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Psychosocial parameters as determinants of return to work among stroke survivors

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Abstract

This study investigated the psychosocial parameters as determinants of return to work among stroke survivors. This study involved 49 stroke survivors. Hospital Anxiety and Depression Scale (HADS) was used to determine the levels of anxiety and depression of the subjects. Equally, Health-Related Quality of Life (HRQOL) of the subjects was measured with the Stroke Specific Quality of Life (SS-QOL) scale. Also, a self-structured questionnaire was used to determine return to work of the subjects. The difference between stroke survivors that returned to work and those that did not return to work was established using Pearson's chi-squared test. Also, Independent sample t-test was used to test for significance. Statistical significance was accepted for a p-value of <0.05. The outcome of this study showed a significant ($p<0.05$) difference in the depression of stroke survivors that returned to work and those that did not return to work. Also, significant ($p<0.05$) differences exist in the anxiety and quality of life of stroke survivors that returned to work and those that did not return to work. Likewise, age was found to have a significant influence on return-to-work status ($p<0.05$). Besides, gender, occupation and duration of physiotherapy had no significant ($p > 0.05$) influence on return-to-work status of stroke survivors. This study, therefore concluded that the level of depression, anxiety, and quality of life can substantially have an influence on return to work or otherwise among stroke survivors. Therefore, health professionals should develop and incorporate strategies to enhance the quality of life, prevent depression and anxiety in the management of stroke survivors.

Keywords psychosocial properties • work and stroke survivors.

Introduction

Cerebrovascular accidents also known as stroke is defined as a rapidly developing loss of brain function(s) due to disturbance in the blood supply to the brain (Sims & Muyderman, 2009). According to the authors, this could be due to ischemia, which is a lack of blood flow, caused by blockage (thrombosis or arterial embolism) or hemorrhage, which is leakage of blood into the brain. The physical manifestation is paresis or paralysis of the muscles of the body limbs of the contralateral side, otherwise known as the hemiparetic or hemiplegic side. It is very imperative to note that patients afflicted with stroke are faced with a lot of challenges. Diminish functional capacity, motor activity intolerance, joints pain, muscle atrophy, partial paralysis, residual gait deviation, anxiety, job/economic stress are common challenges associated with stroke (Gordon, 2004). Stroke is the second leading cause of death and the major cause of disa-

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bility worldwide (Petrea, Beiser, Seshadri, Kelly-Hayes, Kase, & Wolf, 2009). Stroke remains one of the most devastating of all neurological diseases, often causing death or gross physical impairment or disability (Kernan et al., 2014). In addition to being a major health care and economic problem, stroke also affects the patient's quality of life (Carol et al., 2012). Overall life satisfaction and quality of life as well as economic circumstances have been shown to improve with a successful return to work after stroke (Vestling, Tufvesson & Iwarsson, 2003). Despite advances in the acute management of stroke globally, a large proportion of stroke patients are left with significant impairments and decreased psychosocial functioning (Ugboh & Hammed, 2017).

Stroke survivors are often left with physical impairments that limit functional abilities and also result to depression (Mayo, Wood-Dauphinee, Côté, Durcan, Carlton, 2002). Also, with the population aging and lifestyle changing, the burden is projected to increase markedly during the next 20 years, especially in developing countries (Giroud, Jacquin & Bejot, 2014). Mood disorders including anxiety and depression are also commonly experienced by patients after stroke and reviews of studies assessing interventions for these conditions have found that robust evidence is lacking (Knapp, Campbell-Burton, Holmes, Murray, Gillespie, Lightbody, Watkins, Chun, & Lewis, 2011). Many studies have found a higher prevalence of depression in stroke survivors than apparently healthy individuals (Hoffman, Bombardier, Graves, Kalpakjian & Krause, 2011). The occurrence of depression is associated with both the occurrence of secondary medical complications and decrease self-esteem in patients with stroke which result to difficulty in community reintegration (Elliott, Rivera, Nezu, Maguth & Geller, 2006). Furthermore, a significant study revealed that only 20.4% of stroke survivors returned to work as compared to the 79.6% that couldn't return to work after stroke following physical therapy (Peters, Buni, Oyeyemi, & Hamzat, 2013; Treger et al., 2007; Rollnik, & Allmann, 2011; Jones, Latreille, & Sloane, 2006).

