more than 24 months duration of an illness with Mean±SD (Range) 15.5±15.7 (1-72),

and the number of stroke shows highest percentage were46.6% two time of strokes. regarding to subject "Family History", most respondents having a family history, and they are accounted (81.8%).

Results shows that (90.5%) of studied patients having morbidity with "Blood Pressure (Hypertension)", then followed with (89.5%) of having morbidity with diabetes mellitus, then followed with (80.7%) of having morbidity with angina disease, then followed with (75.0%) of having morbidity with genetic cardiovascular disease, then followed with (71.1%) of having morbidity with myocardial infarction disease, then finally followed with (37.3%) of having morbidity with ischemic heart disease.

Table(1): Distribution of the Study Sample related to their Clinical Data(N=440)

General information	Groups	No	%
Age of onset of first stroke (years)	<50years	26	5.9
	50---59	99	22.5
	60---69	42	32.3
	70---79	146	33.2
	=>80years	27	6.1
	Mean±SD (Range)	65.2±10.1 (28-93)	
Duration of illness (months)	<6m	110	25.0
	6---11	101	23.0
	12---23	106	24.1
	=>24m	123	28.0
	Mean±SD (Range)	15.5±15.7 (1-72)	
Numbers of strokes	1	181	41.1
	2	205	46.6
	3	42	9.5
	4	10	2.3
	5	2	0.5
Comorbidities	Ischemic heart disease	164	37.3
	Angina	355	80.7
	Myocardial infraction	313	71.1
	Diabetes Mellitus	394	89.5
	Hypertension	398	90.5
	Genetic cardiovascular disease	330	75.0

Table(2):shows the distribution of the study samples according to general information and general quality of life "WHOQOL-BERF" ,Regarding age of onset first stroke was majority of cases from range 70-79years with high percentage(33.5%)from poor score while lowest percentage (31.1%)from fair score and the association was found to be statistically non-significant(p=0.407) Regarding duration of illness the majority of cases was from range=>24 months with high percentage(41.0%)from fair score while lowest percentage (25.9%)from poor score and the association was found to be statistically non-significant(p=0.073) Regarding numbers of stroke the majority of cases was two times with high percentage(48.5%)from poor score while lowest percentage (34.4%)from fair score and the association was found to be statistically significant(p=0.028) Regarding family history with high percentage of positive answer (85.5%)from poor score while lowest percentage (59.0%)from fair score and the association was found to be statistically high significant(p=0.0001)

Regarding chronic heart disease(Ischemic heart disease) with high percentage of positive answer (93.4%)from fair score while lowest percentage (78.6%)from poor score and the association was found to be statistically high significant(p=0.007) Regarding chronic heart disease(Angina) with high percentage of positive answer (86.9%)from fair score while lowest percentage (68.6%)from poor score and the association was found to be statistically high

significant(p=0.003) Regarding chronic heart disease(Myocardial infraction) with high percentage of positive answer (93.4%)from fair score while lowest percentage (88.9%)from poor score and the association was found to be statistically non-significant(p=0.284) Regarding diabetes mellitus with high percentage of positive answer (49.2%)from fair score while lowest percentage (35.4%)from poor score and the association was found to be statistically significant(p=0.038) Regarding hypertension with high percentage of positive answer (92.1%)from poor score while lowest percentage (80.3%)from fair score and the association was found to be high statistically significant(p=0.004) Regarding genetic cardiovascular disease with high percentage of positive answer (82.0%)from fair score while lowest percentage (73.9%)from fair score and the association was found to be non-significant(p=0.176)

Table (2): scoring system general Quality of life "WHO QoL-BERF" and general information

general information		General Quality of life "WHO QoL-BERF"				P value
		Poor (<=78)		Fair (79-104)		
		No	%	No	%	
Age of onset of first stroke (years)	<50years	25	6.6	1	1.6	0.407
	50---59	84	22.2	15	24.6	
	60---69	122	32.2	20	32.8	
	70---79	127	33.5	19	31.1	
	=>80years	21	5.5	6	9.8	
Duration of illness (months)	<6m	95	25.1	15	24.6	0.073
	6---11	92	24.3	9	14.8	
	12---23	94	24.8	12	19.7	
	=>24m	98	25.9	25	41.0	
Numbers of strokes	1	154	40.6	27	44.3	0.028*
	2	184	48.5	21	34.4	
	=>3	41	10.8	13	21.3	
Family history	Yes	324	85.5	36	59.0	0.0001*
	No	55	14.5	25	41.0	
Ischemic heart disease	Yes	298	78.6	57	93.4	0.007*
	No	81	21.4	4	6.6	
Angina	Yes	260	68.6	53	86.9	0.003*
	No	119	31.4	8	13.1	
Myocardial infraction	Yes	337	88.9	57	93.4	0.284
	No	42	11.1	4	6.6	
Diabetes Mellitus	Yes	134	35.4	30	49.2	0.038*
	No	245	64.6	31	50.8	
Hypertension	Yes	349	92.1	49	80.3	0.004*
	No	30	7.9	12	19.7	
Genetic cardiovascular disease	Yes	280	73.9	50	82.0	0.176
	No	99	26.1	11	18.0	

*Significant difference between percentages using Pearson Chi-square test (χ2-test) at 0.05 level.

