

LIFE QUALITY OF PATIENTS SUFFERING CEREBRAL STROKE

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Abstract:

BACKGROUND: A cerebral stroke occurs when the brain's blood supply is either interrupted or reduced. When it happens, the brain does not get enough oxygen or nutrients, causing brain cell dysfunction or death. Cerebral Stroke in the majority of cases is a serious cerebro-vascular event that causes, if not leading directly to death, a devastating psycho-physical impact on the affected patient, consequently this patient is destined to die or suffer a qualitative health living. About 35-40% of those who survived by a Stroke report a serious disability, while almost 50-60% have less limitations but still are affected by a normal functioning on regard to daily life activities. Amongst them, 30% show spasticity or flaccidity of the limbs, depression, cognitive impoverishment, disorientation, pain, malnutrition and sleep disturbances, as well as disability to express their own needs or feelings. **OBJECTIVES:** The objective of this study is to evaluate the quality of life among adults suffering stroke effects and analyze the socio-demographic, clinical and functional factors that influenced the different areas of QOL of these patients. **METHODS:** The study is a cross-sectional study conducted of data results of three questionnaires, (asked 60 patients suffering a Stroke Unit in Tirana - Albania) which successfully fulfilled inclusive and exclusive criteria of this study. **RESULTS:** Female patients were n = 32; male n = 28. The socio-demographic and clinical characteristics of the study population are the following: Average age is 68.17 years old (± 10.68), and the time elapsed since the lesion is predominantly within 6.2 months (± 17.43). Amongst the types of stroke, the most predominant was ischemic stroke (61.67%). As well as (58.33%) of patients were involved in a post-stroke rehab procedure for 1-6 months of treatment. Multivariate regression analysis showed that patients with a lower duration of Stroke lesion but who were younger and more independent had better QOL than physical functioning. **CONCLUSIONS:** Research has led to consider beyond the aspects of physical health and cognitive functioning, psychic aspects, as well as psychological deterioration which can be highly important in terms of perception of satisfaction of one's life by the respondents.

Keywords: CerebralStroke, ischemic stroke, physical health, quality of life, QOL.

Abbreviations: QOL = Quality of Life

1. INTRODUCTION

A cerebral stroke occurs when the brain's blood supply is either interrupted or reduced. When it happens, the brain does not get enough oxygen or nutrients, causing brain cell dysfunction or death [1]. Cerebral Stroke, in the majority of cases is a serious cerebrovascular event that can cause, if not leading directly to death, a devastating psycho-physical impact on the patient. Consequences like destruction to death or quality of life effect are inevitable.

About 35-40% of those who survived by a Stroke report a serious disability, while almost 50-60% have less limitations but still are affected by a normal functioning on regard to daily life activities. Amongst them, 30% show spasticity or flaccidity of the limbs, depression, cognitive impoverishment, disorientation, pain, malnutrition and sleep disturbances, as well as disability to express their own needs or feelings [2].

This issue is particularly actual on regard to the growing number in elderly people, whose expose to this disease is either natural or socio-environmentally affected by daily lifestyle. Prevention of pathology or treatment of post-stroke aims not only patients longevity, but also to mitigate the negative effects occurring during exposure to the disease, especially when it comes to quality of life effect [3].

Recognition of the disease incidence and consequences within differentiated social contexts, has revealed that factors such as age, sex, depression, disability, physical decay, cognitive deterioration, and initial precariousness of socio-economic conditions (or, perhaps even more, their subsequent worsening) cannot only be easily associated with the occurrence of the stroke event, but also with a high affect on the quality of life [4].

Many patients suffering from this disease manifest the most varied health problems and sometimes mark different reactions. The extreme variability remains largely inexplicable today. The quality of life rate (QOL), however, is also heavily influenced by pure psychological factors, which often reflect critical situations and stressful situations [5].

The issue gets complicated and more complex when defining the quality of life context. This context is unlimited as per each case study and patient's features to exposure of this disease and individual differentiations.

Besides, the study aims to estimate the quality of life amongst adults with brain stem stroke and analyze the socio-demographic factors, clinical and functional that affects different aspects of QOL amongst these patients.

