SJIF Impact Factor: 5.464

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 7.
Issue: 11.
Page N. 89-96
Year: 2023

Original Article www.wjahr.com

IMPAIRED PHYSICAL MOBILITY AS A NURSING DIAGNOSIS, PREVALENCE AND DEFINING CHARECTERISTICS AMONG PATIENT WITH STROKE

Prof. Kanmani J.[1*], Priya Thomas [2], M. S. Padmaprabha[3] and Lekshmi Raj[3]

[1]Professor, Department of Medical and Surgical Nursing, Amrita College of Nursing, Amrita Vishwa Vidyapeetham, Health Sciences Campus, Kochi, Kerala.
[2]Lecturer, Amrita College of Nursing, Amrita Vishwa Vidyapeetham, Health Sciences Campus, Kochi, Kerala.
[3]Fourth Year B.S c Nursing, Amrita College of Nursing, Amrita Vishwa Vidyapeetham, Health Sciences Campus, Kochi, Kerala.

Received date: 04 September 2023 **Revised date:** 25 September 2023 **Accepted date:** 14 October 2023

***Corresponding Author: Prof. Kanmani J.**
Professor, Department of Medical and Surgical Nursing, Amrita College of Nursing, Amrita Vishwa Vidyapeetham, Health Sciences Campus, Kochi, Kerala.

ABSTRACT

Background: Stroke is a chronic neurological disorder that often results in severe functional impairments. The mobility capacity of the elderly is making them dependent on others to perform their daily activities. The progressive loss of functional capacity can affect the quality of life of the elderly. **Purpose:** Studying nursing diagnoses, more specifically impaired physical mobility in survivors of stroke is important for evidenced-based nursing practice and to identify the main defining features and factors related to such diagnosis**. Method:** A descriptive study with a cross-sectional design, among 100 patients with stroke who were admitted to the inpatient department**.** The muscle strength and deep tendon reflexes were assessed. The activities of daily living were analyzed through the Barthel Index, **Major findings:** The study results show that 56 (56%) were age above 60 years, 64 (64%) were males, 42 (42%) had primary education and 42 (42%) were professionals, lifestyle habits: alcohol 64(64%), smoking 84 (84%) 37(37%) is present with paralysis on the left side of the body, 43 (43%) having vision problems, 33(33%) have memory loss of inquisitive behavioural style of 20 (20%), speech problem 49 (49%), anticoagulant 60(60%), antiplatelet 28(28%), hypertension 56(56%), DM 53(53%), CAD 19(19%), BMI 61(61%) of normal weight and Deep tendon reflex 55(55%) have a normal impulse. that reluctance in attempt to move in 63(63%)difficulty in moving with physical environment in 40(40%), limited range of motion in 60(60%), fear of dislocation in 36(36%), report of pain in 22(22%), gait changes 31(31%), decreased muscle strength in 67 (67%), neuromuscular losses in 38 (38%), decreased muscle control in 60(60%), and anxiety in 72(72%). **Conclusion:** The study concluded that prioritizing the needs of individuals and individualized care will result in more effective rehabilitation and patient-centred actions.

KEYWORDS: Impaired Physical Mobility, Nursing Diagnosis, Prevalence, Defining Characteristics, Stroke.

INTRODUCTION

Stroke is a disease with considerable physical and psychosocial impairments. It can present with sudden onset of any neurological disturbances including limb weakness or numbness, speech disturbance and visual loss/disturbances of balance. Stroke is defined by WHO as a clinical syndrome consisting of rapidly developing clinical signs of focal (or global in case of coma) disturbance of cerebral function lasting more than 24 hours or leading to death with no apparent cause other than vascular origin.[1] Stroke has a high potential for causing disabilities, present mostly in age groups of 60 years or more. This age group also comprises inherent physiologic alterations to the age as muscle strength and tendon reflexes decrease, in addition to difficulties in body balance and changes in gait speed. The continuous investigation of these people's health needs is considerably important.

The nursing diagnostic process stands out to identify the main defining features and develop a future efficient and individualized action plan. A lack of studies performed in the country about diagnosis in people who survived this pathology also stands out. Studying nursing diagnosis, more specifically impaired physical mobility in survivors of this health injury is as important for

evidenced -based nursing practice. The nursing process has been the main methodological instrument for professional practice for systematic performance. Nursing diagnosis is understood as a stage of the process responsible for providing means for proposing exclusively nursing interventions regarding the detected health problems. In addition to being a work tool for those professionals; they provide the use of appropriate language, facilitating communication with patients.

