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ASSOCIATION OF LEVEL OF BURDEN AND QUALITY OF LIFE AMONG HOME-BASED THERAPISTS OF STROKE SURVIVORS

ABSTRACT

OBJECTIVES

The incidence of stroke is high among Pakistani population as compared to developed countries. Studies concluded that home-based rehabilitation therapy increases the quality of life of survivors; however, it also increases the burden on rehabilitation therapists. Thus, this study aims to investigate the association between the level of burden and quality of the therapist's life to address health-related outcomes

STUDY DESIGN

Cross sectional survey.

STUDY SETTINGS & PARTICIPANTS

Total numbers of 100 therapists working in home-based rehabilitation selected through the non-probability sampling technique. The data was collected through the World Health Organization Quality Of Life (WHQoL) questionnaire and Zarit Burden Interview.

RESULTS

The total number of 150 participants enrolled in the study, which comprised 50 males and 100 females with a mean age of 25.8±5.14 years, while 50 refuses to participate. The results show no significant association between the level of burden and quality of life. On the WHOQoL scale, 39% of the participants showed moderate to severe level of burden, 21% had mild to the moderate burden while 19% had a level of severe burden.

CONCLUSIONS

Home-based therapy for stroke survivor has shown beneficial impact by implementing the client-centered practice, however it also increase burden on the caretakers and therapy service providers. The participants of the recent study has an average quality of life and increased level of the burden therefore, further studies are required to address the health-care needs of therapists working in a home-based setting to improve health outcomes of both therapist and the patient.

KEY WORDS

Quality of life (QOL), home-based, home care services, stroke, rehabilitation,

Maha Khan
Occupational Therapist
Ziauddin College of Rehabilitation Sciences
Ziauddin University
maha.khan64086@gmail.com

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INTRODUCTION

Stroke is also known as cerebrovascular accident, which occurs due to interruption of blood supply to brain. Globally, it is the leading cause of death and long-term disability. It lowers the survivor's quality of life due to its poor health outcomes such as neurological co-morbidity, physical and cognitive impairments; this consequently increases economic burden on the family and community. The prevalence of stroke is very high in Asian countries. Seventy percent of global stroke burden is on low and middle-income countries. In the last decade, Stroke related mortality found to be decreasing in East-Asian countries such as Japan and Korea. In South Asia, the minimum mortality rate of stroke in 2010 observed in Bangladesh (54.8/100, 00). Mortality rate in India and Pakistan is close to each other 82/100,000 and 83/100,000 respectively[1]. The risk factors of stroke include hypertension, diabetes mellitus; prolong contraceptive use, dysthymias (atrial fibrillation, atrial flutter) Rheumatic/valve heart disease, socioeconomic background, and health status. According to the current prevalence rate of stroke in Pakistan, hypertension is most common risk factor[2]. It has been evident that stroke is the major cause of dysfunction in adults, the rate of stroke is high between 50 to 60 years of age thereby increases mortality ratio, resulting in an increased economic burden on society. Stroke is major cause of disability and poor quality of life in elderly. It results in poor health outcomes such as prolong hospital stay, reduced functional mobility and dependency for ADLs[2-3].

Recent studies suggest that neuronal regeneration after stroke helps in spontaneous recovery. Immediate rehabilitation from a multidisciplinary team is link with improved health outcomes. Post-stroke rehabilitation services by occupational therapists and physiotherapists are the keystone of treatment; the early rehabilitation intercessions have a more prominent advantage to the client[4]. Post-stroke rehabilitation generally provided in four settings: inpatient rehabilitation facility, skilled nursing facility, outpatient facility and home-based rehab program. According to one study, patients who received rehabilitation services at home after stroke had lower depression rate as compared to those enrolled in rehabilitation at hospital setting[5]. Furthermore, home-based rehabilitation is cost effective and encourages active participation of caretakers. The multidisciplinary care in home environment promotes client-centered intervention. Each professional in the team has its unique role. The physiotherapy is helpful in maintaining, developing movement and functional independence after stroke[6]. Studies demonstrated that significant improvement in functional performance by implementing home based occupation-focused activities and task in which cognitive, behavioral and environmental strategies were used[7].

