

# **Role of meals prepared away from home on fasting blood glucose in Kenya**



Charles Obonyo  
Centre for Global Health Research  
Kenya Medical Research Institute, Kisumu, KENYA

# Background

- Kenya is undergoing a nutrition transition
- Consumption of meals prepared away from home is increasing
- Strongly associated with:
  - Urbanization
  - overweight and obesity
  - larger portion sizes/high energy density foods
- We evaluated association between consumption of meals prepared away from home on blood sugar

# Methods

- Data derived from 2015 Kenya National STEPS survey.
- Random sample of 4500 adults (age 18-64yrs)
- Cases defined as:
  - Fasting blood sugar  $\geq 7.0$ mmo/L
  - No history of diabetes
  - Not taking insulin or oral antihypoglycemic drugs
- Exposure defined as:
  - Self-report of taking at least one meal prepared away from home on a typical week
  - Include meals prepared and consumed away from home or prepared away from home but consumed at home
- Association expressed as odds ratio

# Results

- Sampled 4500 adults aged 18-64yrs
- Prevalence of raised fasting blood sugar: 2.5%
  - Response rate = 93%
  - Mean blood sugar:
    - cases=10.2mmol/L
    - Non-cases=4.5mmol/L
- Prevalence of eating meals prepared away from home: 45%
  - No meals away from home=55.2%
  - 1-4 meals a week=28.8%
  - 5+ meals a week=16.0%

# Results

## Determinants of consuming meals prepared away from home

| Variable                   | Odds ratio | OR 95%CI  | P value |
|----------------------------|------------|-----------|---------|
| Male sex                   | 3.51       | 3.04-4.05 | <0.001  |
| Urban residence            | 1.35       | 1.16-1.59 | <0.001  |
| Educational level          |            |           |         |
| Completed primary school   | 2.36       | 1.84-3.02 | <0.001  |
| Completed secondary school | 2.59       | 2.03-3.32 | <0.001  |
| College education          | 3.38       | 2.59-4.40 | < 0.001 |
| Unmarried                  | 1.23       | 1.06-1.42 | 0.006   |
| BMI                        |            |           |         |
| Normal weight              | 1.35       | 1.08-1.69 | 0.009   |
| Overweight/obese           | 1.44       | 1.13-1.85 | 0.004   |

# Determinants of Raised blood sugar

| Variable                      | Odds ratio | OR 95%CI    | P value |
|-------------------------------|------------|-------------|---------|
| Male sex                      | 0.75       | 0.46 -1.23  | 0.256   |
| Urban residence               | 1.39       | 0.86 – 2.23 | 0.179   |
| Educational level             |            |             |         |
| Completed primary school      | 0.72       | 0.38 – 1.37 | 0.322   |
| Completed secondary school    | 0.54       | 0.28 – 1.03 | 0.063   |
| College education             | 0.60       | 0.29 – 1.22 | 0.156   |
| Married                       | 1.05       | 0.67 – 1.64 | 0.837   |
| BMI                           |            |             |         |
| Normal weight                 | 0.33       | 0.17 - 0.62 | 0.001   |
| Overweight/obese              | 1.27       | 0.68 - 2.37 | 0.457   |
| Meals prepared away from home | 1.20       | 0.78 - 1.86 | 0.420   |

# Conclusion

- The frequency of eating meals prepared away from home is rising in Kenya
- Associated with overweight/obesity but not clearly associated with raised blood sugar
- Future cohort studies should evaluate where and what food items are purchased outside home in order to develop interventions to:
  - Promote cooking skills
  - availability or purchase of healthy food choices, or
  - Inform public health food policy

“Judge a man by his questions rather than by his answers” Voltaire



Thank you

