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A COMPREHENSIVE REVIEW OF STROKE RELATED DISABILITY AND ROLE OF UNANI MEDICINE IN REHABILITATION

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Abstract

Stroke is a leading cause of functional impairments; Hemiplegia (*Falij*) is the commonest manifestation of stroke leading to disability. *Disability* represents the social and societal consequences of functional limitations. It is defined by a patient's inability to perform Activities of Daily Living (ADLs) and maintain social and family relationships. Recent studies suggest that more than half of stroke survivors report one or more type of *Disability*. The primary goals of rehabilitation of people with stroke are making able them to perform daily activities and to walk independently. Physiotherapy plays a pivotal role in rehabilitation but most of the rehabilitation curriculum does not suited to these patients due to their inability to actively participate in these programs and also due to financial burden. Unani system of medicine asserts to possess treatment for Disabilities in *Falij*. Almost all ancient Unani physicians have advocated *Tanqia* and *Ta'deel* as treatment of *Falij* caused by *Balghami Khilt*. Recent studies also suggested that Unani medicine is effeftive in alleviating post stroke Disabilities.

Key words: Falij; Stroke; *Disability;* ADLs; Unani medicine

Introduction

Stroke is the most prevailing clinical manifestation of diseases of the cerebral blood vessels. [(1)] The morbidity and mortality rate of stroke is very high; in fact stroke is the second leading cause of mortality worldwide, [(2)] and third most common cause of death in the developed world. [(1,3)] Stroke is also a major cause of serious physical disability in adults; [(3)] at least 50 percent of those who survive will be left with physical disability. [(1)]The burden of disease is high in India, the ICMR estimates of 2004 pointed that stroke contributed 41% of deaths and 72% of disability adjusted life years among the non-communicable diseases. Recent evidence suggests that 72.7% of stroke survivors in rural India have severe disability and unmet needs for stroke care. [(4)]

Disability and International Classification of Functioning, Disability and Health

Disability represents the social and societal consequences of functional limitations. It is defined by a patient's inability to perform Activities of Daily Living (ADL) and maintain social and family relationships, to continue in a vocation, or to pursue leisure activities. [5]

Disabilities include limitations in the ability to independently carry out daily activities [6] Functioning and disability related with health considerations have been assorted in the International Classification of Functioning, Disability and Health (ICF). [7]

The categorization has two parts, Functioning and Disability (Part 1), and Contextual Factors (Part 2).

Part 1 includes the two components: Body Functions & Structures, and Activities & Participation.

Part 2 admits Environmental Factors and Personal Factors.

Functioning is a neutral term that refers to all body functions, activities and participation. The term disability suggests problems and refers to impairment, activity limitations and restrictions in participations. A person's functioning and disability can be deemed the combined result of his health condition and contextual factors. [7]

The activities and participation component collectively covers the complete range of individual and societal functioning and disability. The model captures the major actions of all people, regardless of culture or lifespan. Activity is the execution of a task or action that is completed by an individual in a uniform environment. Activity limitations are difficulties a person may have in executing activities. Activity includes self-care, mobility, learning and applying new knowledge, general tasks, demands, and communication. [7]

In a research Gill et al. attempted to identify health and non-health related problems associated with activity restriction. [8] Within the 15 month study period, 76.6% of the elderly sample restricted activity during at least one month and 39.3% for two consecutive months. Health care utilization was elevated during months of activity restriction. Gill and colleagues also evaluated the relationship between restricted activity and disability development. [9] The authors concluded that activity restriction was significantly related to disability development for the community dwelling older population. Guralnik et al. explored mobility disability and found that limitations in mobility can lead to decreased performance of ADLs. [10] Such limitations in ADLs have been related to disability and increased health care utilization. [10]

Activities of daily living

Activities of daily living, also known as ADL, are those activities that people must be able to do routinely to be considered fully independent. [11]

Activities of daily living include obvious and mundane activities such as showering, getting dressed, brushing one's teeth or combing one's hair, to more complicated ones such as being able to shop and cook for oneself or to be able to pay one's own bills. [11]

For physicians and other healthcare providers, the ability to perform one's activities of daily living serve as a measure of independence. This independence is often affected by neurological, psychiatric, and medical diseases. (11)

People who cannot perform their ADLs are thought to have lost their independence as they require the assistance of others in order to function. In extreme cases, such as it occurs after devastating strokes, and other neurological diseases, people require long-term care in an inpatient facility. (11)

