

## EVALUATION OF POST STROKE HEALTH-RELATED QUALITY OF LIFE (GENERAL) SCALES AMONG A SAMPLE IN AL-NAJAF AL-ASHRAF GOVERNORATE IN IRAQ

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### ABSTRACT

**Objectives:** This study aimed to identify and study most properties of the general health-related quality-of-life (HRQoL) in patients with post stroke, and to find out relationships among distribution of an overall assessment quality of life improvement and socio-demographic characteristics, as well as with general information variables. **Patients and Methods:** A descriptive study for patients with post stroke was conducted starting from 6<sup>th</sup> December, 2017 ( data collection were between 6<sup>th</sup> December, 2017 and 10<sup>th</sup> February, 2018) in Al-Sadr Medical City in Al Najaf Al-Ashraf in Iraq, in order to Evaluation of Post Stroke Health-Related Quality of Life (General) Scales. In addition to determining the relationship between General Scales

Health-Related Quality of Life and their socio-demographical characteristics. an inconvenient sample (simple random sampling) of 100 adults patient with stroke, who visit Rehabilitation Center in Al-Sadr Medical City. **Results:** The findings of the study indicate that there General quality of life for the studied patients assigned that observed responses are low, and moderate response. Regarding to subjects of physical main domain, result showed that low assess accounted for patients with post stroke, then followed with a moderate assess concerning psychological, social, and environmental main domains. also shows that an overall general QoL redistribution (under/upper) a cutoff point for percentile scoring scales that (SDCv.) reported significant relationships at  $p < 0.05$ , except with Occupation, and residency, since a weak relationships are obtained with no significant relationships at  $p > 0.05$ . **Conclusions:** A stroke is a major public health issue, so that patients with post stroke having

go down concerning general QoL, since most of studied items regarding WHO QoL – BERF questionnaire are accounted low, and moderate responding and there is significant relationships between general health related QOL and socio-demographic characteristics.

**KEYWORDS:** Quality of life; General Health-Related; Socio-Demographic; Post stroke patients.

## INTRODUCTION

The topic - quality of life in stroke- unfolds two fundamental concepts: stroke which has a standard definition and quality of life which must be properly conceptualized and defined after a proper understanding of the meaning of life itself.

Stroke is clinically defined as a syndrome of rapidly developing symptoms or signs of focal or global neurological dysfunction of which there is no other apparent cause than vascular, leading to death or lasting more than 24 hours. It is a leading cause of neurological admissions and a major cause of disability, the presence of which affects health-related quality of life (HRQOL).<sup>[1]</sup>

Stroke has been the leading cause of mortality, disability, psychological, and socioeconomic issues in the world. Mortality of stroke occurs in people above the age of 60 years and is the second leading cause of death and also in people aged 15 to 59 years, it is the fifth leading cause of death. Hence, growing population of the aged is at a high risk of stroke attack and even the death.<sup>[2]</sup> About 15 million people suffer strokes worldwide. Of these, 5 million died and 5 million survive with disabilities, becoming a burden for their families and communities.<sup>[3]</sup> Rehabilitation improves the functional status with increasing Quality of life (QOL) for stroke survivors. Therefore, the assessment of stroke rehabilitation should include disability and QOL domains, which are influenced by the disease.<sup>[4]</sup>

Usually, stroke studies use generic scales to assess the QOL in stroke patents. These scales have the advantage comparing different diseases, but these scales are less sensitive to explore the effects of impairments in QOL in stroke patents. This is the reason that it is recommended to use both generic and stroke specific scales.<sup>[5]</sup>

**Objectives of Study**

1. To identify and study most properties of the Specific health-related quality-of-life (HRQoL) instruments in patients with post stroke.
2. To find out the relationship among general scales (HRQoL) in patients with post stroke with some related variables such as (Age, Gender, Residency, and Socio-Economic Status).

**MATERIALS AND METHODS**

**Setting of the study:** A cross sectional study (descriptive study) for patients with post stroke was conducted starting from 6th December 2017 ( data collection were between 6th December 2017 and 10th February 2018) in Al-Sadr Medical City in Al Najaf Al-Ashraf in Iraq.

