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OPTIMIZING STROKE CARE IN BALUCHISTAN

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Stroke is the second leading cause of death after ischemic heart disease.⁽¹⁾ Pakistan, currently the fifth most populous country of the world, has limited data on prevalence of stroke and its risk factors. Only two small-scale population-based studies conducted in Karachi showed stroke prevalence of 4.8% and 19.1%.⁽¹⁾ One study conducted in KP province of Pakistan showed estimated stroke prevalence of 1.2%.⁽¹⁾ The burden of stroke risk factors in Pakistan is enormous. Diabetes and hypertension are the most common risk factors in Pakistan.⁽²⁾ Other common risk factors in Pakistan are active smoking, obesity, and family history of ischemic heart diseases⁽²⁾ Pashtuns are reported to have higher prevalence of hypertension as compared to other ethnic groups in Pakistan⁽²⁾ Unfortunately, no study has been conducted in Baluchistan (Province of Pakistan) to determine the prevalence of stroke and its risk factors in Baluchistan.

Barrier to acute stroke care in Baluchistan; Barriers are divided into two groups; Patients related factors and Health department issues.

Patients related factors.

Risk factor in Baluchistan is numerous but most important risk factors are hypertension, diabetes, tobacco chewing, naswar addiction and bad eating habits. Patients remain mostly unaware of their risk factors. Those who are aware of their risk factors remain non-compliant with medication because of lack of awareness about the risk factors and consequences due to their poor control. Apart from lack of knowledge, financial constrain is also not allowing patients to manage risk factors properly.

Eating habits in Baluchistan is extremely unhealthy specially during winter season. One traditional food which is usually eaten during winter season in Baluchistan is dried, salted, and fatty meat called Landi in local language. People mostly consider this as a healthy food which provide energy and heat during winter. That's why rate of stroke in Winters is always high in Baluchistan⁽²⁾

Most important problem in Baluchistan is the inability to recognize the symptoms of stroke. Even if patient recognizes the stroke symptoms, instead of seeking medical advice and reaching to hospital, they always prefer to be treated first by faith healer. Faith healers usually confine patient in dark and warm room in isolation for forty days. This mode of treatment is called Chilla and Dum in local language. During patient's stay in that place which is called "Astana", patients usually are not allowed to wash their body with water. They cannot take breath in fresh air and can't meet family members. They are not allowed to take any medicine. As we know that spontaneous recanalization (SR) is an exciting phenomenon in acute ischemic stroke. Cerebral angiographic and autopsy studies have clearly recognized its occurrence.⁽³⁾ Spontaneous resolution of symptoms increases faith of patient on Peer (faith healer). Patients with large stroke usually deteriorate and develop early and late complications of stroke like aspiration pneumonia, increased cerebral edema, re infarction and bed sores etc.

Those patients who successfully recognize their symptoms and can relate them with stroke and brain and want to take medical advice from the far areas of Baluchistan face problems like lack of fund for transportation, investigations, mode of transportation and long distances.

Health system factors.

There are several factors on part of health system as well. Neurology services are only concentrated in Quetta. There are only ten qualified neurologists in Baluchistan to manage patients with all neurological disorders including stroke

and receive patients from nearby countries like Afghanistan and Iran with neurological problems, Quetta has two tertiary care hospital named Sandeman hospital and Bolan medical complex hospital Quetta. Sandeman hospital has no neurology ward at all and all patients with the symptoms of acute stroke are managed in internal medicine wards by General practitioners. Second hospital is Bolan medical complex hospital which has only one neuro medicine ward consisting of 20 beds and four bedded stroke unit. These 24 bedded neuro medicine wards are extremely insufficient to handle such a large population. The facility of neuroimaging is only present in Quetta. Baluchistan has 33 districts. Districts hospital mostly lack infrastructure to deal with acute stroke. There is no stroke help line even in Quetta. These local district hospitals have under resourced Emergency and Radiology departments with lack of neurologist, stroke experts and trained personnel's and with a large gap between existing evidence-based stroke guidelines and the actual management of stroke patients. There is lack of skill of recognizing stroke as an emergency and properly refer these patients to centers having stroke facilities^{(4) (5)}. limited availability of essential medical equipment to facilitate effective provision of acute stroke care and lack of team work and collaboration are common factors in districts hospitals in Baluchistan which prevents stroke care. Health insurance system is almost nonexistent, and health system is based on self-financing. In Baluchistan ambulance services are offered by majority of government and private organizations. These ambulance drivers and staff only transport patients and basically do not have any knowledge about resuscitating patient and stroke symptoms.

Strategies to optimize stroke care in Baluchistan.

Extensive preventive strategies are needed to target high risk patients in Baluchistan to educate them about risk factors and importance of their proper management. Primary prevention program should focus on hypertension, diabetes, dyslipidemia, tobacco, and healthy lifestyle. This is an exciting time for behavioral interventions for stroke prevention in Baluchistan⁽⁶⁾.

Most important step is to raise awareness about recognizing stroke symptoms and responding them properly without any delay to reduce the stroke related disability and death.⁽⁷⁾⁽⁸⁾

Pakistan stroke society(PSS) is performing a leading role for improving stroke care in Baluchistan by organizing stroke workshops for managing hyper acute stroke patients and proper referral of these patients. These workshops are organized for general physician and paramedical staff in different selected districts hospital.⁽⁴⁾

Educating Ambulance staff about recognizing stroke symptoms can fasten the patient transport to hospital which has facility to treat stroke patients. All EMS providers will be trained to use a stroke screening tool on suspected stroke patients. F.A.S.T. stroke assessment is a simple method for lay persons to determine stroke signs.⁽⁹⁾

PSS in collaboration with Aga Khan University Hospital is starting the above-mentioned project in nine districts of Baluchistan. In these selected districts one focal person from neurology team will be selected who will be responsible for arranging activities in that district. Focal person will coordinate with the medical and paramedical staff appointed in district hospital and engage them in learning and teaching programs.

Mass media interventions have been implemented to improve emergency response to stroke.⁽¹⁰⁾ Local Television, FM radio, newspaper and social media are top sources of information in Baluchistan. Public education programs will be organized in local languages. Free stroke camps will be a very important part of this project. Live educational programs will be arranged in schools and colleges in these areas.⁽⁴⁾

Conclusion.

Baluchistan is the largest province of Pakistan with a very small team of neurophysician handling all neurological disorder including stroke. This is a potential time to optimize stroke care in Baluchistan by identifying barriers to stroke care. Pakistan stroke society has taken several steps to deal with these barriers.

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Anjum Farooq; data collection, data analysis, manuscript writing, manuscript review

Wazir Akbar; data collection, data analysis, manuscript writing, manuscript review

Ahmed Wali; concept, data analysis, manuscript writing, manuscript review