**Socio-demographic differentials in the effect of ‘SMART Eating’ intervention: Implications for tailoring health promotion interventions to subgroups**

**Background**

Effect of a dietary intervention may vary depending on certain characteristics of the population. We aimed to examine differences in the effect of ‘SMART Eating’ intervention on dietary intakes of fat, sugar, salt, and fruits and vegetables among subgroups that differed in age, gender, socio-economic status, and the presence of medical conditions.

**Methodology**

The intervention was implemented using a cluster RCT design, with 12 clusters from a city selected based on the type of housing (i.e., LIG: Low-income group, MIG: Middle-income group, & HIG: High-income group – a proxy for socio-economic status). Clusters were randomly allocated to intervention and comparison groups (n=366 participants per group). Qualitative formative research’s findings were used to tailor intervention components to meet different subgroups’ needs. ‘SMART Eating’ intervention was compared to nutrition education through pamphlets in the comparison group. Fat, sugar, salt, fruit and vegetable intakes were assessed at 0 and 6 months. Difference-in-differences method was used to determine the net effect of the intervention.

**Results**

Participants’ (n=732) mean age was 53 years, 76% were women and 90% were married. All income groups had equal representation. The net effect of the intervention was significant for fat, sugar, fruit and vegetable intakes among all the three income groups. The intervention had no significant net effect on salt intake in HIG group. Further, the net effect of the intervention on fat, sugar and salt intake was higher in LIG and MIG, when compared to HIG. In contrast, the significant net effect on fruit and vegetable intake was higher in MIG and HIG, when compared to LIG. Similarly, the net effect of the intervention was significant for fat, sugar, and fruit and vegetable intake irrespective of age group, gender or presence of medical condition. However, the net effect on salt intake was significant in the younger age group, females and those without any medical condition.

**Discussion**

The intervention was effective in reducing fat, sugar and salt intake, and increasing fruit and vegetable intakes among urban Indian adults from diverse socio-economic backgrounds, including people from lower income groups. Differential effect of the intervention on certain subgroups – for example, lack of effect of the intervention on salt intake in HIG group – need to be further explored through qualitative studies to design suitable interventions.

Keywords: Adults, Urban, Differential effects.