Moreover, a significant study conducted in India shows that among stroke survivors, 62% were employed before the stroke, but only 20% were still working after the event, with half changing jobs after the stroke (Baker, Marshak, Rice & Zimmerman, 2001). Besides, a study conducted by Wolf, Omar, and Alistair (2009) reported that functional recovery is estimated to be completed within 15 to 20 weeks of the stroke onset. Equally, Kernan et al. (2014) submitted that most of stroke survivors have chronic movement disabilities which are mainly due to residual hemiparesis in the limbs. The disability that mostly occurs following stroke could practically affect every aspect of the survivor's life, including their ability to perform the job they held before the occurrence of stroke. Furthermore, a past study has shown that only a small percentage of stroke survivors can return to full-time work (Baker et al., 2001). In a study by Bonner et al. (2016) that was conducted in India revealed that depression and anxiety associated with stroke are important determinants of return to work. Several studies have been conducted in developed countries to establish the determinants of return to work among stroke survivors (Kernan et al., 2014; Petrea et al., 2009; Bonner et al., 2016; Roger et al., 2012; Baker et al., 2001; Vestling et al., 2003; Patterson et al., 2008; Treger et al., 2007; Wolf et al., 2009). However, no known study has been carried out in Nigeria to bring forth the determinants of return to work in this population. This observed gap in knowledge justifies the conduct of the present study. There is no doubt that Nigerian clinicians certainly need such basic data for rehabilitative intervention of stroke survivors to enhance their functional independence. It seems necessary, therefore, to deal with the psychological and social consequences of stroke which could help to optimize stroke survivors' ability to perform basic and instrumental activities of daily living and enhance their community reintegration and return to work. Thus, this study was designed to evaluate is going back to work a good protective factor for anxiety, depression and quality of life among stroke survivors.

Method

This was a correlational survey study of the psychosocial variables as determinants of return to work among stroke survivors. The population for this study included 98 stroke survivors who were receiving physiotherapy treatments at the University of Nigeria Teaching Hospital and 82 Division Military Hospital, Enugu State, Nigeria. 49 subjects were selected from the entire population for this research work. They were recruited using the disproportionate stratified random sampling technique. The population was firstly stratified into the above-mentioned hospitals. Then, balloting without replacement was used disproportionately to select half of the population for the study. Here, the names of the patients were written on pieces of paper each, and the pieces of paper were put in a bowl from

where one piece of the paper was picked at a time and the name on the piece of paper picked was recorded. This process continued until the desired sample size was obtained. However, patients with other neurological deficits or with any other disabilities were excluded from the study.

In 1983, Zigmond and Snaith developed the Hospital Anxiety and Depression Scale (HADS) to determine the levels of anxiety and depression that a patient might experience. The HADS is a fourteen-item scale from which seven of the items relate to anxiety while the other seven relate to depression. Each item on the questionnaire is scored from 0-3 and this means that a person can score between 0 and 21 for either anxiety or depression. The HADS uses a scale and therefore generate ordinal data. Cronbach's alpha coefficient was used to evaluate reliability of HADS, and it indicated a significant correlation with both the anxiety (0.73) and depression (0.77) subscales of the HADS, thereby supporting the validity of the instrument. Equally, the Stroke Specific Quality of Life Scale (SS-QOL) is a patient-centered outcome measure to determine health-related quality of life (HRQOL) of stroke survivors. It has a total score of 245. Increasing scores indicate better quality of life. The SS-QOL proved reliable (Cronbach's alpha = 0.96). internal consistency was excellent for both demographic and patients' clinical characteristics (Cronbach's alpha ≥0.70) (Mahmoodi, Safari, Vossoughi, Golbon-Haghighi, Kamali-Sarvestani & Ghaem, 2015). More so, a self-structured questionnaire was used to determine return to work of subjects. The questionnaire was validated by three experts; physiotherapist, sociologist, and neurologist. The reliability of the questionnaire was established using Cronbach's alpha and it was found to be 0.76 which is very high and therefore justify the use of the instrument for the study.

