

Burden, risk factors and outcome of stroke among adult patients admitted to stroke unit of jimma university medical center, southwest ethiopia: prospective cohort study

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Stroke is currently observed to be one of the commonest reasons of admission in many hospitals and becoming an increasingly serious public health issue in Ethiopia, but patients are often poorly managed and there is high death rates. Despite the high burden of strokes globally, there is insufficient information on the current epidemiology, risk factors, complications and outcome of stroke in low and middle income countries including Ethiopia.

Prospective cohort study was carried at stroke unit of Jimma university medical center for consecutive 4 months from March 10-July 10, 2017. All eligible consecutive stroke patients of >18 years of were selected by using convenience sampling technique. Data was collected using a standardized data extraction and interview the patients. Data abstraction tool was developed based on the previous study findings done at different sites and using the WHO step wise approach to stroke surveillance along with different modifications and incorporations. Data collection tool includes different factors affecting outcome of interest. The outcome of interest was mortality and patients were followed from hospital arrival until death/ end of study period. Data was entered to Epi data v.3.1 and analyzed using SPSS version 20. Data's were presented in tables and figures. Multivariable logistic and cox regression were used to identify the predictors of stroke and mortality at different times, respectively. Confidence interval which doesn't contain 1 and predictors with probability value less than 0.05 was considered statistically significant.

A total of 116 eligible stroke patients were followed during the study period with mean age of 55.14±14.04 years and males comprised 62.9%. Using WHO criteria 60 (51.7%) patients had ischemic while 56 (48.3%) had hemorrhagic stroke. The most common risk factor identified was hypertension (75.9%) and atrial fibrillation was the independent predictor of hemorrhagic stroke (AOR: 0.08, 95% CI: 0.01-0.68). Headache was the most clinical presentation in 75% of the patients. In hospital, at 30 day and at 60 day mortality was 21.6%, 29.3% and 39.7% respectively. Different factors predict the mortality of stroke patients. Brain edema (AHR: 6.27, 95% CI: 2.50-15.76), urine incontinence (AHR: 3.48, 95% CI: 1.48-8.17), NIHSS>13 during hospital arrival (AHR: 22.58, 95% CI: 2.95-172.56) and diagnosis of stroke clinically alone (AHR: 4.96, 95% CI: 1.96-12.54) were the independent predictors of in hospital mortality. Elevated ALT level (AHR: 3.77, 95% CI: 1.34-10.57), diagnosis of stroke clinically alone (AHR: 3.90, 95% CI: 1.49-10.26), brain edema (AHR: 4.28, 95% CI: 1.61-11.37), and having NIHSS>13 during hospital arrival (AHR: 6.49, 95% CI: 1.90-22.22) were the independent predictors of 30 day mortality. Left against medical advice on discharge (AHR: 6.40, 95% CI: 2.31-17.73) and severe mRS (4-5) at discharge (AHR: 3.64, 95% CI: 1.01-13.16) were the independent predictors of 60 day mortality. At 60 day 2 patients were lost to follow up.

The mortality of stroke in this set up is similar to other low- and middle-resource countries. As stroke is a high priority status, large-scale public health campaign should be launched focusing on public awareness on stroke risk factors and interventions.

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