Previous researchers have identified high amount of burden among caregivers of stroke survivor (with partial and complete disability), adversely affecting caregiver's quality of life. Providing continuous care to stoke survivor increase burden on caretaker, which many times may manifest as fatigue, depression and irritable mood[8], therefore home based rehabilitation is needed to improve functionality of stroke survivors and reduce burden on caretaker. Moreover, Longitudinal Analysis shows that quality of life of person with CVA and their caretaker correlates with each other[9].A further, studies has highlighted that home based rehabilitation increase the quality of life, improves functional performance and reduce further risk of deterioration [10-11] also, home-based therapy reduces potential problems of transfer of learnt skills from training setting to home setting. A qualitative study conducted in 2000 by Sues Stephenson, fellows identified therapist, and patient view about home based therapy. Patients highlighted two main benefits of home-based therapy: convenience and relevancy however,

therapist posits difficulty in maintaining control during therapy session and increased burden affecting their quality of life.

World Health Organization defines quality of life as the perspective of an Individual of its life in relation to its culture, and value system in which they live to achieve their goals and meet expectations of society. It is a broad concept that addresses ones physical health, psychological state, personal belief and relationship to its environment[12]. World Health Organization Quality of Life-BREF (WHOQoL) assesses quality of life in variety of settings and population groups. The purpose to develop this assessment tool was to develop a questionnaire to assess quality of life cross based on their perception to their personal goals, value system and culture. Many researchers shave used WHOQoL along with Zarit Burden Interview, which is a caregiver self-report measure; to identify the impact of care giving to stroke survivors on level of burden and quality of life.

Client-centered stroke rehabilitation at home settings shown to significantly reduce disability and improve health outcomes of stroke survivors; however, studies have shown that it increases burden on caretaker and home-based therapists reducing their quality of life; which may impact the continuity of home-based therapy and quality care to patients. A study conducted in 2014 at Nigeria identified that the quality of life of caregivers and therapist inversely correlates to caregiver's burden, also the lower functioning of stroke survivors significantly associates with care giving burden[13].

This research article focus on quality of life and level of burden on Physiotherapist and Occupational Therapist providing home based rehab care. The physiotherapist focus on restoration of body moments interrupted due to any injury or insult while Occupational Therapist works for improvement of functional skills and maximizing of independency in activities of daily living. The work nature of both the professionals is high physical and emotional demanding. It includes many manual tasks, carrying and lifting weight, repetitive tasks and providing emotional support to patient and their families. Due to lack of rehab equipment, therapist often takes awkward positions and postures which increase stress and strain on joints and muscles. The outcome of is work related musculoskeletal disorders and fatigue. These outcomes also impact the mental health of the therapist and work performance.

The purpose to conduct this study is to identify the relationship between level of burden and quality of life of therapist who provides home-based rehabilitation to the stroke patients. This will help to address the health related concerns of patient and therapist.

METHODOLOGY

Study Design
Cross-sectional survey

Study Setting

The study conducted at various Rehabilitation Department of primary and territory hospitals of Karachi including Dr. Ziauddin Hospital North Nazimabad and Clifton Branch, Liaquat National Hospital (LNH), Institute of Physical Medicine and Rehabilitation (IPMR).

Duration of Study
6 months

Sampling Technique
Non-Probability Convenience Sampling Technique

Target Population
Home-based therapists dealing with stroke

Sample Size

The sample size was calculated using by using EPI software[14]. A study conducted in the year 2018 entitled as *"The Epidemiology of Stroke in a Developing Country (Pakistan)*" was used for calculating a sample size. By keeping the Confidence Interval of 95%, bound of error of 7%, a sample size n=147

Inclusion criteria

Physiotherapists and occupational therapists providing home based rehabilitation services to stroke patients.

Exclusion criteria

In this study the therapists who do not provide home based rehabilitation services in stroke rehabilitation or those who refuse to participate.

Data Collection Procedure

Data was collected from Rehabilitation Department of primary and tertiary hospitals of Karachi. Prior to the data collection, all participants were provided detailed information about the study and informed consent was obtained. Followed by the consent, participants were given the World Health Organization Quality of Life (WHOQoL) and Zarit Burden Interview (ZBI) questionnaires to evaluate the amount of burden and its relation with their quality of life of home based Rehabilitation Professionals (OT, PT) working with stroke patients

Data Collection Tool

Data was collected through two outcome measures: World Health Organization Quality of Life (WHOQoL) and Zarit Burden Interview (ZBI) questionnaires. The questionnaires were modified to research requirements. The WHOQOL-BREF is a commonly used questionnaire that consists of four domains (psychological health, environmental health, physical health and social relationships) [15]. Higher domain score indicates higher quality of life. Mean score of all questions in each domain compute the domain score. Mean scores are then duplicated by four to make domain scores comparable by the scores utilized in WHOQOL-BREF.

