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INFLUENCE OF SOCIO-DEMOGRAPHIC VARIABLES ON HEALTH-RELATED QUALITY OF LIFE AMONG STROKE SURVIVORS IN UNIVERSITY OF PORT HARCOURT TEACHING HOSPITAL, PORT HARCOURT

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ABSTRACT

Background: Health-related quality of life (HRQoL) is a critical aspect of post-stroke recovery and encompasses various dimensions of the stroke survivors' well-being, including physical, emotional, and social functioning. This study determined the influence of socio-demographic variables and duration on HRQoL among stroke survivors in University of Port Harcourt Teaching Hospital, Port Harcourt.

Methods: The study design was cross-sectional. All ethical procedures were followed. Purposive sampling method was used to select 132 stroke survivors who attended the Medical Out-Patient Clinic (MOPC), General Out-Patient Department (GOPD) and Physiotherapy Department of the University of Port Harcourt Teaching Hospital, Port Harcourt. Stroke-Specific Quality of Life Scale (SSQoL-12) was used to measure the current HRQoL of the stroke survivors. Pearson correlation was used to determine the relationship between the socio-demographic variables, duration of stroke and the HRQoL of the stroke survivors. $P<0.05$ was considered statistically significant.

Result: Results revealed a statistically significant negative correlation between age and HRQoL ($r = -0.24$, p-value = 0.01), and a statistically positive correlation between marital status and the HRQoL ($r = 0.19$, p-value = 0.03) of the stroke survivors. Also, there was an insignificant positive correlation between duration of stroke and the HRQoL of the stroke survivors ($r = 0.01$, $p = 0.95$).

Conclusion: There is a significant relationship between age, marital status, and HRQoL of the stroke survivors. The government and other relevant stakeholders should formulate and implement policies that

will help to improve HRQoL of older stroke survivors as the study has shown that there is a significant negative correlation between age and HRQoL of stroke survivors.

Keywords:
Influence, Socio-demographic variables, health-related quality of life, stroke survivors, UPTH.

INTRODUCTION

Health-related quality of life (HRQoL) is a multidimensional concept that includes aspects of physical, mental, and social well-being as they relate to health[1,2]. It is often measured through self-reported questionnaires and assessments that evaluate how an individual's health status affects their overall quality of life[3]. Key components of the HRQoL often include physical health, mental health, and social wellbeing of the individuals[2-4]. The physical health aspect encompasses physical functioning, pain, fatigue, and the presence of chronic illnesses[4]. It assesses how health impacts daily activities and mobility. The mental health aspect encompasses emotional well-being, including aspects like depression, anxiety, and overall psychological well-being of the individual. The social well-being covers how health affects social interactions, relationships, and support systems. It looks at social functioning and the ability to engage in social activities[4]

Stroke is a brain injury which is caused by a sudden obstruction, interruption or even blockage of the blood supply to the brain[5]. It is defined by the World Health Organization as "the rapidly developing clinical signs of focal (or global) disturbance of cerebral functions, lasting for more than 24 hours or leading to death, with no known cause other than that of a vascular origin"[6]. It usually occurs when part of the brain does not receive the necessary blood flow for one of two reasons; which may include the blood supply to part of the brain being suddenly interrupted, or because a blood vessel in the brain has been ruptured such that blood invades the surrounding areas. According to Oti et al.,[7], stroke is a leading cause of disability worldwide, leaving survivors with functional impairments that significantly impact their daily lives.

Health-related quality of life (HRQoL) is a critical aspect of post-stroke recovery and encompasses various dimensions of the stroke survivors' well-being, including physical, emotional, and social functioning[4]. Stroke can significantly impact HRQoL due to the physical disabilities, cognitive impairments, and emotional challenges that often accompany the condition.

METHODOLOGY

Study Area

The study area was University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State. The stroke survivors were recruited from the Medical Out-Patient Clinic (MOPC), General Out-Patient Department (GOPD), and Physiotherapy department of the hospital. University of Port Harcourt Teaching Hospital (UPTH) is a premier tertiary healthcare facility. It is a significant teaching and research center for tertiary care in the state, providing inpatient and outpatient medical care to approximately 200,000 patients annually. Specialized healthcare services, research, and medical education are all provided in this hospital. It provides a broad range of medical specialties, including cardiology, nephrology, neurology, oncology, pediatrics, surgery, obstetrics/gynecology, physiotherapy, and more. Being a teaching hospital, it develops future doctors, other health care personnel, and adds a substantial amount to Nigeria's medical workforce.[8]

Study Design

This study employed a cross-sectional study design

Study participants

The participants for the study were stroke survivors at the University of Port Harcourt Teaching Hospital, Port Harcourt.

Inclusion and Exclusion Criteria

The inclusion criteria were male and female stroke survivors of 18 years and above and stroke survivors who were in stable condition while the exclusion criteria were stroke survivors with dual or mixed morbidities and stroke survivors too ill to participate in the study.