Main goals of this study: assess rehabilitative period and influence on quality of life. Estimate the impact of their socio-economic condition in the quality of life, evaluate the impact of their cultural and educational situation in quality of life.

2. MATERIALS AND METHODS

The survey conducted on the basis of cross-sectional study. Categorized variables were presented in terms of absolute values and percentages, and numeric variables in terms of mean and standard deviations. The various data collected (on regard to gender distinct, marital status, race, education, duration of stroke and brain injury position) used through Barthel Index and WHRQOL-BREF questionnaires for descriptive purposes. One month after the acute event, 60 in-patients of the Stroke Unit in Tirana did not show any serious communication difficulties. The targeted group was interviewed in a 15-minute meeting.

2.1 STUDY AREA

In the event of this field study based on, defining-treating of this target of Stroke Unit in Tirana, we could find that the above mentioned available service is not present or homogeneous throughout the country. We were issued an authorization from the National Health Institute of Tirana Albania upon request.

2.2 STUDY SUBJECTS

The research initially intended to target a group of 96 patients, but at the end it remained 60 patients. Some of them did not agree to cooperate while the approving part was not able to complete the interview due to the lack of eligibility for this study. Finally the interviewed patients were 32 female and 28 male. The inclusion criteria were: A clinical diagnosis of post stroke dating back to no less than two months, weakness and spasticity in the affected body part, existence of an instrumental diagnosis by CT scan or MRI, ability to fill out (or at least to respond to) the questionnaire.

The exclusion criteria were: no other clinical status over hemi paresis resulting from a stroke, aphasia, or cognitive impairment, the existence of serious neurological deficits of the prior stroke (paresis, paralysis, neglect, dementia), non-existence of further diseases with severe motor involvement (such as ALS, Parkinson's, multiple sclerosis, neuropathies, neoplastic diseases, severe organ failure)

2.3 DATA COLLECTION INSTRUMENTS

Instruments for data collection: Questionnaire on the socio-demographic data (age, sex, education, type of stroke, etc). Barthel Index (BI), a certified scale used to evaluate functionality and performance of any activity in daily life. Another tool for assessing the quality of life was the questionnaire WHOQOL-BREF. The categorized variables presented in absolute and percentage values, whereas the numerical variables introduced as standard deviation. (SD).

T TEST was also applied and the data analysis was accomplished by SPSS format (ANOVA) for independent subjects. And finally to assess the differences between the fields of HRQoL, it was used the linear gradual regression analysis in multi gradual variances.

2.4 DATA ANALYSIS PLAN

Categorical variables were presented in terms of absolute values and percentages, and numeric variables in terms of mean and standard deviations. In addition, the Student T Test and Analysis variance (ANOVA) were applied for independent samples to compare the influence of numeric variables on HRQoL domains. Pearson correlation, on the other hand, was used to determine the correlation between the HRQoL domains and the numerical variables of the study. In order to estimate the differences between each of the HRQoL domains, corrected for the confounding effect of different variables, gradual multivariate linear regression analysis was used. For all statistical tests, significance $p < 0.05$ was used, as well as V19 SPSS software.

2.5 ETHICAL CONSIDERATION

Subjects of the study were verbally informed of the purposes of this study and its aims due to their generous participation. This questionnaire was personally administered under the supervision of the principal investigator to all, with the patients' consent. Collected data was kept secure, confidential, and used only for research purpose.

3. RESULTS

Research has shown that acquired cerebral lesion can cause deficiency in the following environments: motility, language, sensation, thought, emotional-psychological context.

While evaluating the quality of life, it was observed that the most affected parts to the patients', were the physical functions, both the simplest and most complex ones on the basis of the daily routine. It was noticed that the functional physical deterioration was absolutely dominant over the quality of life, by worsening it, and the drastic declines were observed mainly in patients with recent Stroke.

During the study it was enabled to identify other additional factors affecting quality of life. It was identified that female patients had a poorer quality of life than male patients in terms of the physical performance, while other factors such as: education background, marital status, or where the brain was hit by cerebral, seemed not to have an impact on their quality of life. The most affected areas of life quality were the physical function and physical role, in those less self-sufficient at a higher age. The study results, identified the close relationship between increased physical disability and a reduction in QOL only in the functional aspects of the socio-demographic questionnaire.