Zarit Burden Interview (ZBI) is an effective and reliable tool for determining the burden that person experience in their current life situation[16]. Interview is based upon 22 questions in which each question score 0-4 points. According to Scoring key: where 0 - 21 indicates the little or no burden whereas, 21 - 40 indicates mild to moderate burden but 41 – 60 means moderate to severe burden and 61 – 88 score consider as severe level of burden.

Data Analysis Strategy

The statistical software named as SPSS (Statistical Package for Social Sciences) was use find out the statistical tools and to analyze data. Participant's demographic details (including age and gender) were represented through descriptive statistics which includes tables of mean and standard deviation along with a graph i.e. Histogram. Moreover, Chi-square test of association used to indicate the association between the variables.

ETHICAL CONSIDERATIONS

In this study the researcher provides the detailed information about this particular topic and all the participants were provided detailed information about research process and purpose. Moreover, the participants were also aware with consent forms at the time of conducting research. The data was collected after obtaining informed consent from the participants and it is assured that all the information is highly confidential.

RESULTS

To conduct a detailed review and study on this kind of particular topic, the researcher took a sample size of total 150 participants (50 males and 100 females) enrolled in the research while 50 generally refuse to participate; the mean age of participants was found to be 25.8±5.14 years respectively as shown in Table-1 which

generally shows that the selected participants falls in between the age of 19 to 31 years.

Table-1 Demographic Characteristics of Participants	
No. of Participants	n= 100
Gender	Male (n=30) Female (n=70)
Age (Years)	25.8±5.14

Findings of the study mostly shows that participants generally have a mean score of 65.89±16.7 (which essentially lies in the series of minimum value 48 and the maximum value of 81) in WHOQOL-BREF (Table-2). The descriptive statistics graph shows that 39% lies under moderate to severe burden, whereas, 21% specifically showed mild to moderate burden while 19% specifically had severe burden as shown in figure-1 although, the value of Likelihood Ratio founds 0.79 and the value of Pearson Chi Square which mostly is also known as p value generally is 0.24, both of these values really shows that there essentially is no statistically significant association found between level of burden and quality of life. (table-2).

Table-2 Association between Level of Burden and WHQoL-BREF	
No. of Participants	n= 100
Pearson Chi-square	0.24
Likelihood Ratio	0.79

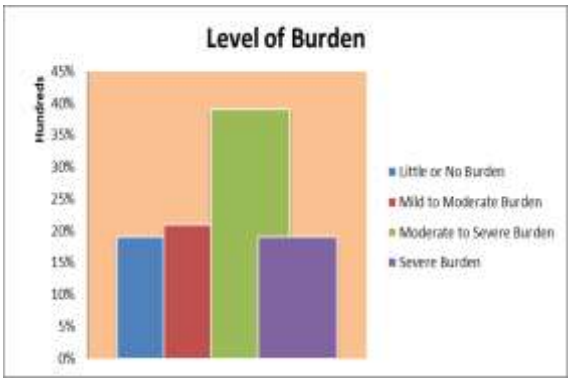

Figure-1 represents level of burden

DISCUSSION

The findings of the study revealed that the participants demonstrated slightly higher than average quality of life on the scale of WHO_QOL-BREF and on ZBI scale 60% of the participant's burden level falls into mild to severe level (39% moderate to severe burden, 21% mild to moderate) while 21% showed mild to moderate burden while 19% had severe burden. However, no significant association found between level of burden and quality of life. The scores of the present study are similar to the findings of a study conducted in 2016 on stroke survivors' caregivers. The caregivers of stroke patient show average quality of life (62%) on WHO_QOL-BREF and moderate burden level (29%) on ZBI scale. Furthermore, this study also did not found significant association between quality of life and burden on the therapist[17].