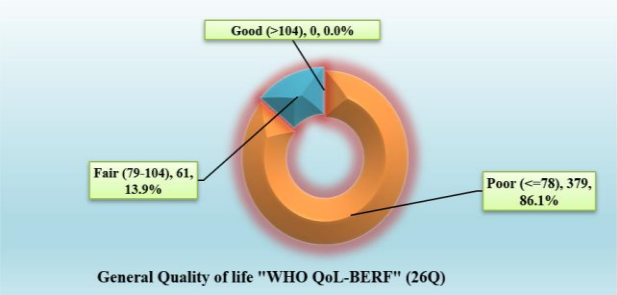

Figure (1) shows that 86.1% of the patients had poor score;13.9% fair score and zero good score.

Table(3) shows that Physical (7Q) 85.5% of the patients had poor score;14.3% fair score and 0.2 good score with Mean±SD (Range) 18.7±2.7 (10-29) , Psychological(Q8)84.8% % of the patients had poor score;15.2% fair score and zero good score with Mean±SD (Range) 21.3±3.2 (13-32) , Social (Q3) 81.6% of the patients had poor score;15.9% fair score and 2.5% good score with Mean±SD (Range) 8.8±2.1(3-15) Environmental(Q8) 85.9% of the patients had poor score;13.4% fair score and 0.7% good score with Mean±SD19.9±3.8 (Range) (12-34)

Table (3): Distribution of study sample responding regarding General Quality of life's "WHO QoL-BERF"

Main domain	Score	No	%	Mean±SD	(Range)
Physical (7Q)	Poor <=21	376	85.5	18.7±2.7	(10-29)
	Fair (22-28)	63	14.3		
	Good (=>29)	1	0.2		
Psychological (Q8)	Poor <=24	373	84.8	21.3±3.2	(13-32)
	Fair (25-32)	67	15.2		
	Good (=>33)	-	-		
Social (Q3)	Poor <=9	359	81.6	8.8±2.1	(3-15)
	Fair (10-12)	70	15.9		
	Good (=>13)	11	2.5		
Environmental (Q8)	Poor <=24	378	85.9	19.9±3.8	(12-34)
	Fair (25-32)	59	13.4		
	Good (=>33)	3	0.7		

Regarding Table(4) to subjects studied main domains, "Physical Problems", showed Mean±SD (Range) 10.1±5.3 (4-20), Median8.0 for patients with

post stroke, then followed with Mean±SD (Range) 24.2±6.6 (7-35) Median 26.0 for "Memory and thinking", then followed with Mean±SD (Range) 23.2±5.5 (9-45) Median22.0 for "Changes in mood and ability to control emotions", then followed with Mean±SD (Range) 25.9±5.8 (8-35) Median28.0 for "Ability to communicate with other people, as well as your ability to understand what you read", then followed with Mean±SD (Range) 28.8±10.3 (10-50) Median28.0 for "Activities you might do during a typical day", then followed with Mean±SD (Range) 26.4±7.8 (9-45)Median27.0 for "Ability to be mobile, at home and in the community", then followed with Mean±SD (Range) 15.2±5.1 (5-25)Median15.0 for "Ability to use your hand", then followed with Mean±SD (Range) 21.2±4.8 (12-40)Median24.0 for "Ability to participate in the activities that you usually do", then followed with Mean±SD (Range) 191.1±31.2 (110-270)Median189.5 for total Stroke impact scale-specific quality of life.

Table (4) Summary Statistics of Specific QoL main domains for the studied patients		
Specific QoL main domains	Mean±SD (Range)	Median
A-Physical problems which may have occurred as a result of your stroke (4Q)	10.1±5.3 (4-20)	8.0
B-Memory and thinking (7Q)	24.2±6.6 (7-35)	26.0
C-Changes in your mod and about your ability to control your emotions since your stroke (9Q)	23.2±5.5 (9-45)	22.0
D-Ability to communicate with other people, as well as your ability to understand what you read and what you hear in conversation (7Q)	25.9±5.8 (8-35)	28.0
E-Activities you might do during typical day (10Q)	28.8±10.3 (10-50)	28.0
F-Ability to be mobile, at home and in the community (9Q)	26.4±7.8 (9-45)	27.0
G-Ability to use your hand that was most affected (5Q)	15.2±5.1 (5-25)	15.0
H-Ability to participate in the activities that you usually do, things that are meaningful to you and help you to find purpose in life (8Q)	21.2±4.8 (12-40)	24.0
Part IV: Stroke impact scale-specific quality of life (59Q)	191.1±31.2 (110-270)	189.5

