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CLINICAL PROFILE AND PRESCRIPTION PATTERN IN ACUTE ISCHEMIC STROKE AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Acute Ischemic Stroke (AIS) is a leading cause of mortality and disability worldwide, primarily caused by the obstruction of cerebral blood flow due to thrombotic or embolic occlusion. AIS require immediate medical intervention to minimize neurological damage and improve patient outcomes. In developing countries, stroke incidence is increasing due to lifestyle changes, aging populations and rising prevalence of hypertension and diabetes mellitus. However, disparities exist in stroke management due to variations in healthcare infrastructure, access to thrombolysis and adherence to treatment protocols. Several studies emphasize the importance of early intervention, particularly intravenous thrombolysis (IVT) within the golden window of 4.5 hours. Despite these advances, many patients fail to receive timely treatment due to delayed hospital arrival and lack of awareness. Identifying the clinical profile and prescription patterns of AIS patients can provide insights into existing gaps in stroke care and inform strategies to improve management and prognosis.

Objective: This study aims to analyze the clinical profile and prescription patterns in acute ischemic stroke (AIS) patients. Specific objectives include:

- Identifying demographic patterns and risk factors.
- Evaluating thrombolysis and antiplatelet therapy use.
- Assessing adherence to stroke management guidelines.
- Examining prescription variations based on demographics, co morbidities, and stroke severity.
- Determining timely hospital arrival for thrombolysis and influencing factors.
- Providing recommendations to optimize AIS treatment and reduce care disparities.

Methodology: Prospective observational study over six months at Max Care Sai Tirumala Hospital, Palnadu. Sample: 125 AIS patients (aged 25–90), including those with hypertension and diabetes. Excludes hemorrhagic stroke, mental disorders, pregnant, and lactating women. Data on demographics, clinical details, and therapy were collected from medical records. Analysis used Microsoft Excel and statistical software.

Results

Gender: Stroke was more common in males (62%) than females (38%).

Age: Most affected age group: 66-70 years (17%), followed by 56-60 years (15%).

Comorbidities: Hypertension (52%) was the leading risk factor; 33% had both hypertension and diabetes.

Social History: 49% were non-smokers/non-alcoholics, 29% alcoholics, 13% both smokers & alcoholics, 9% smokers.

GCS Scores: Patients categorized by consciousness levels at presentation.

Golden Hour Arrival: Some arrived within 4.5 hours, impacting treatment.

Thrombolysis: Evaluated tPA administration and recovery impact.

Prescription Patterns: Aspirin & Clopidogrel were common; anticoagulants and statins used as needed. **Conclusion:** This study provides insights into AIS demographics, risk factors, treatment strategies, and prescription trends. **Risk Factors:** Hypertension and diabetes were the most common comorbidities. Stroke was more prevalent in males and older adults (66–70 years). Lifestyle factors like smoking and alcohol increased risk. **Treatment & Prescription:** Thrombolytics (tPA), antiplatelets (aspirin, clopidogrel), and early intervention within the golden hour improved outcomes. Adherence to stroke guidelines varied, affecting secondary prevention. **Recovery & GCS Scores:** Patients with moderate to severe impairment had poorer recovery, highlighting the need for timely rehabilitation. **Implications:** Early

diagnosis, risk factor management, and adherence to treatment protocols can reduce stroke complications. Public awareness, faster hospital access, and standardized prescription practices are essential for optimizing stroke care.

KEYWORDS: Acute Ischemic Stroke (AIS), Transient Ischemic Attack, Tissue Plasminogen Activator (tPA), Intravenous Thrombolysis (IVT), National Institute of Health Stroke Scale (NIHSS), Middle Cerebral Artery (MCA), Modified Rankin Scale (mRS), Dual Anti platelet Therapy (DAPT), Epidemiology of Stroke, Golden Hour.

INTRODUCTION

STROKE DEFINITION: A stroke, also called a “brain attack”, occurs when a portion of the brain is damaged due to a lack of blood supply to that part of the brain. Due to the lack of oxygen and nutrients carried by the blood, brain cells (called “neurons”) die and the connections between neurons (called “synapses” or junctions) are lost. That part of the brain rapidly loses functions and starts to die. As a result, the part of the body controlled by that portion of the brain does not function normally. The larger area of the damage, the more deficits the patients will have.[1]

HISTORY: Hippocrates, the father of medicine, first recognized stroke at 1658.