With regard to clinical characteristics of stroke, it was noticed that, patients with multiple micro infarcts report, resulted in stipples lower compared to patients with less micro infarcts but more enhanced in brain areas [6].

The survey covered QOL amongst adults with stroke effects and factors associated to. The most affected areas of life quality were the physical function and the physical role. Functional decay has contributed overwhelmingly to QDV, whose drastic lowering has also occurred in individuals with more recent lesions, to those who were less self-sufficient and / or with the highest age.

Therefore, low functionality, seems to have a strong impact on people with post-stroke consequences. However, the argument about the level of disability and QDV is open and tight. The study conducted, has shown the close relationship between increased physical disability and QDV reduction only in the functional aspects of the socio-demographic questionnaire [7]. Other studies have underlined an even greater correlation with the domains of physical function and physical role [8].

The presence of active social life seems to contribute to a better QDV, since these patients had a better QDV for domains of physical function, physical role, general health, vitality, emotional roles and mental health than those without this indicator [9].

With this research, it was possible to identify further deterrent factors of QDV. It was discovered that females were strongly associated with worse QDV in relation to physical functioning. This result, however, is consistent with the other results of other research [10]. As reported in other studies, there was no significant association between quality of life and education background, marital status, comorbidity, and which part of the brain was affected [11]. What has been found is that most of the QDV surveys, including those of the species, have involved a number of social, demographic, economic and clinical variables, but only a few cases have been able to establish some kind of relationship with these same variables [12].

It can not be conceivable that this study has several limits. First, we considered the sample size rather small, which, of course, prevents or at least reduces the possibility of generalizing the results obtained. You may also add that some patients refused to participate in the survey or were excluded from the study due to dementia or aphasia

4. TABLE

Table 1. Thesociodemographic and clinical characteristics of subjects (N = 60).

Features	n (%)	Features	n (%)
Children		Age (average and SD)	68.17±10.68
0 sons	2 (3.33)	Range	(50-90)
1 son	3 (5.00)	Gender	
2 sons	21 (35.00)	Female	32 (53.33)
3 sons	19 (31.67)	Male	28 (46.67)
4 sons	6 (10.00)	Marital status	
5 sons	6 (10.00)	Married/Living together	2 (3.33)
6 sons	2 (3.33)	Widowed	37 (61.67)
7 sons	1 (1.67)	Single	21 (35.00)
Money		Title of study	
0 - 250 euro	14 (23.33)	Elementary	18 (30.00)
251 - 500 euro	21 (35.00)	Averages	15 (25.00)
501 - 1000 euro	18 (30.00)	Professional	11 (18.33)
1001 - 2000 euro	7 (11.67)	Higher	15 (25.00)
Type of stroke		Graduation	1 (1.67)
Ischemic	37 (61.67)	Live with	
Hemorrhagic	18 (30.00)	I live with 0 person	2 (3.33)
Microinfarcts	5 (8.33)	I live with 1 person	7 (11.67)
Headquarters of the stroke		I live with 2 people	9 (15.00)
Right	24 (40.00)	I live with 3 people	14 (23.33)
Left	23 (38.33)	I live with 4 people	13 (21.67)
Widespread	13 (21.67)	I live with 5 people	9 (15.00)
Rehabilitation		I live with 6 people	2 (3.33)
0 months	22 (36.67)	I live with 7 people	3 (5.00)
1 – 3 months	23 (38.33)	I live with 8 people	1 (1.67)
3 – 6 months	12 (20.00)	Time from stroke	6.2 (17.43)
6-12 months	3 (5.00)	(Average of months and SD)	
		Range	50 – 90

The demographic and clinical characteristics of the study population are described in Table 1. The mean age is 68.17 years (± 10.68), and the time elapsed since the lesion is predominantly within 6.2 months (± 17.43). Female patients are $n = 32$ and male $n = 28$; Most patients have an average age of 68.17 years; The majority were without spouse (61.67%); With a minimum monthly Albanian income of (76.67%). Among the types of stroke, the most predominant was ischemic stroke (61.67%). Most subjects (55%) lived in families composed of 2 up to 5 members. In some cases the interviewed people (85.67%) had between 2 and 5 children, when (58.33%) were involved in a post-stroke rehabilitation procedure 1-6 months of treatment.