**The sample of the study:** This study was conducted on an inconvenient sampling of 100 adults patients with post stroke, who have been diagnosed and treated by neurologists in Al-Sadr Medical City.

**Steps of the Study:** For Evaluate of Post Stroke Health-Related Quality of Life (General) Scales "General", quality of life questionnaires. To assesses patient's needs, This study use a reliable questionnaire format of General QoL Questionnaire WHO QoL-BERF" Program on Health World Health Organization", which consists (26) items distributed among four main domains, such that Physical, Psychological, Social, and Environment, as well as two question for rating and satisfying patients QoL.

**Descriptive data analysis**

- a- Tables (Frequencies, and Percentages) Summary Statistics tables including: Percentile Grand Mean of score (PGMS) with their Standard Deviation (SD), and assessment by scoring scales throughout three sequential intervals for assessing (PGMS) in light of intervals (0.0 – 33.33), (33.34 – 66.66), 66.67 – 100).
- b- Redistribution of (PGMS) by (under/upper) cutoff point for creating an association table for an overall assessments concerning Specific QoL.
- c- Graphical presentation by using "Bar Chart".

## RESULTS

**Table 1: Distribution of the studied sample according to (SDCv.) Observed Frequencies and Cumulative Percent's.**

SDCv.	Classes	No.	Cum. %
Gender	Male	70	70
	Female	30	100
	Total	100	-
Age Groups (yrs.)	< 40	9	9
	40 – 49	18	27
	50 – 59	27	54
	60 – 69	39	93
	> 70	7	100
	Total	100	-
	Mean ± SD	55.17 ± 12.01	
Marital State	Single	3	3
	Married	78	81
	Divorced	2	83
	Widow	11	94
	Separated	6	100
	Total	100	-
Education state for patient	Illiterate	26	26
	Read & Write	8	34
	Primary	23	57
	Intermediate	15	72
	Secondary	14	86
	College & More	14	100
	Total	100	-
Job of patient	High professional & managerial jobs	10	10
	Lower professionals, skilled and semiskilled	24	34
	Unskilled workers	66	100
	Total	100	-
Residency	Urban	77	77
	Rural	23	100
	Total	100	-

(\*) **HS: Highly Sig. at P<0.01; NS: Non Sig. at P>0.05; Testing based on One-Sample Chi-Square test, and Binomial test.**

Results show that "Gender", most of studied sample were male. Age groups shows that vast majority of studied sample were recorded in (60 - 69) years old, as well as mean value and standard deviation are estimated by 55.17 yrs., and 12.01 yrs. respectively. Most of studied sample were married. Educational levels seems to be similarly distribution along studied patients.

**Table 2: Distribution of the studied sample according to (SES) with comparisons significant.**

SES	Groups	No.	Cum. %	C.S. (*) P-value
Socio-Economic Status	< 60 (Low)	46	46	$\chi^2 = 31.22$ P=0.000 (HS)
	60 - 80 (Moderate)	47	93	
	> 80 (High)	7	100	
	Total	100	-	

(\*) **HS: Highly Sig. at P<0.01; NS: Non Sig. at P>0.05; Testing based on One-Sample Chi-Square test.**

Table (2) shows observed frequencies, and Cumulative percent's of "Socio-Economic Status-SES" with comparison significant, and they are accounted through applying of WHO instrument, which consists of several components such that, occupation, education levels, crowding index (no. of households, and no. of rooms), and a particular properties (house ownership, possession of a car, available of specific requisite materiel). Three social and economical levels represented by the preceding contents (Low, Moderate, and High). Vast majority of the studied sample had at low, and moderate responding, and they are accounted (93.0%).