Sample size determination

The Sample size determination was done using sample size determination formula for cross-sectional studies by Cochran as shown below:

$n= Z^2P (1-P)/d^2$ where n equals to sample size, Z = level of significance, P = Prevalence of stroke based on previous studies, and d = sampling error that can be tolerated in the study. The prevalence of stroke (P) in Rivers State is 0.085 [9]. Therefore, P = 0.085

Using P = 0.085, Z = 1.96, (1-P) = 1-0.085 = 0.915, d = 0.05

Imputing the figures into the equation, we have:

$n = 1.96 \times 1.96 \times 0.085 \times 0.915/0.05^2$

$n = 0.29878/0.0025$

$n = 119.5 = 120$ approx.

Adjusting to 10% non-response as the case maybe, we have 120 + 12 = 132 approx.

The sample size for the study was 132.

Sampling technique

The study adopted a purposive sampling technique. Stroke survivors who met the inclusion criteria were allowed to participate in the study.

Study Instrument

The research instrument was a Semi-Structured Questionnaire (SSQ) containing two Parts (I & II). Part I consisted of socio-demographic characteristics of the stroke survivors and the duration of stroke while Part II consisted of the Stroke Specific Quality of Life (SSQoL-12) Scale for the assessment of the health related quality of life of the stroke survivors. Stroke Specific Quality of Life Scale (SS-QoL) Scale is a scale containing 49 items across 12 domains - Mobility, Energy, Upper Extremity Function, Work and Productivity, Mood, Self-care, Social Roles, Family Roles, Vision, Language, Thinking, and Personality.

Procedure

Ethical clearance was obtained from the Research Ethics Committee of the University of Medical Sciences (UNIMED), Ondo and University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt respectively. The reference number of the ethical clearance letter given by UNIMED is UNIMED-HREC/Apv/2024/046 while that of UPTH is UPTH/ADM/90/S.11/VOL.XI/1999. Permission was sought and obtained from the various departments where the data was collected. Informed consent was obtained from the participants before being allowed to participate in the study. Data was obtained through administration and retrieval of the study instrument. The questionnaire was interview-based and was administered to the stroke survivors by the researcher and three trained research assistants who carefully explained the purpose of the study to respondents and then collected the data.

Data Analysis

The collected data was coded and analysed using the Statistical Package for Social Science (SPSS) package version 23. Descriptive statistics was used to express continuous variables in mean and standard

deviation, and categorical variables in proportions. Pearson correlation was used to determine the relationship between socio-demographic variables, duration of stroke, and the health related quality of life of the stroke survivors. P≤0.05 was considered statistically significant.

RESULTS

Table 1: Socio-demographic characteristics of the respondents (n = 132)

Variables	Frequency (n)	Percentage (%)
Age Group		
20 – 29	1.0	0.8
30 – 39	2.0	1.5
40 – 49	9.0	6.8
50 – 59	64.0	48.5
60 - 69	47.0	35.6
70 - 79	8.0	6.1
> 80	1.0	0.8
Sex		
Male	73.0	55.3
Female	59.0	44.7
Marital Status		
Single	10.0	7.6
Married	92.0	69.7
Separated	11.0	8.3
Divorced	9.0	6.8
Widowed	10.0	7.6
Occupation		
Civil Service	41.0	31.1
Public Service	16.0	12.1
Trader	17.0	12.9
Farmer	8.0	6.1
Apprentice	2.0	1.5
Retired	48.0	36.4
Highest Education		
Primary	6.0	4.5
Secondary	33.0	25.0
Tertiary	91.0	68.9
No Formal Education	2.0	1.5

Table 1 gives a description of the socio-demographic characteristics of the respondents in terms of age, gender, marital status, occupation, and educational level. In terms of age, majority of the respondents were between the ages of 50 and 59 (48.5%), followed by the ages between 60 and 69 (35.6%). With regards to gender, majority of the subjects were males 73.0 (55.3%), while a smaller percentage was female 59.0 (44.7%). The table also revealed that most of the subjects were married 92.0 (69.7%), while the least were divorced 9.0 (6.8%). In terms of occupation, majority of the respondents were retired 48.0 (36.4%), followed by civil servants 41.0 (31.1%).When it comes to educational level, majority of the

respondents had tertiary education 91.0 (68.9%), followed by secondary education 33.0 (25.0%).