Chart 1. The mean of the median and standard deviation of Barthel index for all subjects.

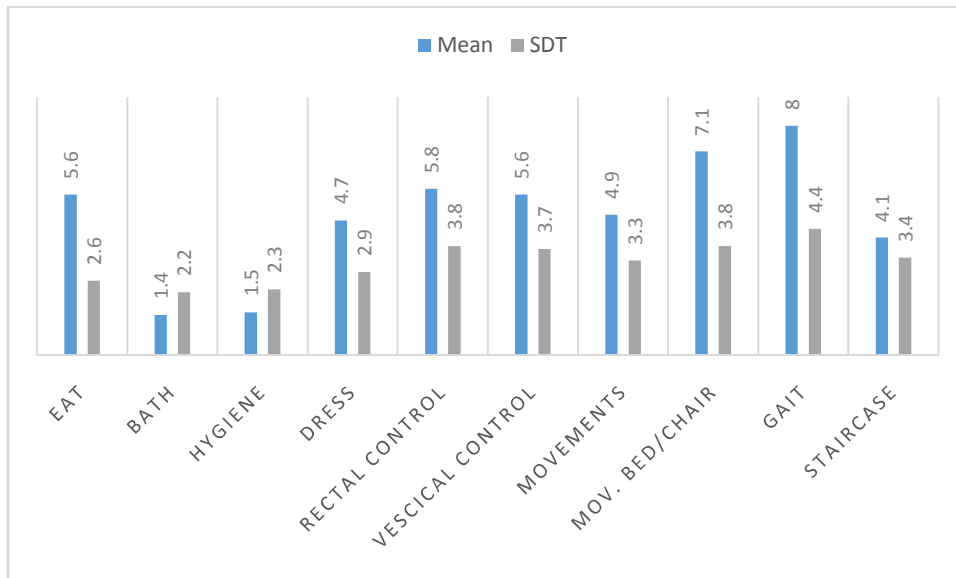
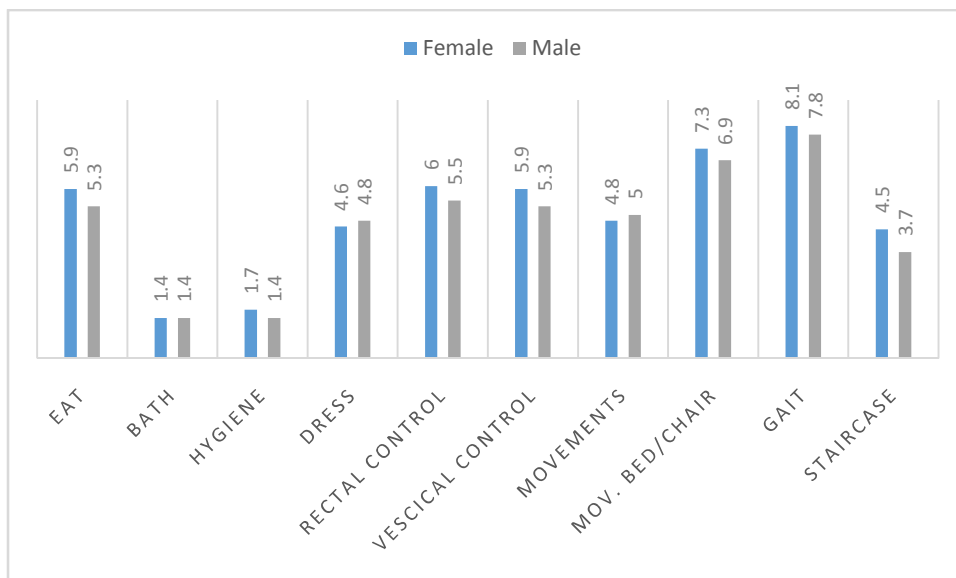
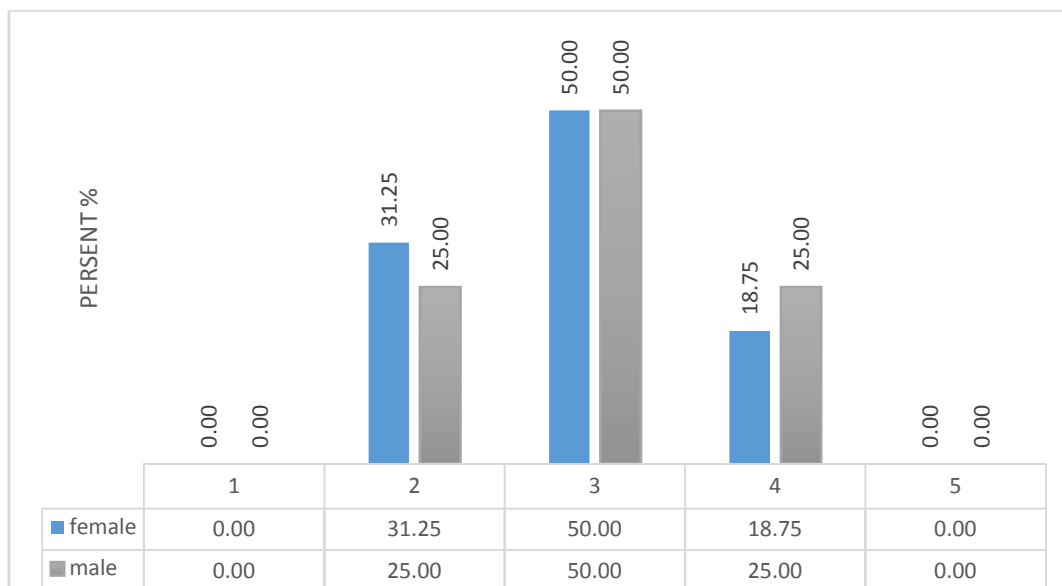