**Table 3: Distribution of the studied sample according to some related Risk Factors with comparisons significant.**

Risk Factors	Response	No.	Cum. %	C.S. (*) P-value
Are you smoking cigarette/or any others types	No	38	38	P=0.000 HS
	Yes	62	100	
If yes, what are duration of smoking?	Non Applicable	38	38	$\chi^2 = 38.16$ P=0.000 (HS)
	< 10 yrs.	5	43	
	10 - 19	14	57	
	≥ 20 yrs.	43	100	
Are you drinking alcohol	No	89	89	P=0.000 HS
	Yes	11	100	
If yes, what are duration of drinking alcohol ?	Non Applicable	89	89	$\chi^2 = 5.091$ P=0.078 (NS)
	< 10 yrs.	3	92	
	10 - 19	7	99	
	≥ 20 yrs.	1	100	
Are you taking addiction drugs?	No	85	85	P=0.000 HS
	Yes	15	100	
If yes, what are duration of uses	Non Applicable	85	85	$\chi^2 = 5.200$ P=0.074 (NS)
	< 5 yrs.	9	94	
	5 - 9	4	98	
	10 - 19	2	100	

Age Onset (1st Stroke)	20 – 29	6	6	$\chi^2 = 61.04$ P=0.000 (HS)
	30 – 39	3	9	
	40 – 49	21	30	
	50 – 59	27	57	
	60 – 69	38	95	
	70 – 79	5	100	
	Mean $\pm$ SD	54.49 $\pm$ 12.19		
Duration of illness	< 5	35	35	$\chi^2 = 15.28$ P=0.002 (HS)
	5 - 9	30	65	
	10 - 19	26	91	
	$\geq$ 20 yrs.	9	100	
Numbers of Strokes	1time	74	74	$\chi^2 = 75.38$ P=0.000 (HS)
	2 times	17	91	
	$\geq$ 3 times	9	100	

<sup>(\*)</sup> **HS: Highly Sig. at P<0.01; NS: Non Sig. at P>0.05; Testing based on One-Sample Chi-Square test, and Binomial test.**

Table (3) shows observed frequencies, and Cumulative percents of "Risk Factors", such that "smoking cigarette, and duration of smoking, drinking alcohol, and duration of drinking, taking addiction drugs, and duration of taking addiction drugs, Age Onset (1st Stroke), Duration of illness, and Numbers of Strokes" with comparisons significant.

Regarding to subject "Smoking Cigarette/or any others types", most respondents were smokers, and they are accounted (62%), as well as mainly of them were a heavy smokers. Only (11%) of studied were drinking alcohol, and (15%) of them having addiction drugs. Age onset groups for the (1st Stroke) shows that vast majority of studied sample were recorded in (60 - 69) years old, as well as mean value and standard deviation are estimated by 54.49 yrs., and 12.19 yrs. respectively. Most of studied patients had recorded duration of illness less than 10 yrs., and they are accounted (65%). Finally, patients who had one time of stroke registered (74%) among studied patients.

#### **Distribution of Questionnaire's Domains (General QoL)**

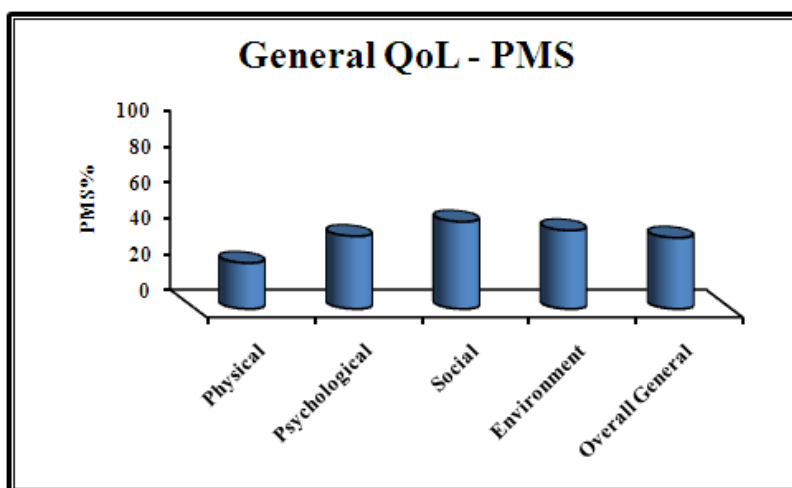
Regarding to subjects of General QoL, physical main domain, result showed that low assess accounted for patients with post stroke, then followed with a moderate assess concerning psychological, social, and environmental main domains.