Ethical approval was sought and obtained from the Medical Research and Ethics Committee of the University of Nigeria Teaching hospital, Ituku-Ozalla (NHREC/05/01/200B-FWA00002458-1RB00002323). Also, an informed consent form was issued to each of the subjects who signed it before participating in the study. The subjects' demographic details were recorded in a data sheet. The instruments were administered face to face by the researcher to the subjects, and there was a 100 rate of retrieval.

Descriptive statistics of percentage, frequency, mean, and standard deviation were used to summarize the demographic characteristics of the subjects. The difference between stroke survivors that returned to work and those that did not return to work was established using Pearson's chi-squared test. Also, Independent sample t-test was used to test for significance. Statistical significance was accepted for a p-value of <0.05. All analyses were performed using Statistical Package for the Social Sciences (SPSS) version 22.0.

Results

As reflected in Table 1, the depression score for the subjects that returned to work (8.20±2.97) was significantly lower (t=-7.21, p = 0.0001) than those that did not return to work (27.21±15.37). Likewise, the anxiety score for the subjects that returned to work (2.10±2.64) was significantly lower (t=-6.63, p=0.001) than those that did not return to work (13.18±9.04). However, the quality-of-life score for the subjects that returned to work (196.40±15.01) was significantly higher (t=7.78, p=0.003) than those that did not return to work (139.49±34.78). Furthermore, the result shows that 14.3% of the male subjects and 6.1% of the female subjects returned to work while 49.0% of the male subjects and 30.6% of the female subjects did not return to work. Besides, gender difference had no significant influence on return to work (χ^2=0.25, p=0.62). Also, the majority of the subjects that returned to work were traders (12.2%) and civil servants (8.2%) while majority of the subjects that did not return to work were also traders (22.5%) and civil servant (22.4%). However, occupation was found to have no significant influence on return-to-work status (χ^2=7.04, p=0.22). The mean age of subjects that returned to work and those that did not return to work were (54.70±3.59) and (56.20±6.67) respectively. Also, the subjects that returned to work were found to be significantly younger (χ^2=-0.97, p=0.02) than the subjects that did not return to work. Besides, duration of physiotherapy had no significant influence on return-to-work status of the subjects (χ^2=3.42, p=0.80).

Table 1. Comparison of variables between subjects that returned to work and those that did not return to work (N =49)

Variable	Returners to work n(%)	Non-returners to Work n(%)	χ^2	p
Gender				
Male	7(14.3)	24(49.0)	0.25	0.62
Female	3(6.1)	15(30.6)		
Occupation				
Retired	0(0)	6(12,2)	7.04	0.22
Trader	6(12.2)	11(22.5)		
Civil Servant	4(8.2)	11(22.4)		
Driver	0(0)	2(4.1)		
Military	0(0)	6(12.2)		
Farming	0(0)	3(6.1)		
	M±SD	M±SD	t	p
Age	54.70±3.59	56.20±6.67	-0.97	0.02
Depression	8.20±2.97	27.21±15.37	-7.21	<0.00
Quality of Life	196.40±15.01	139.49±34.78	7.78	<0.00
Anxiety	2.10±2.64	13.18±9.04	-6.63	<0.00
Duration of Stroke	3.50±1.18	2.30±0.97	2.96	0.53
Duration of Physiotherapy	3.30±1.07	2.01±1.00	3.42	0.80