Table 2: Health-Related Quality of Life of the respondents (n = 132)

Variables (Stroke-Specific Quality of Life Scale)	Mean	Standard Deviation
Energy	11.91	1.68
Family Roles	11.76	2.04
Language	20.92	4.09
Mobility	22.52	3.05
Mood	21.26	2.24
Personality	12.97	1.44
Self-Care	20.54	3.50
Social Roles	20.69	3.01
Thinking	12.42	1.64
Upper Extremity Function	20.87	2.59
Vision	13.63	1.59
Work/Productivity	12.27	1.77
Health-Related Quality of Life	201.37	17.88

Table 2 gives a description of the Health-Related Quality of Life of the respondents across the 12 domains of the stroke-specific quality of life scale – Energy (11.91±1.68), family roles (11.76±2.04), language (20.92±4.09), mobility (22.52±3.05), mood (21.26±2.24), personality (12.97±1.44), self-care (20.54±3.50), social roles (20.69±3.01), thinking (12.42±1.64), upper extremity function (20.87±2.59), vision (13.63±1.59), and work/productivity (12.27±1.77). It was summarized in mean and standard deviation as shown above. The mean of the overall health-related quality of life of the respondents is 201.37± 17.88.

Table 3: Correlation between Socio-demographic variables and Health-Related Quality of Life of the respondents (n = 132)

Variables (Stroke-Specific Quality of Life Scale)	Socio-demographic variables									
	Age		**Sex**		**Marital Status**		**Occupation**		**Highest Education**	
	r	**p-value**	**r**	**p-value**	**r**	**p-value**	**r**	**p-value**	**r**	**p-value**
Energy	-0.12	0.16	-0.09	0.32	0.12	0.18	-0.11	0.23	0.11	0.21
Family Roles	-0.09	0.33	0.24	0.01*	0.03	0.77	-0.02	0.83	0.02	0.79
Language	-0.15	0.08	0.04	0.64	0.14	0.12	0.01	0.95	0.00	0.99
Mobility	-0.21	0.02*	0.00	0.99	0.17	0.05*	-0.07	0.42	-0.12	0.18
Mood	-0.23	0.01*	0.12	0.19	0.14	0.10	-0.01	0.94	-0.03	0.70
Personality	-0.13	0.13	0.13	0.15	0.04	0.65	-0.01	0.88	-0.00	0.98
Self-Care	-0.17	0.05*	0.02	0.83	0.12	0.19	0.01	0.89	-0.04	0.65
Social Roles	-0.08	0.39	0.03	0.71	0.19	0.03*	0.09	0.32	-0.04	0.64
Thinking	-0/06	0.51	-0.07	0.46	-0.01	0.92	0.04	0.61	-0.02	0.80
Upper Extremity Function	-0.13	0.14	0.09	0.33	0.16	0.08	-0.07	0.45	-0.08	0.34
Vision	-0.08	0.36	-0.04	0.65	0.05	0.58	-0.08	0.35	0.00	0.10
Work/Productivity	-0.27	0.00*	0.08	0.38	0.22	0.01*	-0.05	0.59	-0.11	0.20
Health-Related Quality of Life	-0.24	0.01*	0.07	0.41	0.19	0.03*	-0.05	0.60	-0.08	0.39

***Significant at p<0.05

Table 3 shows the correlation between Socio-demographic variables and Health-Related Quality of Life

of the respondents. There is a significant negative correlation between age and mobility (r = -0.21, p-value = 0.02), age and mood (r = - 0.23, p-value = 0.01), age and self-care (r = - 0.17, p-value = 0.05), age and work/productivity (r = - 0.27, p-value = 0.00), age and Health-Related Quality of Life (- 0.24, p-value = 0.01), whereas there is an insignificant negative correlation between age and .energy, family role, personality, social roles, thinking, upper extremity function and vision (p > 0.05). There is a significant positive correlation between sex and family roles (r = 0.24, p = 0.01), insignificant negative correlation between sex and energy, thinking, and vision (p > 0.05), and an insignificant positive correlation between sex and language, personality, mood, self-care, social roles, upper extremity function, work/productivity and health-related quality of life. Furthermore, there is a significant positive correlation between marital status and mobility (r = 0.17, p-value = 0.05), marital status and social roles (r = 0.19, p-value = 0.03), marital status and work/productivity (r = 0.22, p-value = 0.01), marital status and health-related quality of life (r = 0.19, p-value = 0.03). However, there is an insignificant positive correlation between marital status and energy, family roles, language, mood, personality, self-care, thinking, upper extremity function, and vision (p > 0.05). There is an insignificant negative correlation between occupation and energy, family role, mobility, mood, personality, upper extremity function, vision, work/productivity, and the health-related quality of life of the stroke survivors (p>0.05). There is however, a non-significant positive correlation between occupation and language, self-care, social roles, and thinking (p>0.05). Moreover, there is an insignificant positive correlation between highest education and energy, family roles, language and vision (p>0.05). In the same vein, there is an insignificant negative correlation between highest education and mobility, mood, personality, self-care, social roles, thinking, upper extremity function, work/productivity, and the overall health-related quality of life of the stroke survivors (p>0.05).