Among diagnoses in that class, impaired physical mobility is included, understood as physical movement limitation, whether independent or intentional, of one or more extremities. Impaired physical mobility is defined as a limitation in independent, purposeful physical movements of the body, or if one/more extremities. The word mobility is associated with physical movements, including both simple gross motor and more complex fine motor movements, physical mobility requires sufficient muscle strength and energy, along with adequate skeletal stability, joint functions and neuromuscular synchronization. Anything that disrupts the process can lead to impaired physical mobility. Generally, impaired mobility is seen from a functional perspective by the individual's inability to move freely. Such inability can vary among individuals under similar conditions, and in the same individual, throughout different stages. Although physical limitation can manifest itself suddenly or slowly, according to its extension and duration, it can be a contributing factor to health problems, varying from lack of self- care to damaged social interaction.[2]

Decreased mobility is one of the major concerns for patients surviving a stroke; improving mobility is one of the main goals of stroke rehabilitation. The view is that little is to be expected less than six months after a stroke. Unfortunately the course of mobility states in the chronic stage (ie., beyond six months after stroke). The presence of impaired physical mobility diagnosis implies changes in the gait speed, which can generate an increased risk of falls, in addition to higher dependency regarding daily activities, restraining individuals from returning to their working activities and causing difficulties in moving around their own home and locations. Under this context, one of the diseases that generally interfere with patient's mobility is stroke. It is considered as one of the most severe public health problems due to its magnitude, transcendence and contribution to mortality in adults, generating severe disabilities and dependencies.

When advancing age is associated with the presence of chronic disorders, the mobility capacity of the elderly is influenced negatively, making them independent of others to perform their daily activities. The progressive loss of functional capacity can affect the quality of life of the elderly leading them to be undervalued and become susceptible to the development of psychological problems. Stroke is a family illness .It is different from many other acute illnesses. It usually needs long- term practical, social and financial support to cope with many residual problems.

A cross-sectional study was conducted to identify the frequency of nursing diagnosis of Impaired Physical Mobility Impairment and its components in the elderly population registered in a primary health centre among 50 seniors at their homes. A questionnaire on patient's identification, their health conditions and their mobility were used. Results: The nursing diagnosis in question was identified in 71.4% of the population. The most present related factors were: lack of knowledge about the advantages of physical activity (66.7%), discomfort (76.9%), pain(82.1%), joint stiffness (76.9%) and sedentary lifestyle (82.1%). The defining characteristics were: limited capacity to perform gross motor skills (89.7%), fine motor skills (56.4%) and engagement in substitution of movements (74.4%). The study concluded that participants showed difficulties related to physical mobility, evidencing a need for a better health profession.[3]

An exploratory study was conducted to investigate Worldwide; stroke is the second leading cause of death and the third leading cause of disability. Globally, 70%of strokes and 87% of both stroke-related deaths and disability- adjusted life years occur in low and middle income countries. Over the last four decades, the stroke incidence in low and middle- income countries has more than doubled. During these decades, stroke incidence has declined by 42% in high- income countries. On average, stroke occurs 15 years earlier in and causes more deaths of people living in low and middle- income countries, when compared to those in high-income countries.

Kamalakannan.S, and Kuper H, conducted a systematic review of epidemiologic studies on stroke conducted in India to document the magnitude of stroke. The result shows that the cumulative incidence of stroke ranged from 105 to 152/100, 00 persons per year, and the crude prevalence of stroke ranged from 44.29 to 559/100,000 persons in different parts of the country during the past decade. These values were higher than those of high-income countries.

Maramattom BV conducted a study among the stroke prevalence in Kochi and it was found that about 90 %of stroke patients are over 50 years of age. About 10 -20 patients were the occurrence of Nursing Diagnosis Impaired Physical Mobility in patients with stroke rehabilitation units from November 2007 to March 2008, through an interview and physical examination. Nursing Diagnoses were made using NANDA Taxonomy II. A total of 121 patients were evaluated. The subject's average age was 62.1 years and 52.3% were males. The diagnosis was present in 90%. Defining characteristics, difficulty turning was the most present characteristic and most of them reported decreased strength and endurance besides neuromuscular impairment (100%). The study concluded that there should be a closer look towards the

diagnosis when planning interventions after a stroke with an aim a health promotion for these patient.[4]

Based on the review and the clinical experience, the study was undertaken to assess the Impaired Physical Mobility as a Nursing Diagnosis: Prevalence and Defining characteristics among patients with stroke in a selected hospital, Kochi.