Many factors contribute to burden on the therapist in a subtle way. Earlier studies specifically identify the risk factor of kind of physical stress faced by occupational and physiotherapist, consequently affecting the quality of life, really was fairly physical challenging role, excessive twisting and bending tasks, lifting, carrying and transferring generally heavy objects or definitely material in a subtle way. Furthermore, in home based therapy session the therapist receives pretty minimum assistance during the session as kind of compare to hospital-based sessions. All of these factors increases physical burden on the therapist and affects their sort

of standard of living, which is fairly significant. [18-19]

Similarly, a study conducted in Africa also reports that care-giving role to stroke patient is challenging which increases the physical and emotional burden on the caretaker affecting their quality of life. The study found that the caregiver experienced emotional distress and care giving strain[20].

On the contrary, some studies do not found association between physical activity and health related outcomes of the therapist. A study conducted in Australia founded that the therapist had higher than average activity level in a week and only few of them complained for discomfort and pain[21].

Many studies have identified similar level of work burden on the therapist working with stroke patient in hospital and patient's home[22]. According to a study, the participants (therapists) were satisfied with their work despite of moderate level of physical and psychological stress. This was due to moderate to high level of job control. The therapists were allowed to suggest and bring ergonomic improvements to reduce work related stress[23] while burnout and emotional exhaustion in the therapist was found in the settings where the therapist has strict and tough routine and less job control[24-25].

Many factors contribute to quality of life and efficacy at work. Each individual experience stress differently depending upon their personality traits and coping mechanism. There mode of living is comparatively different in all aspects from one another and that is why they carried out a stressful lifestyle. The workload, personality traits, coping mechanism, work place environment and balance between work and family mediates the individual's experience to stressful situations all of which ultimately affects the quality of life.

The work nature of physiotherapist and occupational therapist increases the risk of musculoskeletal issues and weakness. Due to unavailability of rehabilitation equipment and support at client's home, therapist has to adapt the awkward positions and postures that cause fatigue and pain. They usually get stressful after looking over the patients because of too much additional exercise which can be easily done through equipment. Many workplaces have ergonomically altered to guarantee the specialist wellbeing yet least consideration is paid on wellbeing results coming about because of work worry of home based rehabilitation services. This investigation has shed light on the level of workload and its effect on wellbeing and prosperity of rehabilitation professionals providing home based rehabilitation services.

This study statistically shows the weak association between the quality of life and burden on therapist proving home-based rehabilitation, however the participants demonstrated moderate to high burden. Thus further researches are required to identify the factors influencing quality living of therapist in Pakistan.

PUBLIC HEALTH SIGNIFICANCE

The study was helpful to investigate the risk factor that promote burden and reduces the Quality of Life of rehabilitation professionals. Moreover, this research could be supportive in reducing amount of burden in order to enhance the quality of life. Furthermore, it also addresses the need of therapists as they are prone to injury due to nature of work.

CONCLUSION

It is concluded that the participants had an average quality of life and increased level of burden therefore, further studies are required to address the health-care needs of therapists working in home-based setting to reduce the level of burden and increase quality of life.

REFERENCES

[1] Venketasubramanian N, Yoon BW, Pandian J, Navarro JC. Stroke

epidemiology in south, east, and south-east Asia: A review. Journal of stroke. 2017 Sep;19(3):286

[2] Khealani BA, Hameed B, Mapari UU. Stroke in Pakistan. Journal of the pakistan medical association. 2008;58(7):400.

[3] Morris, J.H., Oliver, T., Kroll, T., Joice, S. and Williams, B., 2015. From physical and functional to continuity with pre-stroke self and participation in valued activities: A qualitative exploration of stroke survivors', carers' and physiotherapists' perceptions of physical activity after stroke. Disability and rehabilitation, 37(1), pp.64-77.

[4] Hellweg S. Effectiveness of physiotherapy and occupational therapy after traumatic brain injury in the intensive care unit. Critical care research and practice. 2012 Oct;2012.

[5] Mayo NE. Stroke rehabilitation at home: lessons learned and ways forward. Stroke. 2016 Jun;47(6):1685-91..

[6] Memon AR, Sahibzada NM, Azim ME, Siddiqui FA. Physical therapy as a profession and its educational development in Pakistan. JPMA. The Journal of the Pakistan Medical Association. 2016 Nov;66(11):1472-4.

[7] Nielsen TL, Petersen KS, Nielsen CV, Strøm J, Ehlers MM, Bjerrum M. What are the short-term and long-term effects of occupation-focused and occupation-based occupational therapy in the home on older adults' occupational performance? A systematic review. Scandinavian journal of occupational therapy. 2017 Jul 4;24(4):235-48.

