

## PSYCHOSOCIAL FACTORS AS PREDICTORS OF PERCEIVED BURDEN AMONG CEREBROVASCULAR ACCIDENT SURVIVOR CAREGIVERS

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### ABSTRACT

The current study investigated the psychosocial factors that determine caregiver's burden among two hundred and ninety-eight (298) stroke survivor caregivers. Respondent's age ranges from 18-35 and 36-60 with mean (X) age of 26.5 and 48 and standard deviation of 4.43 and 7.52 respectively. A structured questionnaire formats were used to collect the data in this cross-sectional study. Sense of coherence, self-efficacy and life satisfaction jointly and independently influence burden. Caregivers with high sense of coherence significantly reported more burden than caregivers with low sense of coherence. Also, caregivers with low satisfaction with life were significantly high in burden than caregivers with high satisfaction with life. The study outcome demonstrates that stroke caregivers with high sense of coherence, perceived self-efficacy, and life satisfaction experience less strain, and can control challenging environmental demands, so interventions to improve these factors should be designed in other to reduce depression, build capacity to cope with burden and to promote family wellbeing.

**Keywords:** Burden, Caregivers, Stroke, Life purpose, Sense of coherence.

## INTRODUCTION

Cerebrovascular Accident (CVA) has recently become a common neurological problem and the third leading cause of death in both the developed and underdeveloped countries (Oladimeji, Akinbo, Aina & Aiyejusimile, 2000). It has the trait of medical emergency as the blockage or breaking of the blood vessels in the brain results in injury to brain tissue. Brain damage may also result from blood clots that interrupt normal blood flow (Kirkpatrick, Semielewski, Czonoyka, Menon, & Richard, 1995).

Emotional liability causes the survivor to switch quickly between emotional highs and lows and express emotions inappropriately. In this light, the tendency to be sad is inevitable because of the negative impact the diagnoses of CVA will have on the survivors and caregivers. Survivors with compulsive tendencies, paranoid natured are intolerant because of the reductions of their abilities and are exacerbated by sudden helplessness that accompany stroke, survivors developed paranoid symptoms, anger, violence, the survivor sort for sympathy and seem not to appreciate the effort of the immediate caregivers. All this sudden change in behavior is what a typical caregiver has to contend with.

Further, Ogun, Ojoni, Ogungbe, Kolapo, and Danesi (2005) declared that there is no social insurance in Nigeria, so prolong management, with subsequent inability of many to return to work due to functional motor impairment is a great economic burden on the caregivers, base on this complications, it is estimated that 30% -50% of survivors suffer post stroke depression, characterized by lethargy, irritability, sleep disturbance, lowered self esteem and withdrawal. Kalat (2004) found that 80% of stroke survivors who are discharged from the hospital become dependent on their family members for emotional, informational and instrumental support in daily life (Han & Halley, 1999).

Platt (1985) see burden as the presence of problems, difficulties or adverse events which affect the lives of the patients and the significant others (friends, household or family members). Also, Hoening and Hamilton (1996) further distinguished between sorts of burden on relatives and they called it objective and subjective burden. Objective burden is defined as the kind of disruption to life and routines that can be externally verified by measuring patient disability independently. Such items include financial problems or the amount of care needed by the patient. Subjective burden is defined as how these difficulties make the relative feel, such conception as stress or distress. Deborah, Blankfel, Charles and Holahan (1999) associated caregiver burden with poorer psychological adjustment. Andren (2008) found that association between caregiver's burden, perceived health and sense of coherence always reflects a dented relationship within the family members. Wicks, Milstead, Hathway and Cetingok (1997) also reported that caregiver quality of life was significantly related to caregiver burden and caregiver self-rated health. Base on the above evidence, the caregiver in crisis therefore resorts to maladaptive coping behaviors that often exacerbate an already difficult situation. And at last, the caregivers feel out of balance socially, emotionally, and physically. It seems life itself has no meaning to them as their health is been eroded gradually because they could not cope.

The concept of sense of coherence (SOC) as put forward by Antonovsky (1979) is to explain why some people become ill under stress and others stay healthy. SOC is a mixture of optimism and control. It has three components; comprehensibility, manageability, and meaningfulness. Having a strong SOC may protect against depression; therefore, SOC may be useful for identifying people who may be helped by psychological interventions.