For summarizes of preceding results it could be conclude that patients with post stroke having a different assess concerning health related general QoL, having instability with daily life cycle, in border a moderate to low level.

**Table 4: Summary Statistics of Percentile Score General QoL main domains for the studied patients.**

Main Domains	No.	PGMS	PSD	Evaluated
Physical Domain	100	25.57	19.76	Low
Psychological Domain	100	40.50	17.77	Moderate
Social Domain	100	48.58	21.75	Moderate
Environment Domain	100	43.72	15.42	Moderate
General QoL	100	39.59	14.97	Moderate

**PGMS: Percentile Grand Mean of Score; PSD: Percentile Standard deviation**



**Figure 1: Bar chart for distribution of Percentile Mean of Score for General WHO QoL – BERF main domains.**

To find out relationships amongst an overall evaluation of general – QoL, concerning stroke's patients in light of their [Socio-Demographical Characteristics variables-(SDCv.), and General Information variables-(GIv.)] in table (5) consist a contingencies coefficients and their significant levels.

**Table 5: Relationships among General QoL Stork's Patients in light of Socio-Demographical Characteristics variables.**

SDCv.	General – QoL	
	C.C.	P-value
Gender	0.198	0.043 (S)
Age Groups	0.321	0.021 (S)
Marital State	0.308	0.033 (S)
Education	0.318	0.046 (S)
Occupation	0.058	0.842 (NS)
Residency	0.183	0.063 (NS)
Socio-Economic Status	0.244	0.042 (S)

(\*) **HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: No Sig. at P>0.05; Statistical hypothesis based on Contingency's Coefficient test.**

Results shows that overall general QoL redistribution (under/upper) a cutoff point for percentile scoring scales that (SDCv.) reported significant relationships at  $P < 0.05$ , except with Occupation, and residency, since a weak relationships are obtained with no significant at  $P > 0.05$ .

## DISCUSSION

Throughout the course of present study, as shown it has been noticed that (70%) of the study sample are males and the remaining are females, this could be attributed to a higher attendance by males at the "Public Medical Clinics", where the sample was taken. The dominant age group of study sample is within (60-69) years old and accounted for (39%) were more frequent by stroke, This result was agreements with the finding of the study, which is carried out in Bangladesh to study Socio-demographic Status & Associated Risk Factors of the Stroke Patient's in a Tertiary Care Hospital, which stated that the majority of the stroke patients were males (72%) and the higher percentage (29%) were between (51-69)years of age.<sup>[6]</sup>

Seventy-eight (78%) of the studied sample were married, and this finding agree with finding of another study, which says that, (94.2%) were married for determining quality of life and associated factors in patients with stroke in Turkish.<sup>[7]</sup> Also this result agreed with [8] state that the largest proportion are married and they accounted for (57.9%) a many studied sample.

Concerning the level of education, most of them (26%) are illiterates. Such result is an ordinary outcome for our society as a result of the tragedy of the political events, which the country had passed through. This result conflicting with Dearborn et al, in their study which is entitled (Perception of Risk and Knowledge of Risk Factors in Women at High Risk for Stroke), whereas their results shows that lowest level of education is some high school or less, which is accounted for (8%) of the study sample, while highest percentage (28.6%) are graduated or professional school. So poor awareness of low educational may lead to exposure to stroke at any time because they cannot correctly decide when they need counseling or medical help.<sup>[8]</sup>

Relative to employment the results indicate that more than half of the study sample are non-occupied and retired they account for (66%), this finding was similar to study done by Weltermann et al, in their study, which is, entitled (Stroke Knowledge among Stroke Support



Group Members) a cross-sectional questionnaire survey; they find that the highest percentage (72.8%) of their study sample regarding employment in term of current professional status were retired and non-occupied.<sup>[9]</sup>