METHODOLOGY

A quantitative, descriptive, cross-sectional design was used. There were a total of 100 subjects were selected for the study by the use of convenience sampling with random assignments. The consent was obtained from the subjects before data collection. The ethical guidelines were followed throughout the study. The study instruments include socio- demographic and clinical data, Barthel Index, Defining characteristics, related factors, deep tendon reflex, and BMI.

RESULTS

Table 1: Demographic variable,

Variables	Frequency (f)	Percentage (%)
Age		
45-60yrs	44	44.0
Above 60yrs	56	56.0
Gender		
Male	64	64.0
Female	36	36.0
Marital status		
Single	7	7.0
Married	80	80
Widow	13	13
Living status		
With family	99	99.0
Alone	1	1.0
Educational status		
Primary education	42	42.0
Secondary education	34	34.0
Graduate	21	21.0
Post graduate	3	3.0
Occupational status		
Professional	42	42.0
Unskilled worker	34	34.0
Skilled worker	21	21.0
Unemployed	2	2.0
Retired	1	1.0

n=100

Table 1 shows that, a frequency of 56 (56%) age is above 60years, gender of frequency 64(64%) were males, 99(99%) of living status were married, educational status 42(42%) were having primary education and occupational status 42 (42%) were professionals**.**

Table 2: Clinical variable.

Variables	Frequency (f)	Percentage (%)
Family history of stroke		
Yes	27	27.0
No	73	73.0
life style habits a. Alcohol		
Yes	64	64.0
No	36	36.0
Life style habits- b. Smoking		
Yes	84	84.0
No	36	36.0
Life style habits c. Betel chewing		
Yes	93	93.0
No	7	7.0

Paralysis on left side		
Yes	62	62.0
No	38	38.0
Paralysis on right side		
Yes	66	66.0
No	34	34.0
Vision problems		
Yes	57	57.0
No	43	43.0
Memory loss		
Yes	67	67.0
No	33	33.0
Inquistic behaviour style		
Yes	80	80.0
No	20	20.0
Speech problem		
Yes	51	51.0
No	49	49.0
Anticoagulant		
Yes	40	40.0
No	60	60.0
Antiplatelet		
Yes	72	72.0
No	28	28.0
Thrombolytic		
Yes	86	86.0
No	14	14.0
Neuroprotective		
Yes	88	88.0
No	12	12.0
Carotid endartectomy		
yes	95	95.0
No	5	5.0
Hypertension		
Yes	44	44.0
No	56	56.0
DM		
Yes	46	46.0
No	54	54.0
CAD		
Yes	81	81.0
No	19	19.0
Others		
Yes	82	82.0
No	18	18.0
Nil		
Yes	37	37.0
No	63	63.0
BMI		
1.18.5 – 24.9	7	7.0
2.25.0 – 29.9	64	64.0
3. 30.0 and Above	29	29.0
Deep tendon reflex		
0	1	1.0
1	3	3.0
2	55	55.0
3	41	41.0

n=100

Table 2 shows that family history of stroke is not significant 73 (73%), life style habits: alcohol 64 (64%),smoking 84 (84%) betel chewing 93 (93%).number of stroke 70(70%) occurs in,37 (37%) is

present with paralysis on left side of body,43 (43%) having vision problems,33 (33%) have memory loss of inquisitive behavioural style of 20 (20%), speech problem 49(49%),anticoagulant 60 (60%), antiplatelet 28(28%), hypertension 56(56%), DM 53 (53%), CAD 19 (19%), BMI 61 (61%) of normal weight and Deep tendon reflex 55 (55%) have normal impulse.

Table 3: Defining characteristics.