Chart 2. Barthel Index, and the percentage difference between women and men



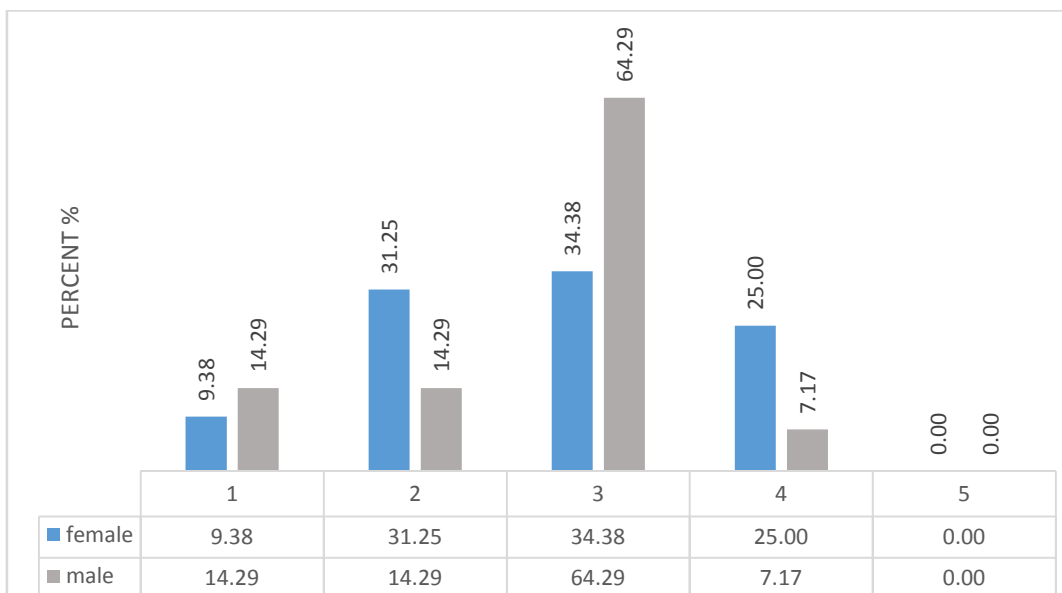
The first graph shows data obtained from the Barthel Index questionnaire. For each question, average values and standard deviation are reported. Like it can be seen from the graphical presentation of the questionnaire for each Barthel Index variable, there is a slight high physical problem for women than men, with maximum values of difference not exceeding one unit, or otherwise expressed: 0.2 To 0.8 units. There is no doubt that this fact indicates a slight quantitative difference in favor of male.