Collingwood (2008) also said a strong SOC also improves life satisfaction, and is linked with reduced fatigue, loneliness, and anxiety. Ergh, Hank, Rapport, and Coleman (2003) emphasized that relationship between survivor and cares were mediated by a number of psychosocial family diversions which are caregiver distress, burden and social support. Hall, Karzmark and Stevens (1994) identified financial difficulties. A strong SOC was associated with better self-reported quality of life (Carrol, Ayling, O'Reily, & North, 2003).

Self-efficacy is people's beliefs in their capabilities to produce desired effects by their own actions. Strong self-efficacy beliefs is said to lead people to persevere under difficult and challenging circumstances. In analyzing the moderating effect of self-efficacy among caregivers, Romero-Moreno et al. (2010) finds self-efficacy as controlling upsetting thoughts in the relationship between burden and distress. They further posited that caregiver's adjustment capabilities to function in a challenging situation are based on self efficacy. Furthermore, Heuvel, White, Schure, Sanderman and Jong (2001) concluded that caregivers with high perceived self-efficacy, experience less strain, and can control challenging environmental demands.

Shin and Johnson (1978) sees life satisfaction as an overall assessment of an individual's quality of life according to his chosen criteria. Having a sense of purpose in life is essential to psychological well-being and psychotherapy may help clients to discover their sense of meaning and purpose in life. The challenge to the individual is to find that unique meaning for him- or herself. Crumbaugh (1971) summarized that the most basic motivation is to find a purpose for one's personal existence, making ones different from all others. This purpose and uniqueness enables the individual to sustain suffering with dignity, but when lacking, emptiness and frustration may prevail. To further highlight the relevancy of meaningful living in caregiving, Robak and Griffin (2000) found a strong positive correlation between high purpose in life scores and high scores on the Depression– Happiness Scale (that is., high scores are suggestive of happiness), indicating a strong association between perception of meaning in one's life and reported levels of happiness. Furthermore, high levels of meaning in life predicted low levels of psychological distress and high levels of happiness and self-esteem, and burden in caregivers are primarily related to their emotional distress and their perception of life (Debats 1996; Ostwald 2006).

### **Statement of the Problem**

Chumber, Holt, Ritman, Vogel, and Qin (2003) showed clear mediator effects of SOC between caregiver burden and caregiver depression while Romero-Moreno et al. (2010) finds self-efficacy as controlling upsetting thoughts in the relationship between burden and distress. A strong SOC was associated with better self-reported quality of life (Carrol et al., 2003). The joint influences of the psychosocial factors are yet to be addressed to ascertain their role in caregivers.

The caregiver's general health is affected because of the grief, fatigue and changes in social relationship as unfettered and maximum care is expected making adaptation to changes difficult overtime. Bo Simonsson, Nilsson, Leppert and Diwaan (2008) discovered that serious health problems are a large enough stressor to lower SOC levels. But these studies are yet to establish the link between SOC and burden as determinant factors in caregiving task.

The perceived caregivers' burden has been associated with premature institutionalization and changes in life style and this could lead to existentiality frustration and living a purposeful

life. The influence of life satisfaction on burden among caregivers was found necessary to look into as a way of contributing to the findings of previous studies.

### **Purpose of the Study**

The extent to which individual caregiver belief he can cope with the incessant limitation and adjust to life threatening situation in handling day-to-day decisions is yet unknown due to the influence of various psychosocial and personality variables. Only a few studies were able to look at these and the constructs are differed but this current study will explore how self efficacy and life purpose has been able to influence the unpleasant and this rigorous task. Moreover, relevant studies highlight the importance of general health in caregiving, SOC was significantly associated with life as a whole in the study conducted by Warleby and Blomstrad (2002). The need to examine its relationship with general health is very essential as physically, eating habits of caregivers is affected and more time are spent at home to take care of dependent relative. In view of this, there is need to ascertain the caregiver's manageability, comprehensibility and meaningfulness levels in care in relation to distress management.

### **Relevance of the Study**

Most stroke caregiving studies thus far have been examining caregiving issues at only one point in time none has examined the joined psychosocial factors that influence caregiver's burden. Therefore, this study will look into ways of increasing coping abilities and enlightening caregivers to enhance good practice performance in informal caregivers. This study will also aid in improving caregivers self efficacy and quality of life in the midst of rigorous challenge face which ultimately will improve general health.