Variable	Frequency (f)	Percentage (%)
Reluctance in attempt to move		
Yes	37	37.0
No	63	63.0
Difficulty in purposefully moving within the physical environment		
Yes	60	60.0
No	40	40.0
Limited range of motion		
Yes	40	40.0
No	60	60.0
Fear of dislocation		
Yes	63	63.0
No	37	37.0
Report of pain		
Yes	78	78.0
No	22	22.0
Gait changes		
Yes	69	69.0
1no	31	31.0
Postural instability		
Yes	77	77.0
No	23	23.0
Slowed movements		
Yes	37	37.0
No	63	63.0
Uncoordinated movements		
Yes	64	64.0
No	36	36.0
Decreased reaction time		
Yes	33	33.0
No	67	67.0
Decreased Muscle endurance strength		
Yes	62	62.0
No	38	38.0

n=100

Table 3 shows that reluctance in attempt to move in 63(63%) difficulty in moving with physical environment in 40(40%), limited range of motion in 60(60%), fear of dislocation in 36(36%), report of pain in 22(22%), gait changes 31(31%), decreased reaction time in 67(67%).

Table 4: Related factors.

Variable	Frequency (f)	Percentage (%)
Decreased muscle strength		
Yes	33	33.0
No	67	67.0
Neuromuscular losses		
Yes	62	62.0
No	38	38.0
Perceptive –sensorial losses		
Yes	54	54.0
No	46	46.0

Contractures		
Yes	75	75.0
No	25	25.0
Hardening of articulation		
Yes	77	77.0
No	25	25.0
Cognitive loss		
Yes	81	81.0
No	19	19.0
Disuse		
Yes	82	82.0
No	18	18.0
Decreased muscle control		
Yes	40	40.0
No	60	60.0
Decreased muscle mass		
Yes	59	59.0
No	41	41.0
Sedentary life style		
Yes	42	42.0
No	58	58.0
Anxiety		
Yes	28	28.0
No	72	72.0
Decreased resistance		
Yes	46	46.0
No	54	54.0
Lack of physical conditioning		
Yes	62	62.0
No	38	38.0
Pain		
Yes	89	89.0
No	11	11.0

n=100

Table 4 shows that decreased muscle strength in 67(67%), neuromuscular losses in 38(38%), decreased muscle control in 60 (60%), anxiety in 72 (72%).

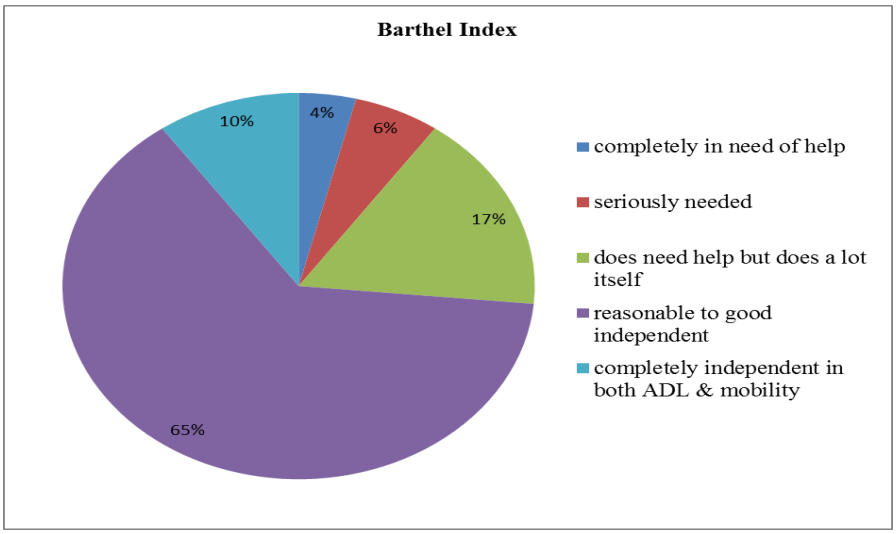

Fig 1: shows that about 4% of people are in need of help, 6% are seriously needed, 17% does need help but does need a lot itself, about 65 % reasonable to good independent, 10 % completely independent in both ADL and mobility.

DISCUSSION

The first objective of the study was to identify the prevalence and defining characteristics among patients with stroke. The study shows that the defining characteristic of impaired physical mobility has a significant role in the effect of stroke. Reluctance in attempt to move 63(63%), limited range of motion in 60(60%), slowed movements in 63(63%) and decreased reaction time in 67(67%).

This high percentage found in this study was supported by another study carried out in Goiania about the presence of nursing diagnosis in the moving pattern in 75 elderly who were in the family health program. In this study some individuals presented the stroke. The average nursing diagnosis was 73.4% and impaired physical mobility was the most frequent diagnosis (92.2%).