At this time stroke was called apoplexy, which means "struck down by violence" in Greek. This was due to the fact that a person developed sudden paralysis and change in well-being. Doctors had little knowledge of the anatomy and function of the brain, the cause of stroke, and how to treat it. It was not until the mid1600s that Jacob We found that patients who died with apoplexy had bleeding in the brain. He also discovered that a blockage in one of the brain's blood vessels could cause apoplexy. Medical science continued to study the cause, symptoms, and treatment of apoplexy and finally in 1928, apoplexy was divided into categories based on the cause of the blood vessel problem. This led to the terms stroke or "cerebral vascular accident (CVA). Stroke is now often referred to as a "brain attack" to denote the fact that it is caused by a lack of blood supply to the brain, very much like a heart attack is caused by a lack of blood supply to the heart. The term brain attack also conveys a more urgent call for immediate action and emergency treatment by the general public.[2]

METHODOLOGY

Study Design: A prospective observational study.

Study Period: Six months.

Study Site: Max Care Sai Tirumala Hospital, Palnadu district.

Sample Size: 125 patients diagnosed with AIS.

Inclusion Criteria: Patients aged 25-90 years diagnosed with AIS, including those with hypertension and diabetes mellitus.

Exclusion Criteria: Patients with hemorrhagic stroke, patients with mental disorders, pregnant and lactating women.

Data Collection: Patient demographics, clinical details and therapeutic data were recorded from medical records.

RESULTS

The present observational prospective study was done at Max care Sai Tirumala hospitals for a period of 6 months (june2024-march2025). Total 125 cases were collected and analyzed for impact on clinical profiles and prescription pattern in acute ischemic stroke.

Gender based distribution of patients studied

Table 1: The table presents a gender-based distribution of patients studied in a sample size of 125 individuals.

S.NO	GENDER	NO. OF CASES (n=125)	%
1	MALES	77	62%
2	FEMALES	48	38%

MALES FEMALES

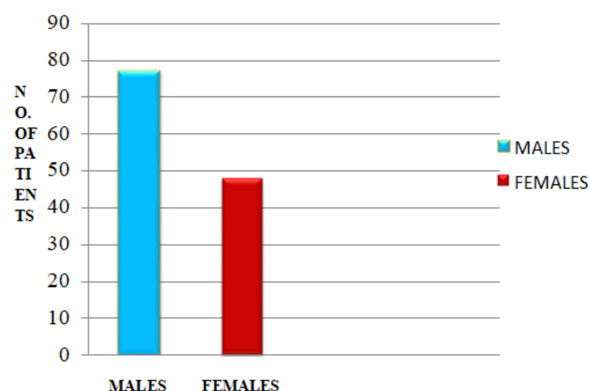

Figure 7: The data reveals that out of 125 patients, 77 (62%) were male, while 48 (38%) were female. This indicates a higher proportion of male patients in the study population.

Age based distribution of patients studied

Table 2: The table presents the age-based distribution of patients studied in a sample.

S.NO	AGE INTERVELS (years)	NO OF PATIENTS (n=125)	(%)
1	25-30	0	0%
2	31-35	3	6%
3	36-40	3	2%
4	41-45	5	4%
5	46-50	16	13%
6	51-55	15	12%
7	56-60	18	15%
8	61-65	16	13%
9	66-70	21	17%
10	71-75	14	11%
11	76-80	5	4%
12	81-85	6	5%
13	86-90	3	2%

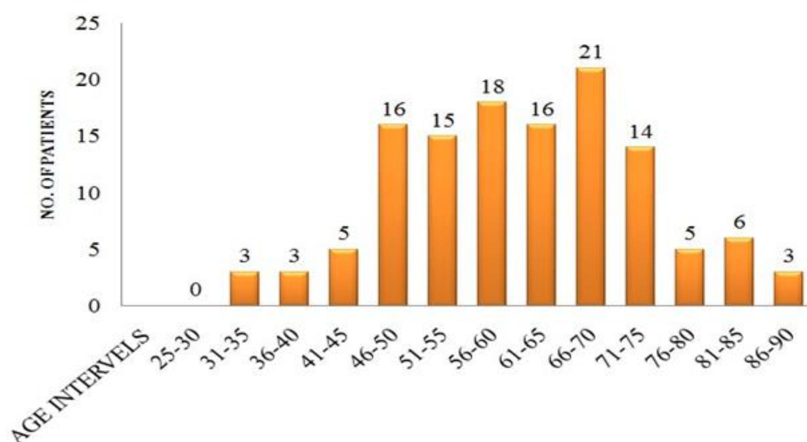

Figure 8: The data reveals that the highest proportion of patients falls within the 66-70 years age group, comprising 21 patients (17%). This is followed by the 56-60 years (15%), 46-50 years (13%), and 51-55 years (12%) age groups. The younger age groups, specifically 25-30 years, have no representation, while the 31-35 years and 36-40 years groups have the lowest percentages (6% and 2%, respectively). The study shows a higher prevalence of cases in older age groups, with a decline in patient numbers beyond 76 years.