In addition, the significance of Sense of Coherence (SOC), proactive coping method in this study which is a global orientation that expresses the extent to which one has pervasive enduring dynamic feelings of confidence in coping with acute stressor such as when a close family member is affected by sudden and disabling illness such as stroke to our knowledge is yet to be studied, identification of other psychosocial factors like life satisfaction, self-efficacy which are pivotal factors that may determine burden in caregiving task are yet to be explored. The only close study are that of caregiver's burden, perceived health and SOC among elders with stroke (Andren, 2008).

Lastly, the findings of this study will trigger other researchers interested in caregiver's study to provide intervention programs that would help individual caregivers in the process of caregiving experiences to develop coping techniques to align themselves with the difficult or negative aspect of caregiving.

### **Hypothesis**

1. SOC, self efficacy and life satisfaction will jointly and independently influence burden of caregivers.
2. Caregivers with high SOC will report decreased burden than caregivers with low SOC.
3. Caregivers with low satisfaction with life will significantly increased in burden than caregivers with high satisfaction with life.

## METHODOLOGY

### Design and Study Participants

A cross sectional design survey method was used in this study to select two hundred and ninety-eight (N=298) caregivers of stroke survivor, ninety (90) males representing (30.2%) and two hundred and eight (208) females representing (69.8%). The participants fall under two age range categories; younger caregivers (18-35) with mean age of (X=26.5) and SD=4.43 and older caregivers (36-60) with mean age of (X=48) and SD=7.52.

### Setting

The caregiver participants for this study were drawn from four hospitals and a Stroke Survivors Support and Rehabilitation Club of Nigeria; Physiotherapy, Neurology and General Out-patient Department of Federal Medical Centre, Idi-aba, Abeokuta, Ogun State, Nigeria, Physiotherapy and General Out-patient Department, State Hospital, Ijaiye, Abeokuta, Ogun State, Nigeria, Physiotherapy and Neurology Clinics, Lagos University Teaching Hospital, Idi-Araba, Surulere, Lagos State, Nigeria, Physiotherapy and General Outpatient Clinics, General Hospital, Isolo, Lagos State, Nigeria. The Survivors Support and Rehabilitation Club of Nigeria, Ijaiye, Abeokuta, Ogun State, Nigeria. The listed clinics and club provide medical services such as diagnostic, treatment, support, rehabilitation, counseling, information management for survivors.

### Instruments

**Section A:** comprises of structured questionnaire used to collect data such as; age, year of duration of diagnosis, gender, marital status, religion, level of education, relationship to patient and employment status.

**Section B:** comprises of 13 items Caregiver Strain Index (CSI) developed by Robinson (1983) measures the major domains which are employment, financial, physical, social and time. Because burden is multi-dimensional, the instrument measures these different domains. The CSI has at least one item for each domain. There is one overall score, which is obtained by summing the “yes” responses. Any positive answer may indicate a need for intervention in that domain. A score of seven (7) or higher indicates a high level of burden or stress. The index measures objective burden but does not measure subjective burden. This index has significant relationship with caregiver employment and age which indicates that it is useful tool in predicting caregiver who is at the risk of burden. The Cronbach’s alpha level was high .86, indicating good internal consistency. The researchers found .911 Cronbach alphas in this present study.

**Section C:** is 13 items Sense of Coherence Scale developed by Antonovsky (1987), measuring each of the 3 dimensions of SOC. The scale consists of 5 comprehensibility items, 4 manageability items and 4 meaningfulness items. Each item is presented on a 7-point Likert scale. Five of the items are negatively stated and reversed in scoring. The items on the Likert-type scale and possible scores on SOC range from 13-91. The score of each item is added to reach a total score of the range (the higher the scores the stronger the SOC). Antonovsky (1993) report this short form of SOC to be reliable and reasonably valid, he reported alpha reliabilities between 0.74 and 0.91. The researcher found .928 Cronbach alphas in this present study.

**Section D:** Satisfaction with life scale was first developed by Diener, Emmons, Larsen, & Griffin (1985), consisting of five items. Each item is rated on 7-point scale The scoring pattern is as follows; Extremely satisfied is 35-31, satisfied is 26-30, slightly satisfied is 21-25, neutral is 20, slightly satisfied is 15-19, dissatisfied is 10-14 and extremely dissatisfied is 5-9. The possible range score is from 7-35 and the test retest correlation coefficient is .82, and coefficient alpha is .87. For this study the Cronbach Alpha is .913 was found.