ADL comprises activities that are usually performed in everyday living and are necessary for community living and assessments of ADL are often occurring in rehabilitation. Outcome studies in occupational therapy are also being carried out and the ADL instruments and taxonomies used are under critical review. (12) Conceptual clarity is important for identifying changes between two measurements, e.g. responsiveness, to form the basis of an evaluation of the assessment. (13) The evaluation of disability also depends upon the diagnosis. (14) There is a need to understand the interaction between the patient and the environment and whether it is possible to obtain optimal outcomes under defined clinical conditions and to find methods of observing human behaviour in a reliable and valid way. (15)

The different answers to the person's ADL problems were determined among other things by the cognitive realizing of the impact of the stroke and the person's personality. The deficits in emotional and mental function may even be apparent in individuals who have went through a relatively mild stroke, where there may be symptoms such as tiredness, depression, limited concentration, physical and mental endurance, which may heighten the variance in the execution in daily life and the dependence on another person. (16) It is also difficult to discern a normal general fluctuation in activity performance because of different habits and roles, as is seen in the normal population (17) in the excitability of the performance caused by the stroke. At the same time, professionals must be able to handle all kinds of stroke patients and their ADL situations.

Consequences of stroke

The outcomes of stroke are usually complex and heterogeneous depending upon aetiology, location and severity of stroke.

Stroke is an abrupt event that is generally accompanied by an acute onset of disability that might be staying lifelong. Following a stroke often means a major life course disruption. (18, 19) Victims of stroke may experience state of bedlam and chaos in their lives, and the event can be depicted as a personal calamity in the first week after stroke. (20, 21)

This grievous impact on peoples' lives originates from the multiplex of aftermaths and the chronic course, frequently involving a loss of independence. A study by Lai et al. pointed that only one-fourth of stroke survivors brought back to the life they had led before stroke, while others suffer from one or more disabilities. (22) Another

report evidenced that more than half of stroke survivors need help with activities of daily living like cleaning, cooking and shopping, and around one-fourth are dependent in self-care, dressing and moving around outdoors two years post-stroke. [23] Nevertheless, individuals are not only confronted with physical troubles but also mental and psychosocial ones, such as depression, communication problems and fatigue. [24,25,26] In a research investigator Clarke' summarized the life of a stroke as: "Survivors may abruptly be left with paralysis or weakness in their arms or legs, memory problems, visual impairment (including cortical blindness), loss of sensation in or awareness of one side of the body, difficulty swallowing, and difficulty in understanding what is said and in finding words to communicate with others. [27]

Disability with stroke

Stroke is prevalent and disability associated with stroke is significant [28] The disabilities related to stroke include functional limitations in the "capacity to carry out any activity within the normal range achievable by a human being." [12]

Following a stroke, survivors may have impaired cognitive, language, perceptual, and sensorimotor limitations. Abnormal reflexes, weakness of volitional movements, and changes in muscle tone are the main motor characteristics of stroke survivors. [29]

Clinically, a functional status assessment is used to identify disabilities in activities of daily living (ADL) such as eating, dressing, and managing financial tasks. [6] Following stroke, Patients may be totally dependent upon others to care for them. In less severe strokes, or as patients with more severe strokes begin to recover, they are often able to resume aspects of self-care starting with the simplest. (such as assisting a therapist with wiping one's face) and moving to the more complex (such as dressing one's self with little or no assistance). [6,29]

Common activities of daily living affected by Stroke

Long-run stroke subsisters' health-related quality of life is known to be importantly depress than that of controls with regard to physical functioning, general health and role limits and they are more belike to be dependant in basic activities of daily life. [30]

Long-term (15-year) outcomes indicate that employment, social relations and leisure activities are affected and less than 40% of stroke survivors evaluate their quality of life to be good. [31] Adaptation to functional disabilities seems to depend on the availability of internal and external resources. [32]

According to Wyller & Kirkevold (1999) stroke survivors' quality of life does not necessarily correspond with the severity of bodily changes but more with how these changes are interpreted and with whether they apply pre-stroke criteria to their present life or utilize new criteria that are in accordance with being a stroke survivor. Fatigue, depression and unemployment are associated with poorer outcome in young stroke survivors' health-related quality of life. [33] Results of some long-term follow-up studies indicate that physical function and independence in activities of daily living remain stable. [34]

After a stroke, the ability to control balance in the sitting and standing positions is a fundamental skill of motor behaviour for achieving autonomy in everyday activities and the postural performance of patients soon after a stroke has been found to be closely correlated with long-term functional improvement. [35]

