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| **Effectiveness of Information Technology-enabled ‘SMART Eating’ Health Promotion Intervention: A Cluster RCT** |
| **Background**Unhealthy diet intake such as consuming high fat, sugar, and salt, and low fruits and vegetables is a major risk factor for chronic diseases. There is lack of evidence-based interventions to promote healthy dietary intake among Indian populations. To address this gap, this study tested the effectiveness of an information technology-enabled ‘SMART Eating’ intervention.**Methods**A cluster RCT was implemented in twelve clusters, based on income groups, in a North Indian city, Chandigarh. Computer-generated randomisation was used to allocate clusters to intervention and comparison arms. Sample size was 366 families per arm (N=732). One adult per family was randomly selected as an index case to measure change in the outcomes. Intervention had an IT component and an interpersonal component, with provision of ‘SMART Eating’ kit having kitchen calendar, table mat, and measuring spoons. Comparison group received pamphlets on nutrition education. Measurements were made at 0 and 6 months post-intervention. Primary outcomes were changes in mean dietary intakes of fat, sugar, salt, fruit & vegetables. Secondary outcomes included change in body mass index (BMI), blood pressure, haemoglobin, and fasting plasma glucose (FPG). Mixed effects linear regression models, was used to determine the net change in the outcomes of the intervention group, relative to the comparison group.**Results**Participants’ mean age was 53 years, a majority were women (76%) and married (90%); 51% had completed a college degree. All families had mobile phones, and more than 90% of these families had access to internet through mobile phones. The intervention group had significant net mean changes of -12.5, -11.4, -0.5, and +71.6 g/day in the intake of fat, sugar, salt, and fruit & vegetables, respectively; the net relative percentage changes were 12%, 23%, 4%, and 20%, respectively. Similarly, significant net changes occurred for secondary outcomes: BMI = -0.25 kg/m2, diastolic blood pressure = -2.77 mm Hg, and FPG = -5.7 mg/dl.**Discussion**This IT-enabled ‘SMART Eating’ intervention that used multi-channel communication was found to be effective. The net effect on the salt intake in this intervention was lower than the studies that focused only on salt reduction. The effectiveness of this comprehensive intervention package, tested in a controlled setting, needs to be explored through implementation research before its potential scale up.Keywords: Adult, Urban, Comprehensive package. |