Co morbid categorization of patients studied:

Table 3: The table presents the etiology categorization of the study population based on stroke-associated co morbid conditions in a sample of 125 patients.

S. NO	STROKE ASSOCIATED WITH CO MORBID CONDITIONS	NO OF PATIENTS (n=125)	(%)
1	Hypertension	65	52%
2	Hypertension and Diabetes	41	33%
3	Trauma	8	6%
4	Diabetes	11	9%

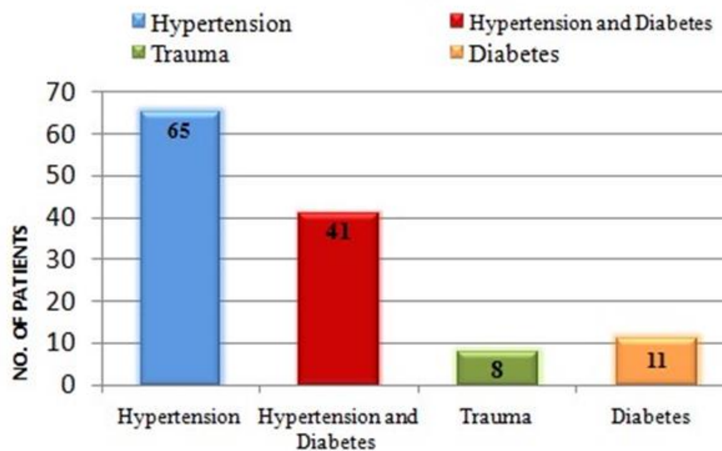

Figure 9: The data indicates that hypertension is the most common co morbidity, affecting 65 patients (52%). Hypertension combined with diabetes is the second most frequent condition, observed in 41 patients (33%). Diabetes alone was noted in 11 patients (9%), while trauma accounted for 8 patients (6%). This distribution highlights the significant role of hypertension, both alone and in combination with diabetes, as a major risk factor for stroke in the studied population.

Social history categorization of patients studied:

Table 4: The table presents the social history categorization of the study population in a sample of 125 patients.

S. NO	SOCIAL HISTORY	NO OF PATIENTS (n= 125)	(%)
1	Alcoholic	36	29%
2	Alcoholic and Smoker	16	13%
3	Smoker	12	9%
4	Non-Alcoholic and NonSmoker	61	49%

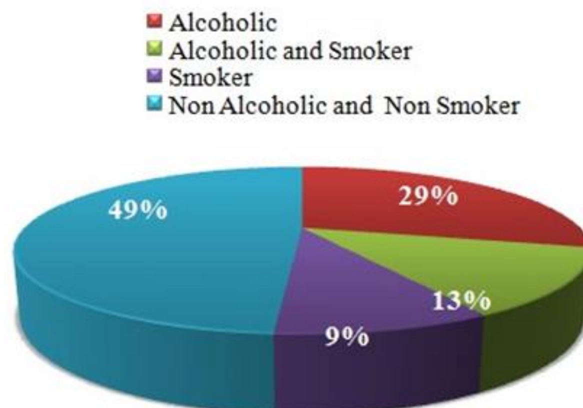

Figure 10: The data indicates that 61 patients (49%) are non-alcoholic and non-smokers, forming the largest group. Among those with a history of substance use, 36 patients (29%) were alcoholics, while 16 patients (13%) reported being both alcoholic and smokers. Additionally, 12 patients (9%) were smokers only. This distribution highlights that nearly half of the study population has no history of alcohol or smoking, whereas a significant proportion exhibits alcohol consumption, either alone or in combination with smoking.

Average GCS score categorization of patients studied

Table 5: The table presents the Glasgow Coma Scale (GCS) score categorization of the study population, comprising 125 patients.

