



ICMR Press note

Mobile health intervention leads to improved lifestyle related behaviours that prevent secondary Stroke: results from SPRINT India trial

New Delhi 18 Feb 2023: Stroke (brain attack) is one of the leading causes of death and disability in India. There are two types of stroke; ischemic when there is a blockage in one of the brain arteries and brain hemorrhage when there is rupture and leakage of one of the arteries which supplies blood to the brain. High blood pressure is the number one cause of ischemic and hemorrhagic strokes. High blood sugar, high cholesterol, smoking, obesity, alcohol intake, lack of exercise and unhealthy diet are the other reasons why stroke occurs. In addition, after a stroke about 15 to 20% of the patients in India develop another stroke (recurrence). The main reasons of recurrence are discontinuing medicines, lack of control of BP, blood sugar, continuing smoking, alcohol intake, following unhealthy food habits etc. SPRINT India trial was done under ICMR's Indian Stroke Clinical Trial Network (INSTRuCT), a network of stroke ready centers in India, one of its kind in developing countries and 4th government supported network around the world.

SPRINT India trial was a multicenter, randomized-controlled trial of a semi-interactive mHealth intervention among stroke patients. The study was done across 31 stroke centres in India. The trial's intervention was a package composed of SMS text messages, health education videos and stroke prevention workbook for patients. The messages focused on control of blood sugar, blood pressure, cholesterol, improve physical activity, eat healthy diet and not to miss taking medicines to prevent stroke. The awareness material was systematically developed in 12 different regional languages. The patients in the control group received standard care whereas those in the intervention arm received awareness material at weekly intervals to promote healthy living and adherence to medicines. A total 4298 patients were randomly allocated to intervention arm (2148) and control arm (2150). 1502 patients in intervention arm and 1536 patients in the control arm completed 1 year follow up. SPRINT India trial used complex behavioral interventions to reduce recurrence of stroke. The results of the trial revealed that structured semi-interactive stroke prevention package improved lifestyle behavioral factors and adherence to medication, which might have long-term benefits. The trial went a step further than contemporary trials in assessing the effect on endpoints such as recurrence of cardiovascular events and deaths. However, the follow up period was short to show any differences between control and intervention group. The results of the trial were published in the Lancet Global Health journal on 14th February 2023.

Dr Jeyaraj D Pandian, Professor of Neurology and Principal, Christian Medical College, Ludhiana who is the Principal Investigator of the clinical coordinating centre for the trial said that the proportion of patients who stopped smoking (83%) and alcohol (85%) improved in the intervention group as compared to control group (78% and 75% respectively). Adherence to medications was also better in intervention arm (94%) as compared to control arm (89%). The events like stroke, heart attack and death did not differ between the two groups (5.5% vs 4.9%) at one year follow up. This may be because the follow up period was too short or study centres were stroke-ready centers, which were already providing good quality of care to stroke patients. The findings of SPRINT India trial have a long-term benefit for patients who had a stroke through mobile health interventions.

Dr Meenakshi Sharma Scientist-G, Noncommunicable Diseases Division, ICMR stated that in the ICMR's INSTRuCT network phase I (5 years) two stroke clinical trials were completed. She informed that SPRINT study is the first trial in India (and perhaps globally) to try to assess the role of an mHealth intervention in secondary prevention of stroke at such a large scale. It provides hope in improving lifestyle and medical complications leveraging technology in a resource-constrained setup. In phase 2 which started in September 2022, 4 more stroke trials, which are very relevant to the country, have been initiated by ICMR. We would get answers to important treatments for stroke in the coming years.

About ICMR: *The Indian Council of Medical Research (ICMR), New Delhi, is the apex body in India for the formulation, coordination and promotion of biomedical research, is one of the oldest medical research bodies in the world. ICMR's research priorities align with the National health priorities. These efforts are undertaken with a view to reduce the total burden of disease and to promote health and well-being of the population. ICMR promotes biomedical research in the country through intramural as well as extramural research. Visit us at <https://www.icmr.gov.in>*

Contacts

Dr Meenakshi Sharma

Scientist G, Division of Non communicable Disease
Indian Council of Medical Research
Email: meenakshis.hq@icmr.gov.in

Dr Lokesh Kumar Sharma

Scientist E & Media Coordinator
Indian Council of Medical Research
Email: sharma.lk@icmr.gov.in