The study identification of the nursing diagnosis of fall risk in the elderly with stroke, the purpose of this study was to verify the presence of nursing diagnosis of fall risk in the elderly with stroke. Observational exploratory and cross -sectional study with descriptive analysis. By interviews and physical examination of the elderly people who had at least one episode of stroke 37 individuals participated of which 54.1 % were women, with a mean age of 70.6 years, and 48.6 % lived with a partner and had an average of 5.2 years of study. The risk of falls was found in the elderly. Among the risk factors identified it is possible to highlight impaired balance (100 %), age above 65 years (83.7 %), and proprioceptive deficit (83.7%).

Evidence-based methods in motor rehabilitation after stroke study review states that treatments for motor rehabilitation after stroke will be presented. In particular, randomised, controlled trials, meta-analyses and systemic reviews. In summary, evidence is best for constraint-induced movement therapy and botulinum toxin type A in patients with focal spasticity. Superiority has been demonstrated for the administration of drugs (serotonin reuptake inhibitors and L –dopa) mirror therapy, the use of virtual reality, electro- mechanical devices to restore independent walking, and fitness and circuit training.

In a study about the clinical validation of impaired physical mobility ND in 10 hospitalized elderly people, a significant decrease in the ability to move in the environment was demonstrated. The fact could be explained by considering physiologic changes in the skeleton muscle system resulting from aging and tending to be increased in the presence of pathologies that affect the motor area or disuse.

Moreover, it is important to point out that, due to a physiological process, physical mobility is found impaired even in healthy elderly. However, the event of a stroke can intensify motor deficits. In the face of the neurologic alterations mentioned here; the patient can also feel difficulties in performing fine motor activities.

The second objective of the study was to assess the effect of related factors on impaired physical mobility among patients with stroke. The result showed that decreased muscle strength present is 62%, neuromuscular loss present is 38%, perceptive sensorial loss present is 46%, contractures present is 25%, hardening of articulation present is 25%, cognitive loss present is 19%, disuse present is 18%, decreased muscle control present is 60%, decreased muscle mass present is 41%, sedentary lifestyle present is 58%, anxiety present is 72%, decreased resistance present is 54%, lack of physical conditioning present is 38%, muscle skeleton loss present is 11%, pain present is 28%.

Therefore, the nurse should act and provide care guided to the needs of those patients, with action as guiding and teaching, considering limitations resulting from pathology as well as those related to possible changes in life habits.

CONCLUSION

The study showed that in most subjects, impaired physical mobility diagnosis and related factors were found. As this study established, a more efficient approach to treatment will be based on individual care with targeted visits. To identify the key features and develop an effective and individualized action plan, it is thus of particular importance that nursing diagnosis should be carried out.

REFERENCES

1. Smeltzer C, Bare G, Hinkle L, Kerry H; Textbook of Medical Surgical Nursing;12th edition; Lippincott publishers, 1896-1910.
2. Paula CA, Tibelle FM, Nirla GG, Nursing Diagnosis of impaired physical mobility in elderly people at primary health care. International archives of Medicine, 2017; 10(35).
3. 3.Strong K,Mathers C, Bonita R, Preventing stroke; Saving lives around the world, Lancet Neurol, 2007; 6: 182-187.
4. http://j-stroke.org.
5. Mosby's Guide to NURSING DIAGNOSIS, 3rd edition, Elsevier Publication, 2011.
6. Costa AG, Oliveria AR, Chaves DB, Mooreira RP, De TL. Nursing Diagnosis: impaired physical mobility in patients with stroke, 2010, Sep; 44(3): 753-8.
7. Hea KH,So-mi p.Activity intolerance and impaired physical mobility in elders. International Journal of Nursing Terminologies and classification, 2006; 16(3-4): 47-53.
8. CJ Linda; Nursing diagnosis, Application to clinical practice, Lippincot William and Willkins, 15th edition, p485.

9. Liepert J; Evidence –based methods in motor rehabilitation after stroke.
10. DA Nowak, C Grefkes, GR Fink. Modern neuro physiological strategies in the rehabilitation of impaired hand function following stroke.
11. FA Khabirov, TI Khaibullin, OV Grigor'eva. The complex approach to the rehabilitation of the post stroke patients with movement disorders in the early rehabilitation period.
12. HC Morais, GF Hollanda, AR Oliveria, AG Costa, etal .Identification of Nursing Diagnosis of fall risk in elderly with stroke.