**Section E:** General Self Efficacy Scale was developed by Schwarzer and Jerusalem (1995). It is a 10 item questionnaire scale. Each item is rated on a 4-point scale ranging from “not at all true” (1) “hardly true” (2). “moderately true” (3) to “exactly true” (4). Schwazer’s Self Efficacy scale has been validated in 14 cultures in both their adult and adolescence populations. All responses are summed to yield a total score; high scores suggest greater perceived self-efficacy. In samples from 23 nations, Cronbach’s alphas ranged from .76 to .90 with the majority in the 80s. Scale is one-dimensional. Equal length Spearman Brown is .72 while Guttman Split-half reliability is also .72. High and low scores above and below the mean value respectively are indicators of high and low self efficacy. The Cronbach Alpha for this study is .857

### Procedure for data collection and Sampling Techniques

Permission was sought from the hospitals where the questionnaires were administered to caregivers who had spent at least two weeks in the process of care at the waiting lounge using accidental sampling techniques. Caregivers who accompany the survivor to the clinics were approached by firstly inform them of the rationale behind the study, followed by the inform consent and confidentiality while waiting for the consultant at the clinics. Those who are unable to read were interviewed using the same questions by interpreting the items of the test into Yoruba language.

### Statistical analysis

Multiple regressions analysis was used to test hypothesis one. T-test for independent sample was used to analyze hypothesis two, and three because significant difference between the variables are to be considered and to discover if any significant relationship exist between the two means. The data interpreted was subjected to the use of SPSS 15.0 MS window

## RESULTS

This chapter presents the analyzed results based on the tested hypothesis. The results are presented as follows: Hypothesis one which posited that sense of coherence, self efficacy and life satisfaction will jointly and independently influence burden of caregivers among caregivers of stroke survivors was tested using multiple regression analysis. The result is presented in Table 1 below.

**Table 1: showing multiple regression analysis of the influence of sense of coherence, self efficacy and life satisfaction on burden among caregivers of stroke survivors**

Independent variable	Beta value	t-value	Sig	R	R <sup>2</sup>	F	P
Sense of coherence	-0.449	-7.515	<.001	0.423	0.179	21.298	<.001
Self efficacy	0.210	3.136	<.01				
Life satisfaction	-0.157	-2.596	<.01				

Table 1 shows that the predictor variables jointly predicted burden among caregivers of stroke survivors  $F(3, 294) = 21.298, p < .001$ . The multiple R result obtained was 0.423 with  $R^2$  of 0.179. The multiple R indicated a positive relationship of the predictor variables with burden among caregivers of stroke survivors while the  $R^2$  shows that the predictor variables jointly accounted for about 18% variance of burden among caregivers of stroke survivors. The result of the independent prediction from the predictor variables also showed that all predictors variables (sense of coherence, self efficacy and life satisfaction) independently predicted burden among caregivers of stroke survivors ( $\beta = -0.449, t = -7.515, p < .001$ ;  $\beta = 0.210, t = 3.136, p < .01$  &  $\beta = -0.157, t = -2.596, p < .01$ ) respectively.

Hypothesis two which stated that caregivers with high SOC will report decrease burden than caregivers with low SOC was tested using an independent sample t-test. The result is presented in Table 2 below.

**Table 2: showing independent sample t-test comparing sense of coherence on burden among caregivers of stroke survivors**

Sense of coherence	N	Mean	Std	Df	t-value	Sig
Low	122	10.60	2.649	296	5.138	<.001
High	178	9.01	2.604			

The result of the t-test shown in Table 2 reveals that there was a significant effect of sense of coherence on burden among caregivers of stroke survivors ( $t = 5.138, df = 296, p < .001$ ). From the result, caregivers with low sense of coherence scored 10.60 on burden among caregivers of stroke survivors, while those with high sense of coherence scored 9.01 with a mean difference of 1.593. This implies that caregivers with low sense of coherence experience more burden than those with high sense of coherence. The hypothesis was therefore confirmed.

Hypothesis three which stated that caregivers with low satisfaction with life will significantly increased in burden than caregivers with high satisfaction with life was tested using an independent sample t-test. The result is presented in Table 3 below.