Activities may be affected by Stroke, resulting from the impact of paralysis, poor coordination, loss of feeling, lack of awareness or neglect of one side of the body, or difficulty initiating a movement or planning a sequence of movements. It is important that the person:

- Slow down
- Take time
- Plan a task
- Break down tasks into a series of simple steps

Moving from Wheelchair to bed and return, walking on level surface, Dressing, Ascend and descend stairs, Grooming, Bathing self, are some common ADLs affected by stroke. [36]

Management of Post Stroke Disability

Rehabilitation practitioners are concerned with how these patients can perform everyday tasks despite their underlying impairments. [37] Stroke survivors expect that following rehabilitation, they will not only have a return of their functional abilities, they will be able to return to their former activities. [38] To identify a patient's ability to perform daily activities, clinical practitioners rely on assessments that measure the functional status. [39] These assessments allow clinical practitioners to observe patients performing everyday activities to "help to explain functional status, confirm, or cast doubt." [40] It is believed that functioning in everyday life is measured by ability to perform activities of daily living (ADL). A limitation in ADL's has been shown to impact functioning in everyday life; while recovery in the language of a patient is also reflected by ability to perform ADL's. [37]

In conventional system of medicine, physiotherapy is done for post stroke disability management. But it is believed that In spite of intensive therapy all around in the first 6 months after stroke, a large number of stroke survivors are left with significant disabilities. [5] Disabilities lead to the non-participation of individuals in all-important and substantial physiotherapy related programme. [5]

Unani Medicinal Management of Post Stroke Disability

Unani Physicians believed that Stroke which is nearly synonym of *Falij* is mostly caused by Sue Mizaj Balghami. [41,42,43,44] The treatment of *Falije Nisfi* consists of *Tanqia Mawade Raddiya* followed by *Ta'deel Mizaj*. [41,42,43,44]

Tanqia Mawade Raddiya is achieved by using *Munzijate Balgham Advia* followed by *Mushile Balgham Advia. Munzijate Balgham Advia,* due to their known properties of *Tahleel, Taqtee,* and *Talteef,* are capable of making *Balghami Mawad* easy-to-evacuate called as *Nuzj*. After *Nuzj Mushil Advia* are used, which have propensity to

expel the morbid *Akhlat* from whole body, particularly from vessels and neighboring structures through intestine. (41,42,43,44)

After *Tanqia Mawade Raddiya, Ta'deel Mizaj* is achieved by using *Muqawwie* drugs and/or employing various *Tadabeer* (regimens) such as *Dalk* (massage), *Riyazat* (exercise), *Nutool, Takmeed, Hammam, Inkebab* etc. (41,42,43,44,45)

Till dates a number of studies has been carried out on the principles of unani medicine and it has been found that Unani regimen are effective in post stroke Motor Power Improvement as suggested by Ahmad et al., and Khan ZA et al. (46,47)it has also found effective in Palliating the Post-Stroke Gait Disability as propounded by Ali SJ (48) and Alleviating of Post-Stroke Spasticity as proposed by Yasir M et al.(49) and in improvement of ADLs in Stroke survivors. (50,51)

Conclusion

Disability represents the social and societal consequences of functional limitations. It is defined by a patient's inability to perform ADL and maintain social and family relationships, to continue in a vocation, or to pursue leisure activities. (7)

The primary goals of rehabilitation of people with stroke is making able them to perform daily activities and to walk independently; (13) Unani Medicine as discussed has potential in treating of various stroke related disabilities as suggested by recent clinical studies. This review paper also revalidates principles of unani medicine and potential of unani medicine in managing non communicable disease.

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References

1. Colledge NR, Walker BR, Ralston SH. Davidson's Principles and of Practice of Medicine. 21st ed. Edinburgh: Churchill Livingstone; 2010.
2. Goldman L, Schafer AI. Goldman's Cecil Medicine. 24th ed. Philadelphia: Elsevier Saunders; 2012: 2304-10.
3. Lewis P. Rowland, Timothy A. Pedley. Merritt's Neurology. 12th ed. Lippincott Williams & Wilkins; 2010.
4. Taylor FC, Kumar SK. Stroke in India: 2012 factsheet; (updated).
5. Duncan PW. Stroke Disability. Stroke. PHYS THER. 1994;74:399-407
6. Carod-Artal, F. J., Gonzalez-Gutierrez, J. L., Herrero, J. A. E., Horan, T., & de Seijas, E. V. Functional recovery and instrumental activities of daily living: Follow-up 1-year after treatment in a stroke unit. Brain Injury. 2002; 16: 207-216.