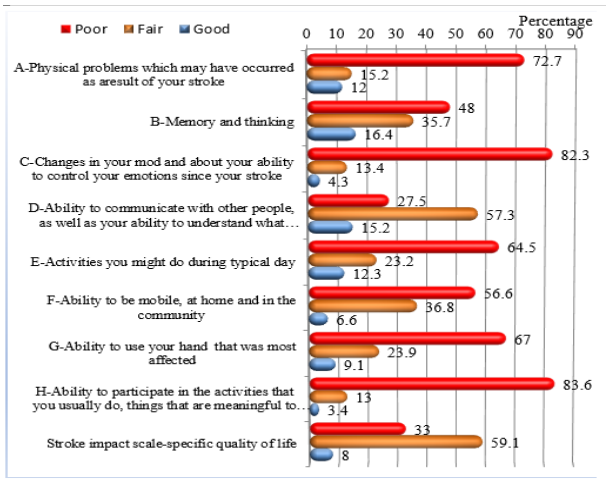

Figure (2) distribution of Percentile Mean of Score for Specific Health related QoL main domains

5. Discussion

The HRQoL is a significant and relevant multidimensional health assessment for the community and health systems [10] Chronic illnesses such as stroke require long-term supervision [11], including HRQoL monitoring through the use of a specific instrument[10] . That is a valuable tool for nursing, as it helps to understand the individual's perception of their health and rehabilitation process [12]

Regarding onset of illness the study found that (33.2%) of patient in the age group (70-79) with mean 65.2±10.1years this result agree with study reported by [13] in Iran who found that the mean ages (standard deviation) of 66.4± 14.2 years.

The study found that (28.0%) with disease duration more than 24 months this result agree with [14] who found that (85%) of case more than24months of disease duration. The current study showed that (46.6%) of patients were suffering from previous stroke this agree with study [15] in who found that (47%) Stroke recurrence in the first 6 months following initial stroke was more than twice as common. The results presented that (90.5%) of the sample suffer from hypertension as a chronic disease, (73.3%) diabetes mellitus is more frequent in the older group than in the younger group of patients with CVA. This result is agreeing with many previous studies which find out that most common comorbidity was hypertension [16] [17] [18]. The elevation in blood pressure effected the arteries and can create weak points that may be ruptured easily, or thin spots accumulated with blood and protruded out from the artery wall (which known as aneurysm). Hypertension and changeable blood vessels are the main cause of the hemorrhagic CVA, ischemic CVA produced narrowing or blockage of blood vessels in the brain tissue which leads to cutoff the blood flow to the brain, and it is tissue. When the patients with diabetes mellitus end up with high glucose level in their blood, on the other hand their tissues cannot receive enough energy. Furthermore, the high glucose may be due to collection of the fat on the inner wall of the blood vessels. This clot may be accumulated and produce narrow or block in the artery or vein (blood vessels) of the brain or neck, cutting off blood flow, produce low oxygen supply to the brain which may causing CVA.

The study showed significant association regarding to asking number of strokes with scoring system except of other asking such as: age onset and duration of illness, since weak relationships are obtained with no significant. this result agreed with most variables of study that conducted in 2006 in

Gaza [19]. these result agreed with most variables of study that conducted by [20] in Iran.

Regarding overall determine of General QoL domains Physical, Psychological Social, Environmental Domains about (86.1%) with mean 68.7±9.8 range (45-102) of stroke patients at poor score and only(13.9%) of them answer moderate now at fair score when asked to rate their overall general QoL domains now compared with the life before this agree with study reported by[21] in Africa[22][23] who found of that Overall, stroke survivors reported a low QoL.also this agree with study reported by[24] in United States who found of that the average scores on all of the HRQoL measures were lower among stroke survivors. Regarding the findings of the current study showed that overall assessment of stroke specific QoL domains about (59.1%) with mean 191.1±31.2 range (110-270) of stroke patients was found to have moderate response. The current study finding agree with previous study done in 1999 in USA. which showed also moderately effect on the quality of life of stroke patients [25].

6. Conclusion

- Quality of life of Cerebrovascular accident patients in Diyala general Hospitals had poor to moderate level
- Study showed that patients with post stroke having go down concerning general QoL, since most of studied items regarding QoL questionnaire are accounted low responding.
- Patients having post stroke for long duration reported lower quality of life regarding specific HRQoL.

7. Recommendation

Establishing of health education program for improving QoL of post stroke patients including psychosocial support since it is an important consideration.

An intensive comprehensive, evidence-based obligatory wide population-based health education programs (campaigns) are needed to improve awareness of stroke, especially among the most vulnerable groups (chronic diseases patients), aged people, and less educated persons

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