**Table 3: showing independent sample t-test comparing satisfaction with life on burden among caregivers of stroke survivors**

Satisfaction with life	N	Mean	Std	Df	t-value	Sig
Low	127	10.70	2.614	296	5.985	<.001
High	171	8.88	2.564			

The result of the t-test shown in Table 4.4b reveals that there was a significant effect of satisfaction with life on burden among caregivers of stroke survivors ( $t = 5.985, df = 296, p < .001$ ). From the result, caregivers with low satisfaction with life scored 10.70 on burden among caregivers of stroke survivors, while those with high satisfaction with life scored 8.88 with a mean difference of 1.818. This implies that caregivers with low satisfaction with life experience more burden than those with high satisfaction with life. Based on the results, the hypothesis was confirmed.

## **DISCUSSION**

The study examined the psychosocial factors such as sense of coherence, self-efficacy, and satisfaction with life as determinants of burden among stroke survivor caregivers. The analysis offers some interesting insights into the stroke caregiving experience. The first hypothesis revealed that the predictor variables jointly and independently predicted burden among caregivers of stroke survivor and Sense of coherence was the major predictor, this finding was supported by Antonovsky (1993) that person with a strong SOC are likely to identify a greater variety of general resistance resources (GRRs) at their disposal. Furthermore, Adren (2008) discovered that caregivers with lower burden reported significantly better perceived health and higher mean score of sense of coherence than caregivers with higher burden.

The second hypothesis which stated that caregivers with high SOC will report decrease burden than caregivers with low SOC, this findings reveal that there was a significant effect of sense of coherence on burden among caregivers of stroke survivors and this was supported by Collingwood (2008) who reported that a strong SOC improves life satisfaction, and is linked with reduced fatigue, loneliness and anxiety.

Hypothesis three stated that caregivers with low satisfaction with life would significantly increase in burden than caregiver with high satisfaction with life was significant. The result revealed there was a significant effect of satisfaction with life on burden among caregivers of stroke. This was in line with Wicks et al. (1997) who reported caregiver quality of life was significantly related to caregiver burden and caregiver self-rated health.

## **CONCLUSIONS**

This study used cross sectional survey technique to determine the weight of influential variables on the caregiving experience. It clearly reveals the importance of psychosocial factors in caregiving. Sense of coherence, self efficacy and life satisfaction jointly and independently determine burden among stroke survivor caregivers. From the tested hypothesis and data collected we discovered that sense of coherence has a significant strength to determine caregiver's burden and a strong SOC in caregivers are likely to identify a greater variety of general resistance resources (GRRs) at their disposal in the settings. (Antonovsky, 1993; Adren, 2008)

In addition, self efficacy was found to have a significant contribution in determining burden among stroke survivor caregivers. Therefore we conclude according to Heuvel et al. (2001) that caregivers with high perceived self-efficacy, experience less strain, and can control challenging environmental demands. Life satisfaction was found to be a significant contributor to determine caregiver's burden. This imply that burden and strain of caregiving situation reduced life satisfaction. This is because according to Ostwald (2006) and Debats (1996) the higher levels of burden in caregivers are primarily related to their emotional distress and high levels of meaning in life predicted low levels of psychological distress and high levels of happiness and self-esteem, and burden in caregivers are primarily related to their emotional distress and their perception of life.

## RECOMMENDATIONS

Creation of caregivers' forum which will include both formal and informal caregivers including the survivor in health centers to share their experiences would create a good rapport and improved patient quick recovery thereby reducing caregivers burden. Also, effort should be annexed by stakeholders in neurological and neuropsychology field to venture into research on how caregivers-survivor relationship can be encouraged. The need to adopt and train caregivers on coping technique to reduce or even exterminate stressors encountered in the course of caregiving task should be encourage.

Also government and non-governmental should create a rehabilitation centers where issues relating to care, novel ways of caregiving, support systems and knowledge of the personality of the survivor and his/her expected behavior to challenge the limitations encountered in the process of caregiving. This can be done through conferences, seminars and workshops taking into consideration the aforementioned variables.

## LIMITATIONS

In this study the researcher encountered few problems; firstly, some caregivers are unwilling to give out certain information on how their real feeling on burden were in the course of performing the caregiving task for fear of emotional response in form of abuse or criticism from the survivor and this might have led to some of them responding positively to portrayed them as a good caregivers. Secondly, individual differences and personality of the caregivers were not considered because it is very laborious to administer instrument as the researcher do not want to bore the caregivers. This can be addressed by interested researchers for further study.

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