Chart.3 WHRQOL-BRIEF, The question “How often do you feel negative feelings?”



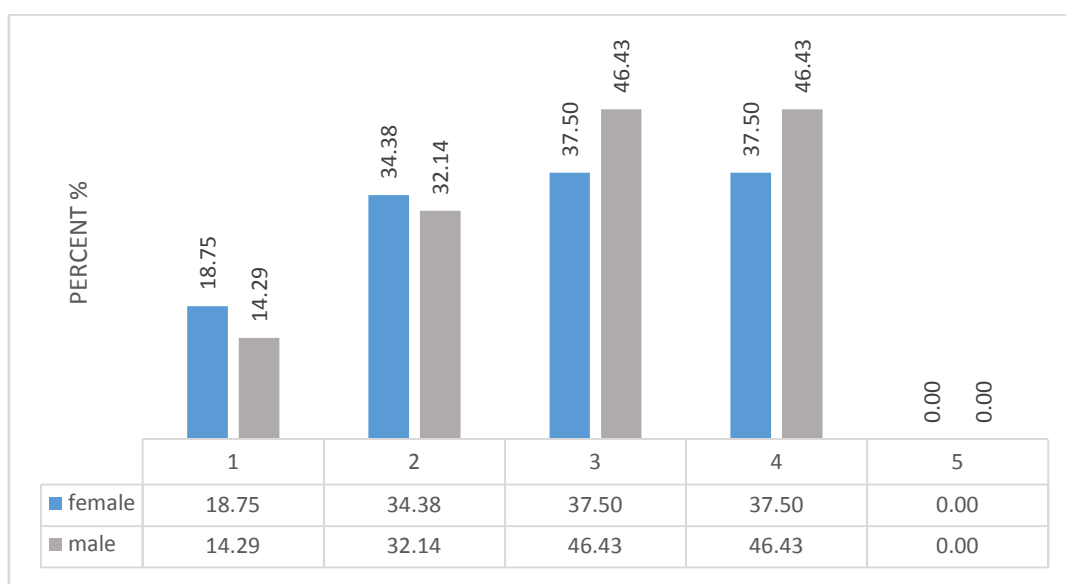
The third chart shows the results obtained by the question: "How often do you experience negative feelings?" 50% of men and women often have negative feelings, while 25% of men have a very heavy negative feeling experience, but women are just 18.75% or less of 7.25% for this feeling than men. But the first response which is "never" and the fifth response which is "a lot", none of the subjects responded.

Chart.4 WHRQOL-BRIEF, WHOQOL - BRIEF, The question "How satisfied is it with yourself?"



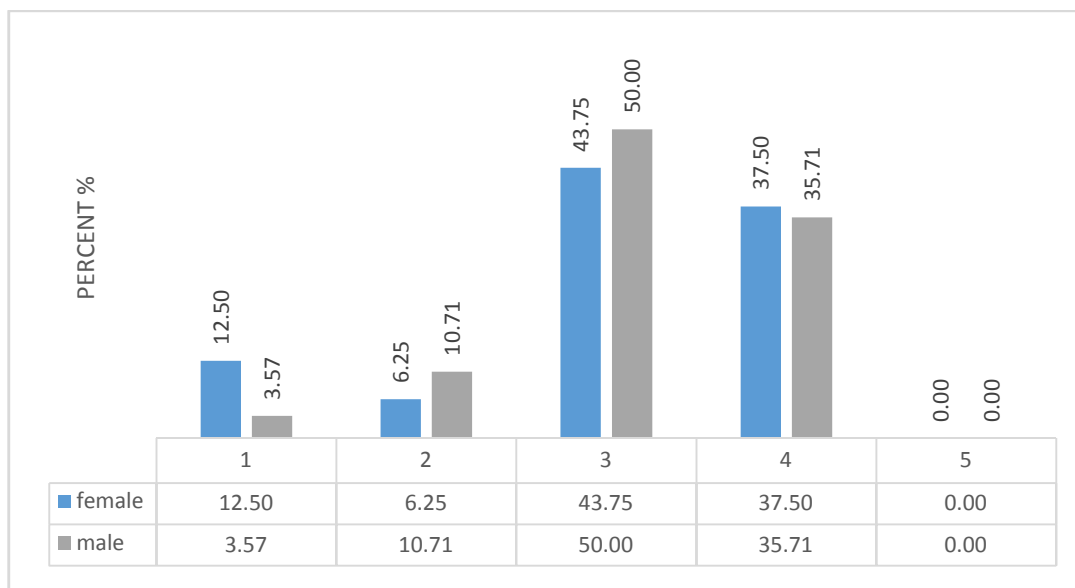
The fourth chart shows the results expressed as a percentage of the question "How satisfied are you with yourself". As we have seen in the peaks of the chart, two levels of response, 64.29% for men and 34.38% for women are quite satisfied with themselves. There is an estimated 30% more satisfaction for men than women from question to question. While 25% of women feel satisfied with themselves, only 7.17% of men feel the same feeling, or even say 17.84% of women feel more satisfied with men in answering this question. For the fifth response which is "very satisfied", none of the subjects responded.