7. *WHO. The International Classification of Functioning, Disability and Health - ICF*. World Health Organization; 2001.
8. Gill TM, Desai MM, Gahbauer EA, Holford TR, Williams CS: Restricted activity among community-living older persons: incidence, precipitants, and health care utilization. Ann Intern Med 2001; *135:* 313-321.
9. Gill TM, Allore HG, Holford TR, Guo Z: Hospitalization, restricted activity, and the development of disability among older persons. JAMA 2004; *292:* 2115-2124.
10. Guralnik JM, LaCroix AZ, Abbott RD, Berkman LF, Satterfield S, Evans DA, Wallace RB: Maintaining mobility in late life. I. Demographic characteristics and chronic conditions. Am J Epidemiol 1993; *137:* 845-857.
11. Exercise on Prescription: Cardiovascular Activity for Health By John Buckley, Jane Holmes, Gareth Mapp; Elsevier Health Sciences, 1999.
12. Law M, Letts L. A critical review of scales of activities of daily living. Am J Occup Ther. 1989 Aug; 43(8):522-8.
13. Unsworth C. The concept of function. British Journal of Occupational Therapy. 1993; 56(8):287-92.
14. Borg J. Rehabiliteringsmedicin: teori och praktik. Lund: Studentlitteratur; 2006.
15. Portney LG, Watkins MP. Foundations of clinical research: applications to practice. 3rd ed. Upper Saddle River, N.J.: Pearson/Prentice Hall; 2009.
16. Carlsson GE, Moller A, Blomstrand C. A qualitative study of the consequences of 'hidden dysfunctions' one year after a mild stroke in persons <75 years. Disabil Rehabil. 2004 Dec 2;26 (23):1373-80.
17. Smith RO. The science of occupational therapy assessment. Occupational Therapy Journal of Research. 1992; 12(1):3-15.
18. Dowswell G, Lawler J, Dowswell T, Young J, Forster A, Hearn J. Investigating recovery from stroke: a qualitative study. J Clin Nursing. 2000;9:507-15.
19. Jorgensen HS, Nakayama H, Moller Pedersen P, Kammersgaard L, Raaschou HO, Skyhoj Olsen T. Epidemiology of stroke-related disability. The Copenhagen Stroke Study. Clin Geriatr Med. 1999;15(4):785-99.
20. Jorgensen HS, Nakayama H, Moller Pedersen P, Kammersgaard L, Raaschou HO, Skyhoj Olsen T. Epidemiology of stroke-related disability. The Copenhagen Stroke Study. Clin Geriatr Med. 1999;15(4):785-99.
21. Alaszewski A, Alaszewski H, Potter J. The bereavement model, stroke and rehabilitation: a critical analysis of the use of a psychological model in professional practice. Disability and Rehabilitation. 2004;26(18):1067-78.
22. Lai SM, Studentski S, Duncan PW, Perera S. Persisting consequences of stroke measured by the Stroke Impact Scale. Stroke. 2002;33(7):1840-4.
23. Socialstyrelsen [The National Board of Health and Welfare]. Livssituationen två år efter stroke. En uppföljning av strokedrabbade och deras närstående [Life after stroke - a new national study. Renewed

follow-up of stroke patients shows increased dependency on the support from the next-of-kin] (in Swedish). (No. 2004-123-40). 2004.