S.NO	GCS SCORE	NO.OF CASES (n=125)	(%)
1	7/15	3	2%
2	8/15	4	3%
3	9/15	14	11%
4	10/15	39	31%
5	11/15	19	15%
6	12/15	18	15%
7	13/15	15	12%
8	14/15	11	9%
9	15/15	02	2%

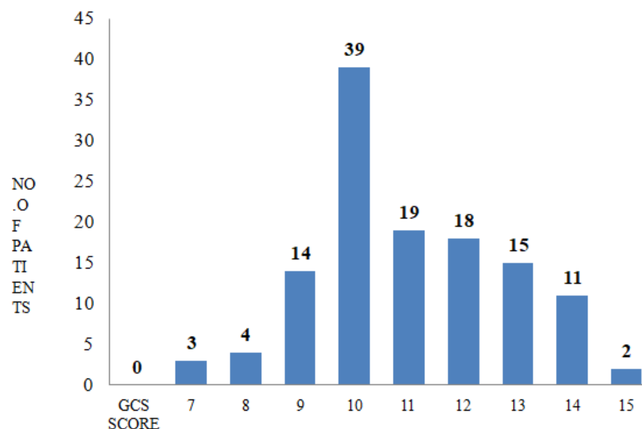

Figure 11: The majority of patients, 39 (31%), had a GCS score of 10/15, indicating a moderate level of consciousness impairment. Scores between 11/15 and 12/15 were observed in 19 (15%) and 18 (15%) patients, respectively. Lower GCS scores, such as 7/15 and 8/15, were seen in a small proportion of patients (2% and 3%, respectively), suggesting a more severe level of impairment. Higher scores, including 14/15 and 15/15, were recorded in 11 (9%) and 2 (2%) patients, respectively, indicating mild or no impairment. The data suggests that most patients had moderate GCS scores, with fewer cases in the extreme categories of severe or normal consciousness levels.

Categorization of the patients arrived in golden hours of patients

Table 6: The table categorizes the arrival time of patients within the golden hours in a study population of 125 patients.

S.NO	TIME PERIOD	NO OF PATIENTS (n= 125)	(%)
1	Window period	18	14%
2	After window period	107	86%

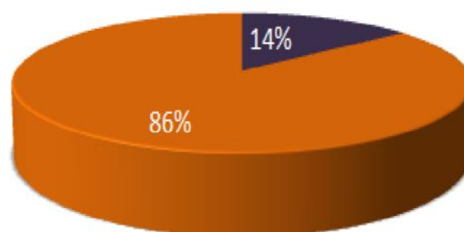

Figure 12: -The data indicates that only 18 patients (14%) arrived during the window period, which is the optimal time frame for early intervention in acute conditions such

as stroke. In contrast, a significant majority, 107 patients (86%), arrived after the window period, potentially limiting the effectiveness of early therapeutic interventions. This distribution highlights the need for improved awareness and emergency response to enhance early hospital arrivals for better clinical outcomes.

Categorization of performing thrombolysis in patients arrived golden hours of patients studied

Table 7: The table categorizes the performance of thrombolysis in patients who arrived within the golden hours of stroke management. Among the 18 eligible patients.

S.NO	THROMBOLYSIS DONE IN PATIENTS	NO OF PATIENTS (n= 18)	(%)
1	Thrombolysis performed	5	28%
2	Not willing for thrombolysis	13	72%

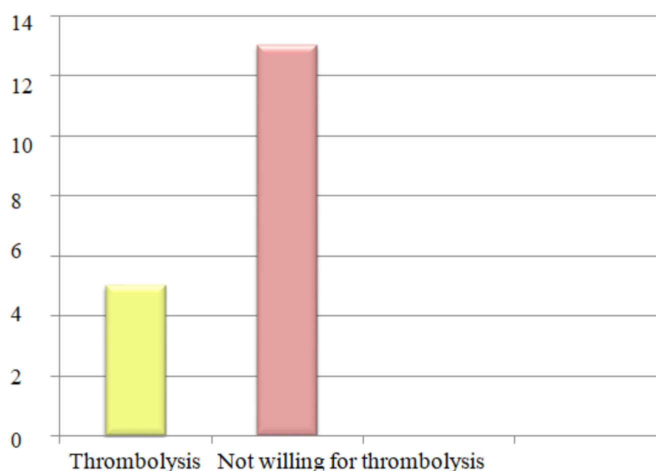

Figure 13: The data indicate only 5 patients (28%) underwent thrombolysis, while the majority, 13 patients (72%), did not opt for thrombolysis. This data suggests that despite arriving within the critical treatment window, a significant proportion of patients were either unwilling or ineligible for thrombolysis, highlighting potential challenges such as lack of awareness, contraindications, or hesitation in opting for the procedure.