Table 4: Correlation between Duration of Stroke and Health-Related Quality of Life of the respondents (n = 132)

Variables (Stroke-Specific Quality of Life Scale)	Duration of Strokes	
	r	**p-value**
Energy	-0.02	0.80
Family Roles	-0.03	0.76
Language	-0.02	0.83
Mobility	0.03	0.70
Mood	-0.11	0.21
Personality	-0.12	0.16
Self-Care	-0.06	0.49
Social Roles	-0.03	0.73
Thinking	0.18	0.04*
Upper Extremity Function	-0.10	0.26
Vision	0.21	0.02*
Work/Productivity	0.03	0.73

Health-Related Quality of Life	0.01	0.95

*****Significant at p<0.05

Table 4.4 shows the correlation between duration of stroke and Health-Related Quality of Life of the respondents. There is a significant positive correlation between duration of stroke and thinking (p = 0.04) as well as vision (p = 0.02). In the same vein, there is a non-significant negative correlation between duration of stroke and energy, family roles, language, mood, personality, self-care, social roles, and upper extremity function (p>0.05). However, there is an insignificant positive correlation between duration of stroke and mobility, vision, work/productivity, and the health-related quality of life of the stroke survivors (p>0.05).

DISCUSSION

This study investigated the influence of socio-demographic variables and duration on health-related quality of life among stroke survivors in University of Port Harcourt Teaching Hospital, Port Harcourt. Regarding the socio-demographic characteristics of the participants, results revealed that majority of the stroke survivors were male, aged between 50 - 59years. Also, majority of these stroke survivors were retirees, married and had education up to tertiary level. The result of the socio-demographic information in this study is similar with previous findings[8-12]. Although the study designs and focus of these studies are different, they all made use of stroke survivors as their study participants. Oti et al.,[10] and Oti et al.,[8] reported that majority of the stroke survivors in their studies were males, married and between the age bracket of 51-60 years. Onwuchekwa et al.,[9] and Abubakar et al.,[12] on the other hand, reported that majority of the stroke survivors in their study were males in mid-age to elderly population.

In the same vein, the result of the study revealed a statistically significant negative correlation between age and health-related quality of life (r = - 0.24, p-value = 0.01), and a statistically positive correlation between marital status and the health-related quality of life (r = 0.19, p-value = 0.03) of the stroke survivors. This finding is consistent with some previous findings as well as disagrees with others[11-16]. Some of these studies employed cross-sectional study design while others used prospective designs such as cohort study to carry out their investigation. In the same vein, some of these studies went further to find out how these socio-demographic variables predict the health-related quality of life of the stroke survivors.

According to this present study, age has been found to have a negative relationship with health-related quality of life. This infers that the older the stroke survivors, the less their health-related quality of life. Conversely, the younger the stroke survivors, the better their health-related quality of life. This assertion that age has a negative influence on the related quality of life of stroke survivors agrees with the positions of Lai et al.,[17] and Meckenzie et al., [16] but disagrees with the positions of Abubakar et al., [12] and Gokkaya et al.,[14] who asserted that age has no negative influence on the health-related quality of life of stroke survivors.

Kariyawasam et al.,[11] investigated factors associated with health related quality of life of patients with stroke in Sri Lankan context. The results of their study revealed that gender, level of education, marital status, and occupation were all associated with the health-related quality of life of the stroke survivors ($p < 0.05$). The design of this study is however different from that of the present study. Kariyawasam et al.,[11] employed a longitudinal study design in which the stroke survivors were followed up for 3 months whereas this present study utilized a cross-sectional study design in carrying out the investigation. This is also in tandem with the findings of Lourenço et al.,[17] and Boakye et al., [18]. Abubakar et al., [12] also posited that level of educational attainment has no influence on the health-related quality of life of stroke

survivors. This is in tandem with the position of this present study.

Furthermore, this study also revealed an insignificant positive correlation between duration of stroke and the health-related quality of life of the stroke survivors ($r = 0.01$, $p = 0.95$). This finding is similar to the position of Abubakar et al., [12] and at variance with the findings of De Wit et al., [19]. De Wit et al., [19] examined the size and determinants of the impact of stroke on five-year survivors' health-related quality of life (HRQoL) in four different European countries. The findings of this study by De Wit et al., [19] revealed that at five years after stroke, the mean level of HRQoL of stroke survivors remained below the healthy population level. By implication, there is a negative relationship between duration and HRQoL of stroke survivors. This finding showed the need for continuation of rehabilitation of stroke survivors in the chronic phase.

CONCLUSION

There is a significant negative relationship between age and HRQoL, and a significant positive correlation between marital status and HRQoL of the stroke survivors. The government and other relevant stakeholders should formulate and implement policies that will help to improve HRQoL of older stroke survivors as the study has shown that there is a significant negative correlation between age and HRQoL of stroke survivors.

DISCLOSURES

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