Chart 5. WHOQOL - BRIEF, the question "How much do you enjoy life?"



In the fifth graph, values are given in percentages for the answer to the question "How much do you enjoy life". The selection of this question provided us with the results of the first response that was 'for nothing' and the second response that was 'little', and resulted that the difference between men and women had a small difference about 2- 4% in favor of men. Then I compared the third answer that is 'enough' and the fourth answer is "enough" and it resulted that men answered 46.43%, and women responded by 37.50%, which means that about 7% of men, enjoy 'more' life than women, and in the fourth answer 9.38% of women responded 'very well' to 7.14% of men, which means that almost 2% of women enjoy 'much' more lives than men. For the fifth response which is "great", none of the subjects responded.

Chart. 6, WHOQOL - BRIEF, the question "How do you evaluate the quality of your life?"



The sixth graph shows the percentage values for the answer to the question "How do you evaluate the quality of your life". The first answer to this question 'very bad' answered 12.50% of women and 3.57% of men, 9% of men are positioned better than women. For the second answer "bad" answered 6.25% of women and 10.71% of men, the differences is 4.46% better than men; For the third answer to this question that is "not so bad and not so good" they answered 43.75% of women and 50% of men, this means that males are 6.25% better positioned to this answer, and for the fourth answer which is 'Good' answered 37.50% of women and 35.71% of men, that is, women are almost 2% better than men placed on the fourth answer. For the fifth response which is "very good", none of the subjects responded.

Table 2. The factors influencing the domains of QDV (regression analysis Linear multivariate)

Patients (n=60)	P	Coefficient
Physical health		
QDV total	<0.01	0.487
Time spent after stroke	<0.01	0.218
Age	<0.05	-0.188
Psychological		
QS result	<0.01	0.422
Time spent after stroke	<0.01	0.529
Social relations		
QS result	<0.01	-0.448
Financial environment and resources		
QS result	<0.01	-0.282
Time spent after stroke	<0.05	0.299
Emotions		
QS result	<0.01	-0.466
Mental health		
QS result	<0.01	-0.418

When identifying predictors for QDV areas, multivariate regression analysis showed that the time elapsing from injury to function, had a positive relationship with physical health, and that age had a reverse relationship. Therefore, patients with longer duration of Stroke lesion but who were younger and more independent had better QOL than physical activity. Some demographic and clinical factors have established an association with the WHOQOL - BREF domains in this study. An active social life has been linked to a better QOL when it comes to (under) domains of physical health, physical role, general health, vitality, emotional role, and mental health (p 0.05). Women had the worst result of QDV only in the domain of physical health (p 0.05). Cerebrovascular stroke has a positive influence on QDV in relation to the domain of physical health (p 0.01). Ischemic stroke has been associated with a better QDV in the domain on physical pain (p 0.05).

CONCLUSIONS

To sum up, the conclusions revealed that the quality of life appears relatively low in terms of patients' physical function. Other studies should probably address the direct relationship between stroke and quality of life to individuals who have a more compromised cognitive part.

In this case it was not possible to be applied because the required criteria at the patients did not allow for a deeper study.

By having a clear and complete profile of the situation and the risk they bear, we are able to manage and facilitate the development of Rehabilitative Programs, aiming at reducing the devastating effects of stroke and improving the quality of life of these patients.

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