24. Glader E, Stegmayr B, Asplund K. Poststroke fatigue: a 2-year followup study of stroke patients in Sweden. Stroke. 2002;33:1327-33.
25. Pedersen PM, Jorgensen HS, Nakayama H, Raaschou HO, Plsen TS. Aphasia in acute stroke: incidence, determinants and recovery. Ann Neurol. 1995;38:659-66.
26. Whyte E, Mulsant B. Post stroke depression: epidemiology, pathophysiology, and biological treatment. Biol Psychiatry. 2002;52:253-64.
27. Clarke P. Understanding the experience of stroke: a mixed-method research agenda. The Gerontologist. 2009;49(3):293-302.
28. American Heart Association. (2007). Heart and Stroke Statistical Update - 2007. *Circulation, 115*, e69-e171.
29. National Institute of Neurological Disorders and Stroke (NINDS), "Stroke: Hope Through Research", 2004.
30. Hackett, M. L., Duncan, J. R., Anderson, C. S., Broad, J. B., & Bonita, R. (2000). Health-related quality of life among long-term survivors of stroke: results from the Auckland Stroke Study, 1991-1992. *Stroke (00392499), 31*, 440-447.
31. Teasdale, T. W., & Engberg, A. W. (2005). Psychosocial consequences of stroke: a longterm population-based follow-up. *Brain Injury, 19*, 1049-1058.
32. Clarke, P., & Black, S. E. (2005). Quality of Life Following Stroke: Negotiating Disability, Identity, and Resources. *Journal of Applied Gerontology*, *24*, 319-336.
33. Naess, H., Waje-Andreassen, U., Thomassen, L., Nyland, H., & Myhr, K. (2006). Healthrelated quality of life among young adults with ischemic stroke on long term follow-up. *Stroke (00392499), 37*, 1232-1236.
34. Johannsen-Horbach, H., Wenz, C., Fünfgeld, M., Herrmann, M., & Wallesch, C. W. (1993). Psychosocial aspects on the treatment of adult aphasics and their families. In A. L. Holland & M. M. Forbes (Eds.), *Aphasia treatment: world perspectives* (pp. 319-334). San Diego, CA: Singular Publishing Group.
35. Benaim C. Validation of a standardized assessment of postural control in stroke patients: the postural assessment scale for stroke patients (PASS). Stroke 1999;30:1862-8.
36. Mahoney FI, Barthel D. “Functional evaluation: the Barthel Index.” *Maryland State Med Journal*
37. Bernspång, B., & Fisher, A. (1995). Differences between persons with right or left cerebral vascular accident on the assessment of motor and process skills. *Archives of Physical and Medical Rehabilitation, 76*, 1144-1151.
38. Hafsteinsdóttir, T. B., & Grypdonck, M. (1997). Being a stroke patient: A review of the literature. *Journal of Advanced Nursing, 26*, 580-588.
39. Rogers, J. C. (1983). Eleanor Clarke Slagle Lectureship - 1983; Clinical reasoning: The ethics, science, and art. American Journal of Occupational Therapy, *37*, 601-616.

40. Rubenstein, L.V., Calkins, D. R., Greenfield, S., Jette, A. M., Meenan, R. F., Nevins, M. A., et al. (1988). Health status assessment for elderly patients: Report of the society of general internal medicine task force on health assessment. *JAGS, 37*, 562-569.
41. Ibne Hubal. Kitabul Mukhtarat Fit Tibb. 1st ed. New Delhi: CCRUM; 2004.
42. Ibne Sina AAHIA. Al Qanoon Fit Tib. New Delhi: Idara Kitabush Shifa; 2010.
43. Khan MA. Al-Ikseer. New Delhi: Ejaz Publishing House; 2003.
44. Ibne Rushd AWM. Kitabul Kulliyat. 1st ed. New Delhi: CCRUM; 1987.
45. Tabri AIM. Al Mualajatul Buqratiya. New Delhi: CCRUM; 1994.
46. Khan ZA, Ansari AN, Zia MA. Efficacy of Munzij wa Mus'hil-e-Balgham and Zimade-Sheetraj on Motor Recovery in Falij-e-Nisfi (Hemiplegia). International Journal of Unani and Integrative Medicine 2019; 3(1): 45-50.
47. Ahmed A Ansari AN Ali SJ and Mohd Y: Efficacy of Munzij Wa Mushil-E-Balgham (Poly Herbal Formulations) And Massage With Roghan-E-Malkangani In Falij Nisfi (Hemiplegia): A Randomised Controlled Clinical Trial. Int J Pharm Sci Res 2015; 6(1): 453-58.doi: 10.13040/IJPSR.0975-8232.6 (1).453-58.
48. Ali SJ et al. International Journal of Science and Research Methodology, 2015; Vol. 2 (1): 54-62.
49. Ali SJ, Ansari AN, Mohd A. Munzijate Balgham with interpretation to their mechanism of action in stroke rehabilitation: A review. Journal of AYUSH (JoAYUSH). 2015; 4(3): 9–15p.
50. Ahmad I, Ahmad T, Quamri MA. Clinical efficacy of Majoon Falasfa and Roghan-e-Surkh in post-stroke-disability: an open labeled, pre-post analysis. Drug Metab Pers Ther. 2020; (Online ahead of print).
51. Alam I. Efficacy of Maa-ul Usool , Mus'hile Balgham and Inkebab with Marzanjosh in the management of post- stroke disability with respect to ADL. Dissertation RGUHS, India; 2015.