Reduction in global burden of stroke in underserved areas

Sir,

Stroke is a medical emergency, and rapid assessment is required for reaching diagnosis and starting timely management to prevent long-term complications.[1] It is usually associated with a detrimental impact on survival and quality of life of the patient, and a high economic cost.[2] Stroke is a global epidemic and a major public health-care concern as mortality rates are known to vary greatly between countries and geographic regions.[3] Annually, 15 million people worldwide suffer an episode of stroke, of whom, five million die and another five million are left permanently disabled, placing a burden on the family and community.[4]

In a case control study done across 22 nations, five major risk factors were identified that contributed to 80% of the risk for stroke, namely hypertension, waist-to-hip ratio, smoking status, diet-risk score, and physical activity.[5] The primary reason for the high mortality and disability after stroke is because of the increase in risk factors for stroke and inadequate secondary preventive measures (underdetection and undertreatment) in many developing countries.[5,6] In a prospective follow-up of a health survey in England, alcohol abuse was associated with a higher incidence of fatal stroke and cardiovascular risk.[7] In addition, barriers to appropriate treatment included inaccessibility/inadequacy of health-care services, diagnostic modalities, appropriate medication, and treatment facilities for stroke.[8,9]

As discussed earlier, as stroke is a global health-care concern, the strategy for its management has to be multifaceted and every attempt should be taken to rope in multiple sectors toward a comprehensive approach for the best possible outcome. It is important to realize that developing countries often possess causative factors different from those in developed countries, such as accessibility of health care, availability of resources, and sociocultural beliefs, and thus developing countries require targeted interventions to address their particular needs, as opposed to a one-size-fits-all approach.[8] While designing interventions for reducing the burden of stroke, the concept of epidemiological triad (agent-host-environment) in the causation of stroke has to be taken into account, namely, feasible public health-care interventions aimed primarily at changing the lifestyle associated with the risk for stroke in the form of promoting a healthy diet, physical activity, and cessation of tobacco. As discussed above, measures for preventing alcohol abuse by means of health-care promotion activities is a must in bringing down the incidence of stroke to a significant extent.

Secondary prevention (early diagnosis and prompt treatment) is indispensable in ascertaining long-term outcome of patient survival, disability, and quality of life. Considering the unavailability of inexpensive basic equipment/drugs and financial constraints for many people who need health-care services the most, cost-effective secondary preventive measures for developing nations should be easily accessible, comprehensive, and adequate.[8] The World Health Organization (WHO) has identified five components of an equitable approach for stroke services including assessment of primary care and management of cardiovascular risk and transient ischemic attack, measures of secondary prevention, education of the public and health-care providers about prevention and management of stroke, access to care and rehabilitation services related to stroke, and community and family support for patients with stroke and their caregivers.[9]

In conclusion, for improving the short-term and long-term prognosis of stroke, optimal control of risk factors and early diagnosis and prompt treatment of stroke can lead to a reduction in the burden of stroke worldwide.

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References

1. Rodgers H. Stroke. Handb Clin Neurol 2013;110:427-33.
2. Linder SM, Rosenfeldt AB, Reiss A, Buchanan S, Sahu K, Bay CR, *et al.* The home stroke rehabilitation and monitoring system trial: A randomized controlled trial. Int J Stroke 2013;8:46-53.
3. Johnston SC, Mendis S, Mathers CD. Global variation in stroke burden and mortality: Estimates from monitoring, surveillance, and modelling. Lancet Neurol 2009;8:345-54.

4. Mackay J, Mensah GA. The atlas of heart disease and stroke. World health organization and Center for disease control and prevention. Available from: http://www.who.int/cardiovascular_diseases/resources/atlas/en/ [Last accessed on 2013 Feb 14].
5. O'Donnell MJ, Xavier D, Liu L, Zhang H, Chin SL, Rao-Melacini P, *et al*. Risk factors for ischaemic and intracerebral haemorrhagic stroke in 22 countries (the INTERSTROKE study): A case-control study. Lancet 2010;376:112-23.
6. Sridharan SE, Unnikrishnan JP, Sukumaran S, Sylaja PN, Nayak SD, Sarma PS, *et al*. Incidence, types, risk factors, and outcome of stroke in a developing country: The Trivandrum stroke registry. Stroke 2009;40:1212-8.
7. Hamer M, Batty GD, Stamatakis E, Kivimaki M. Comparison of risk factors for fatal stroke and ischemic heart disease: A prospective follow up of the health survey for England. Atherosclerosis 2011;219:807-10.
8. Brainin M, Teuschl Y, Kalra L. Acute treatment and long-term management of stroke in developing countries. Lancet Neurol 2007;6:553-61.
9. Mendis S. Prevention and care of stroke in low- and middle-income countries: The need for a public health perspective. Int J Stroke 2010;5:86-91.

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