[8] Balhara YP, Verma R, Sharma S, Mathur S. A study of predictors of anxiety and depression among stroke patient–caregivers. Journal of Mid-life Health. 2012 Jan;3(1):31.Pucciarelli G, Vellone E, Savini S, Simeone S, Ausili D, Alvaro R, Lee CS, Lyons KS. Roles of changing physical function and caregiver burden on quality of life in stroke: A longitudinal dyadic analysis. Stroke. 2017 Mar;48(3):733-9.

[9] Pinedo S, SanMartin V, Zaldibar B, Miranda M, Tejada P, Erazo P, Lizarraga N, Aycart J, Gamio A, Gomez I, Bilbao A. Quality of life of stroke patients and their caregivers. Int J Phys Med Rehabil. 2017;5(386):2.

[10] Ng S, Chu M, Wu A, Cheung P. Effectiveness of home-based occupational therapy for early discharged patients with stroke. Hong Kong Journal of Occupational Therapy. 2005 Jan 1;15(1):27-36.

[11] Chaiyawat P, Kulkantrakorn K, Sritipsukho P. Effectiveness of home rehabilitation for ischemic stroke. Neurology international. 2009 Nov 16; 1(1).

[12] Su CT, Ng HS, Yang AL, Lin CY. Psychometric evaluation of the Short Form 36 Health Survey (SF-36) and the World Health Organization Quality of Life Scale Brief Version (WHOQOL-BREF) for patients with schizophrenia. Psychological Assessment. 2014 Sep; 26(3):980.

[13] Ogunlana MO, Dada OO, Oyewo OS, Odole AC, Ogunsan MO. Quality of life and burden of informal caregivers of stroke survivors. Hong Kong Physiotherapy Journal. 2014 Jun 1; 32(1):6-12.

[14] Kevin M. Sullivan, R., 2018. Openepi - Toolkit Shell For Developing New Applications. [online] Openepi.com. Available at: <https://www.openepi.com/SampleSize/SSPropor.htm> [Accessed 17 September 2020].

[15] Pucciarelli G, Årestedt K, Simeone S, Bolgeo T, Alvaro R, Vellone E. Psychometric characteristics of the WHOQOL-SRPB Scale in a population of stroke survivors and caregivers. Quality of Life Research. 2020 Feb 17:1-3.

[16] Yap P. Validity and reliability of the Zarit Burden Interview in assessing caregiving burden. Ann Acad Med Singapore. 2010; 39:758-63.

[17] Caro CC, Costa JD, Da Cruz DM. Burden and quality of life of family caregivers of stroke patients. Occupational therapy in health care. 2018 Apr 3; 32(2):154-71.

[18] Ntsiea MV. Current stroke rehabilitation services and physiotherapy research in South Africa. The South African Journal of Physiotherapy. 2019;75(1).

[19] McPhail SM, Waite MC. Physical activity and health-related quality of life among physiotherapists: a cross sectional survey in an Australian hospital and health service. Journal of Occupational Medicine and Toxicology. 2014 Dec 1;9(1):1.

[20] Badaru UM, Ogwumike OO, Adeniyi AF, Nelson EE. Determinants of caregiving burden and quality of life of informal caregivers of African stroke survivors: literature review. International Journal on Disability and Human Development. 2017 Aug 28;16(3):249-58.

[21] McPhail SM, Waite MC. Physical activity and health-related quality of life among physiotherapists: a cross sectional survey in an Australian hospital and health service. Journal of Occupational Medicine and Toxicology. 2014 Dec 1;9(1):1.

[22] Lindsay R, Hanson L, Taylor M, McBurney H. Workplace stressors experienced by physiotherapists working in regional public hospitals. Australian Journal of Rural Health. 2008 Aug;16(4):194-200.

[23] Muaidi QI, Shanb AA. Effects of work demands on physical therapists in the KSA. Journal of Taibah University Medical Sciences. 2016 Feb 1;11(1):56-62.

[24] Rogan S, Verhavert Y, Zinzen E, Rey F, Scherer A, Luijckx E. Risk factor and symptoms of burnout in physiotherapists in the canton of Bern. Archives of Physiotherapy. 2019 Dec;9(1):1-5.

[25] Nerdrum P, Rust∅ en T, Helge R∅ nnestad M. Psychological distress among nursing, physiotherapy and occupational therapy students: A longitudinal and predictive study. Scandinavian Journal of Educational Research. 2009 Aug 1;53(4):363-78.