

## Abstract

Sri Lanka is currently experiencing demographic and epidemiological transition and this is reflected in the increase in the incidence of non-communicable diseases (NCDs). The common risk factors linked to NCDs, mainly CVD, stroke, diabetes and hypertension are related to lifestyle. These include physical inactivity, poor nutrition, harmful use of alcohol and tobacco use and all these are modifiable when addressed in an integrated fashion.

### **Objectives:**

The objective of the present study was to evaluate the effectiveness of a multifaceted intervention delivered through a community based organization to change lifestyle and anthropometric characteristics related to NCDs among the 25-60 year old population in Ragama MOH division.

### **Study design:**

A cluster randomized controlled intervention study was designed for the purpose. The study consisted of 3 phases and was carried out in Ragama MOH area in the Western Province, which was randomized into intervention and control areas and an additional control population selected from Wennappuwa MOH area in the North Western Province.

### **Data collection:**

A total of 660 individuals were included in the study. Baseline data was collected from 213 individuals (in 10 clusters) from the intervention and 230 (in 11 clusters) from control areas from Ragama and 217 (in 10 clusters) from Wennappuwa.

### **Results:**

Just over 55% of the participants were females. Nearly 23% of the study population was categorized in the low physical activity level. There were more males in the low physical activity category.

According to the WHO cut off values for BMI approximately 50% of females were overweight or obese in Ragama and Wennappuwa.

Of the males 38.2% were current smokers. Nearly 20% smoke more than ten cigarettes daily.

There was a statistically significant association between green leaves, vegetables and fruit consumption and income of respondents ( $p < 0.01$ ). Increase in income was associated with an I

increase in the number of respondents consuming those food items more than one day per week.

A lifestyle modification programme targeting behaviour change in relation to diet, physical activity, smoking and alcohol use was designed using Social Marketing concepts. The programme was implemented through funeral societies in the intervention area for a period of six months.

Effectiveness was evaluated in relation to the process and outcome of the intervention. A change in diet, level of physical activity, smoking, alcohol use and change in the anthropometric measurements was assessed in the outcome evaluation.

Community members were amenable to the implementation of a community based intervention programme to reduce NCDs in the community through Funeral Societies. Culturally appropriate exercises were well received by the community members.

There was a statistically significant increase in the frequency of consumption of green leaves in the intervention area compared to control areas following the intervention for six months.

The number of respondents who consumed green leaves, fruits and vegetables more than one day per week increased significantly from the baseline number in the intervention area following the intervention.

Although there was no statistically significant difference in change in the means of total MET values in walking, cycling and leisure activities between the intervention and control groups, the reduction in mean sitting time following the intervention was statistically significant.

There was no statistically significant change in BMI, smoking and alcohol use following the intervention.

Process evaluation was carried out by assessing the dose, fidelity and coverage. The dose and fidelity of the intervention was high in majority of the activities conducted in the intervention. Coverage was high (109% for the first session) for total attendance while low coverage (37% for the first session) was seen in the attendance of respondents from the baseline survey.

**Conclusion and recommendation:**

Use of Funeral Societies to deliver a lifestyle modification programme in the community should be conducted with long term planning and designed to reach the community in a uniform manner considering the results from the outcome and process evaluation in the present study.

**Key words:** Non Communicable Diseases, community-based organization, Funeral Society, lifestyle modification, outcome evaluation, process evaluation,