Regarding residency the highest percentage of the study sample are living in urban area and they accounted for (77%) of the sample. So Pandian *et al.*, classify their study sample in term of residency as rural and urban and the highest percentage are living in urban area and they represent (62%) of their study sample.<sup>[10]</sup> And another study by [Pandian, *et al.*, 2005] find that the greatest percentage of their study sample living in city and they accounted as (74%) of the whole study sample. The study finding is in agrees with (Pandian, *et al.*, 2006; Pandian, *et al.*, 2005) that similarity between the current study and theirs lies in that the majority of both studies subjects living in an urban residency.<sup>[11]</sup>

Respect to Table (3) shows observed frequencies, and Cumulative percent's of "Socio-Economic Status- SES" with comparison significant, and they are accounted through applying of WHO instrument, which consists of several components such that, occupation, education levels, crowding index (no. of households, and no. of rooms), and a particular properties (house ownership, possession of a car, available of specific requisite materiel). Three social and economical levels represented by the preceding contents (Low, Moderate, and High).

Regarding Socio-Economic status, table (3), the present study revealed that patients with low and moderate income were (cum 93%) of the sample ( $P < 0.000$ ). This finding in agreement with the results of study done in 2015 when they reported that socioeconomic factors are have significant effect on HRQOL in Korean stroke population.<sup>[12]</sup> Also the finding of current study was agree with the results of study done in Pakistan by Khalid *et al.*<sup>[13]</sup>

### **Distribution of General Health related Quality of Life**

Concerning the subject "General QoL- Physical Domain" in table (4), a study conducted in 2016 Showed that patients had low responses to general-physical domain that involves one's ability to carry on normal physical activities with (PSD=19.60), this finding is in agreement with the current study, which showed that General QoL regarding physical activities responded lower at (PSD=19.76).<sup>[14]</sup> This result also agrees with another study done in 2005 by Jönsson. Who showed low response to Physical Activity domain as well.

With respect to subject "General QoL- Psychological Domain" the current study showed a moderate response, our results agreed with the study that concluded the same findings and mentioned that so far, no major perturbations in the health related quality of life (QoL) and psychological well-being will affect patients psychologically in a moderate level.<sup>[15]</sup> Another study Rinu 2010 were in agreement with our finding regarding psychological consequences of stroke, this study reveals that; time since stroke diagnosis and treatment had a negative effect on psychological impairment. Elderly patients at follow up experienced worse psychological impairment. Higher stage stroke also negatively psychosexual and psychological impairment. These both reiterate the above points[Rinu et al., 2010].

With reference to the subject of "General QoL-Social Domain", which contains three items concerned with personal relationships, sexual life and getting support from relative persons, the present study estimated moderate responses, which means that stroke patients have problems regarding social issues in moderate level. This finding in agreement with a study done in 2014 in Brazil which is entitled (Quality of Life of Individuals with Stroke) suggests that compared the quality of life of individuals who have suffered a CVA with individuals who have suffered an acute myocardial infarction. The quality of life was significantly worse in patients with stroke compared with those with acute myocardial infarction.<sup>[16]</sup> Also the current study findings was agree with results of the study conducted in 2005 which are moderate effect by social domain.<sup>[17]</sup>

Regarding the subject "General QoL-Environmental Domain", which concerning patients living conditions, transportation, finance, safety, health services, physical environment and opportunities for acquiring new information and skills, the present study showed moderate responses which indicate that environmental side affect patients QoL moderately, while a study done in 2016 in Brazil revealed that environmental domain had lower affect patients QoL.<sup>[14]</sup> This finding disagree with the our study due to the fact that the issues of safety and environment affect everyone.

### **Recommendations**

Establishing of educational program to improve health related quality of life for post stroke patients. As well as initiation of support groups for patients having it, psychosocial care for patients with advanced stroke is an important consideration. physical rehabilitation principles for persons with stroke illness may prove useful. Governmental commitment by offering all

support to improve HRQoL for post stroke patients generally by providing stroke medications and support by their socio-economic status by providing financial donation.

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