Discussion

A total number of 49 stroke survivors in Enugu metropolis participated in this study. Most of the subjects in the present study were males. This may imply that more males within this age range tend to suffer a stroke. Although literature appears conflicting on the prevalence of stroke based on gender categories. Some studies equally had similar reports of more males than female stroke survivors (Kernan et al., 2014; Ibeneme et al., 2016). However, other studies reported more female stroke survivors than their male counterparts (Wolf et al., 2009; Vestling et al., 2003). Besides, Baker et al. (2001) opined that stroke appears to be generally more prevalent among males but the trend reverses at an older age. This therefore may be hinged upon to attempt an explanation on the higher prevalence of stroke among males in this present study especially given the fact that the mean age of the participants was 55.9years. The study of Peters et al. (2012) on Nigerian stroke survivors found out that only one-third of the 101 participants returned to work. Likewise, the findings of Lang, Kienitz, Wetzel and Rollnik (2011) among German stroke survivors showed that only two-tenth of the participants returned to work. Some factors have been adduced to influence the ability to return to work such as lower age and higher educational level (Lang et al., 2011; Treger et al., 2009) and disability (Grammenos, 2003).

Moreover, there was a significant difference between depression, anxiety and quality of life of stroke survivors that returned to work and those that did not return to work in the present study. This agrees with some studies (Dagher, Hofferth, & Lee, 2014; Corbière et al., 2015; Bonner, Pillai, Sarma, Lipska, Pandian, & Sylaja, 2016). Similarly, the findings of Bonner et al. (2016), on Indian stroke survivors showed that stroke survivors that returned to work have lower depressive and anxiety scores than those that did not return to work. This suggests that there is an association between a return to work and depression and anxiety. This may imply that stroke survivors that return to work tend to engage in activities of daily living that have a better quality of life and higher income. This is not a surprise because stroke survivors that return to work tend to live a healthier life, engage in their hobbies and associate more with their friends and family, thus reducing depressive and anxiety scores associated with stroke. Likewise, the study of Haghgoo et al. (2014) is also in congruency with the present finding. There is a negative association between depression and activities of daily living performance (Haghgoo et al., 2013; Nijboer et al., 2013). It can thus be extrapolated from the findings above, that activity of daily living performance; better income, and quality of life could

indirectly influence the ability to return to work through compacting depression and anxiety. The study of Vestling et al. (2003) among Sweden stroke survivors is also in agreement with the findings above. The authors found out in their study that stroke survivors that stayed out of their work and activities of daily living because of their health condition suffered depression and had higher depression scores.

Furthermore, improvement in independence with activities of daily living seems to indirectly increase the likelihood of returning to work among stroke survivors through depression and anxiety scores in this study. This confirms Saeki, You, Isemura, Abel, Seki and Noguchi (2000)'s findings that independence with activities of daily living has an important influence on whether a stroke survivor would return to work or not. Also, the result of this study shows a linear significant relationship between quality of life and return to work. It is in agreement with some studies that evaluated determinants of return to work among stroke survivors (Tse et al., 2017; Ntsiea et al., 2013; Rollnik et al., 2011; Trygged et al., 2011). The findings of Tse et al. (2017) among Australian stroke survivors showed that stroke survivors that returned to work have higher scores for quality of life than those that did not return to work. The work of Ntsiea et al. (2013) on South African stroke survivors conducted in Gauteng province is strongly in congruency with the results of the present study. They found out that the stroke survivors that returned to work have a better quality of life and engaged in activities with more vitality than their counterpart that did not return to work. This may imply that the stroke survivors that had better quality of life may have not only had better income but improved participation and reintegration that could foster their greater fulfillment in life than their counterparts that did not return to work. Quality of life has been shown to have a positive correlation with income (Walker et al., 2014; Chetty et al., 2016), nutritional status (Rasheed et al., 2014; Yen et al., 2013) participation in functional activities (Ekechukwu, Olaleye & Hamzat, 2017). This by implication means that stroke survivors that returned to work would have a better quality of life.

Conclusion

It was concluded that the level of depression, anxiety, and quality of life can substantially predict return to work or otherwise among stroke survivors. Therefore, health professionals should develop and incorporate strategies to enhance the quality of life, prevent depression and anxiety in the management of stroke survivors. Also, there is a need for the education of caregivers and families of stroke survivors on the importance of social support and community reintegration on the well-being of stroke survivors. However, the caregivers should allow stroke survivors to participate in basic activities of daily living as this will foster their return to work. Besides, it would prevent the occurrence of depression and anxiety and, optimize their quality of life which would eventually enable them to return to work.

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