Categorization of different anti platelet drugs prescribed to patients

Table 8: The table categorizes the different antiplatelet drug therapies prescribed to a study population of 125 patients.

S.NO	DIFFERENT DRUG THERAPY	NO OF PATIENTS GET PRESCRIBED (n=125)	(%)
1	1. Tab. Ecospirin 150 mg (Aspirin) 2. Tab. Clopitab75 mg (Clopidogrel) 3. Tab Atorvas 80mg	79	63%
2	1. Tab. Ticastro ASP (c) 2. Tab Atorvas 80mg	46	37%

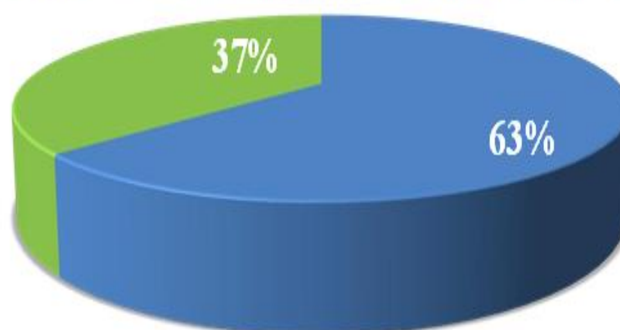

Figure 14: The pie chart effectively demonstrates the relative frequency of two different antiplatelet treatment strategies. A significant majority (63%) of the 125 patients received Ecospirin, Clopitab, and Atorvas, suggesting a preference or clinical indication for this regimen. The remaining 37% were treated with Ticastro ASP and Atorvas, highlighting the diversity in antiplatelet prescribing practices within the study population.

DISCUSSION

The study provides significant insights into the clinical profiles and prescription patterns among acute ischemic stroke (AIS) patients. The demographic analysis indicates a higher prevalence of AIS among males (62%) compared to females (38%), suggesting a gender disparity in stroke occurrence. The majority of cases were found in the older age group (66-70 years), emphasizing the strong correlation between advancing age and stroke risk. Hypertension emerged as the most prevalent co morbidity (52%), followed by hypertension combined with diabetes (33%). This underscores the necessity for effective management of these conditions to reduce stroke incidence. Lifestyle factors also played a critical role, with nearly half (49%) of patients being non-alcoholic and non-smokers, whereas 29% reported

alcohol consumption and 13% were both alcoholic and smokers. These findings highlight the impact of modifiable risk factors on stroke incidence. Stroke severity assessment using the Glasgow Coma Scale (GCS) revealed that the majority of patients (31%) had a GCS score of 10/15, indicating moderate impairment, while severe impairment was observed in only a small proportion of patients. This suggests that most patients presented with moderate neurological deficits, which could influence their treatment outcomes. A critical finding was the timing of hospital arrival. Only 14% of patients reached the hospital within the therapeutic window, while 86% arrived late, limiting early intervention options such as thrombolysis. Among those who arrived on time, only 28% underwent thrombolysis, suggesting barriers like contraindications, lack of awareness, or reluctance to undergo the procedure. The prescription pattern analysis demonstrated a preference for antiplatelet therapy, with 63% of patients receiving a combination of Aspirin, Clopidogrel, and Atorvastatin. Meanwhile, 37% were prescribed Ticagrelor 90 mg, Aspirin GR 75mg and Atorvastatin, indicating variations in prescribing practices based on patient characteristics, stroke severity.

CONCLUSION

The study on "Clinical Profile and Prescription Pattern in Acute Ischemic Stroke" provides valuable insights into the demographic characteristics, risk factors, treatment strategies, and prescription trends associated with acute ischemic stroke (AIS).

Demographics and Risk Factors: The study confirms that hypertension and diabetes mellitus are the most common co morbidities contributing to stroke occurrence. Males were more frequently affected than females, and the majority of stroke cases occurred in older adults (66-70 years age group). Additionally, lifestyle factors such as smoking and alcohol consumption significantly influenced stroke incidence.

Treatment and Prescription Patterns: The study analyzed the utilization of thrombolytics (tPA), anti platelet agents (aspirin, clopidogrel) in stroke management. It also highlighted the importance of early intervention within the golden hour to improve patient outcomes. The adherence to stroke guidelines varied among patients, impacting the effectiveness of secondary prevention.

GCS Scores and Recovery Trends: The study assessed patients' neurological status using the Glasgow Coma Scale (GCS) and found that those with moderate to severe impairment

had poorer recovery outcomes. The study also emphasized the need for timely rehabilitation, including physical therapy, occupational therapy, and cognitive rehabilitation, to enhance patient recovery.

Conclusion and Future Implications: The findings indicate that early diagnosis, proper risk factor management, and adherence to evidence-based stroke treatment protocols can significantly reduce strokerelated complications and recurrence. The study suggests improving public awareness, rapid hospital access, and standardization of prescription patterns to optimize stroke care.

REFERENCES

1. Johnston S. Transient ischemic attack. N Engl J Med. 2002; 347:1687–92.
2. History of Stroke .Johns Hopkins Medicine. https://www.hopkinsmedicine.org/healthlibrary/conditions/nervous_system_disorders/histoy_of_stroke_85,P00223
3. De Silva DA, editor. Understanding Stroke: A Guide for Stroke Survivors and Their Families.
4. National Stroke Association. Stroke clinical updates. 2006; 16(1).
5. Stroke. Mayfield Clinic. https://mayfieldclinic.com/pe-stroke.htm
6. Blood Vessels of the Brain. Stroke Center: http://www.strokecenter.org/professionals/brain-anatomy/blood-vessels-of-the-brain/
7. https://www.pathophysiologyjournal.com/article/S0928-4680(09)00136-9/abstract
8. Hemorrhagic Strokes (Bleeds). American Stroke Association: https://www.strokeassociation.org/en/about-stroke/types-of-stroke/hemorrhagic-strokes-bleeds
9. https://link.springer.com/chapter/10.1007/978-981-10-5804-2_5
10. Overview of Stroke. https://emedicine.medscape.com/article/1910519-overview
11. Signs of Stroke. WebMD https://www.webmd.com/stroke/guide/signs-of-stroke
12. Stroke. https://www.mayoclinic.org/diseases-conditions/stroke/symptoms-causes/syc 20350113
13. 2018 Guidelines for the Early Management of Stroke. American College of Cardiology.https://www.acc.org/latest-in-cardiology/ten-points-to remember/2018/01/29/12/45/2018-guidelines-for-theearly-management-of-strok

14. Rehabilitation Therapy after a Stroke. Stroke.org.: https://www.stroke.org/we-can-help/survivors/stroke-recovery/firststeps-to-recovery/rehabilitation-therapy-after-a-stroke/
15. Stroke Rehabilitation Services. Cleveland Clinic. https://my.clevelandclinic.org/health/articles/5600-stroke-rehabilitation-services
16. Gaertner J, Siemens W, Meerpohl JJ, et al. Effect of specialist palliative care services on quality of life in adults with advanced incurable illness in hospital, hospice, community settings: systematic review and meta-analysis. BMJ., 2017; 357: j2925.
17. Kernan WN, Ovbiagele B, Black HR, et al. Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2014; 45(7): 2160-236.
18. World Health Organization. The first ten years. Geneva: World Health Organization, 1958.
19. World Health Organization. Programme on mental health. Geneva: World Health Organization, 1996.
20. 2016 Feb 24 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4768563/
21. Chowdary RP, Aanandhi MV. Impact of patient counseling on the knowledge, attitude, practices and quality of life in patients with hypertension with diabetes mellitus –II. Indjpedur, 2018 Apr; 52(2): 305.
22. Rakendu P, Nethaji R, Saranya K, Ganesan B, Sarat T, et al. Study on the impact of patient counseling in improving quality of life in diabetic patients. IJSR., 2017 Aug; 6(8): 646.
23. Johnston SC. Transient ischemic attack. N Engl J Med., 2002; 347: 1687-92.
24. Powers WJ, Rubinstein AA, Ackerson T, et al. 2018 Guidelines for the early management of patients with acute ischemic stroke: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2018; 49(3): e46-e110.
25. Kernan WN, Ovbiagele B, Black HR, et al. Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke, 2014; 45(7): 2160-236.
26. Caplan LR. Lacunar infarction: a critical review and update. Arch Neurol., 2001; 58(3): 351-5.
27. Saver JL. Time is brain--quantified. Stroke, 2006; 37(1): 263-6.

28. National Institute of Neurological Disorders and Stroke. Ischemic Stroke https://www.ninds.nih.gov/Disorders/All-Disorders/Ischemic-Stroke-Information-
29. American Stroke Association. What is Ischemic Stroke? Dallas (TX): American Heart Association; https://www.stroke.org/en/about-stroke/types-of-stroke/ischemic-stroke
30. https://www.mayoclinic.org/diseases-conditions/ischemic-stroke/symptoms-causes/syc-20350582