

**A PILOT STUDY ON EFFICACY OF
HEALTH PROMOTION ON
REDUCTION OF DIETARY SODIUM
IN NAIROBI KENYA**

TEAM MEMBERS

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Introduction

- Cardiovascular disease (CVD) is currently a global epidemic.
- There is a clear relationship between salt intake and hypertension - stronger among blacks than other races.
- Most Kenyans are not aware of this relationship or that between hypertension and cardiovascular disease.
- Most salt is added during cooking in Kenya

Study question/design

- Is it possible to reduce salt consumption in Kenya following a health promotion intervention?
- The overall objective was to facilitate reduction in salt consumption in a sample population in Nairobi Kenya.
- A prospective interventional study

Specific objectives

- To assess the salt consumption patterns and blood pressure levels of the study population
- To assess urinary sodium levels of the study population before and after health promotion messages geared to reducing dietary salt
- To assess blood pressure levels of the study population before and after health promotion messages geared to reducing dietary salt

Study Population

- Eligible participants were adult females of 18yrs and above, willing to participate and be available for follow up for the entire study period according to the study protocol.

SUMMARY OF STUDY DESIGN

- **2 weeks run in period**
 - -Introduction of participants to study
 - -Situation analysis
- **Baseline data collection at week 0**
 - Demographics
 - Bp/ urinary sodium

SUMMARY OF STUDY DESIGN

- **Intervention at weeks 0, 1, 2, and 3**
 - Health messages via presentations, brochures, FGDS
- **Data collection at weeks 4 (1 month) and 16 (4 months)**
 - Bp/ urinary sodium











Results : Demographics

- A total of 57 women consented and participated in the study.
- The mean age was 31.8 ± 8.2 years ranging from 20 to 53 years.
- Close to half 28 (49.1%) of the respondents had secondary education, 18(31.6%) Primary education, 5(8.8%) tertiary education, 2(3.5%) university education while 4(7%) no form of formal education.

Demographics

- Only 31.6% were employed, 35.5% were self employed, those unemployed /housewives being 33.4%.
- 71.9%, respondents were married, 19.3 % single and 8.8% widowed, 82.5% had children, most women having one (21.1%) two (31.6%) or three (17.5%) children.

Health habits

- Smoking was not prevalent in this population either previous 2(3.5%) or current 1(1.8%), and only 4(7%) reported to take alcohol.
- Most respondents engaged in various forms of physical activity 92.7%, (mainly household activities) compared to those that exercised 32.1% (mainly walking) .

SALT USE

- 32.1 % of the respondents knew of foods that were high in salt, (sausages, crisps, food additives, spices, and ready to eat cooked foods) **but used them anyway**
- 70.2% added salt to food while cooking while 29.8% added salt both when cooking and at the table
- **68.5% preferred to purchase already cooked food from the food vendors within the home area, which was already salted, (mainly githeri and chapati)**

Anthropometric measurements

- The mean BMI in these respondents was 26.0 ± 4.5
 - **43.9% had normal BMI. 21(36.8) % were overweight while 11 (19.3 % were obese.**
- The mean waist circumference was $85.7+12.2$ cm, a moderate risk population.
- The mean WHR 0.85 ± 0.1 , moderate risk
 - **26.7% were at low risk 16.7% moderate while 56.7% at high risk.**

RESULTS – URINARY Na

- At baseline, mean urinary sodium was 193.8mmol/l \pm 89.7 mmol/l this was within the normal ranges (40-220mmol/l)
- The mean urinary sodium in this sample reduced to 181.5 \pm 71.8 mmol/l at month 1
- Increased to 192.13+87.13 mmol/l at month three

RESULTS - BP

- At baseline the mean systolic blood pressure was 119.2 ± 14.0 MmHg, while diastolic was 77.3 ± 13.6 MmHg.
- **64.9% had normal blood pressures.**
- **26.3%** of the respondents were in the **pre-hypertensive stage** with blood pressures ranging from 121/81 to 139/89.
- **8.8% had high blood pressure** (these were excluded from analysis on BP)

RESULTS

- **After intervention**, the proportion of those with Normal pressure increased to **75.9% at month one** and to **90% at month three**.
- **The proportion of pre-hypertensives reduced to 13.8% at month one and to 5% at month .**

BP

- BP reduced at month one from 119.2+14.0mmHg to 112.9+16.2 ($t=1.662$; $p=0.108$) and to 109.0 +14.8 at month three ($t= 0.918$; $p=0.374$). (**a drop of 6.3**)
- Diastolic pressure also reduced from 77.3± 13.6 MmHg at baseline to 72.8+8.6% ($t=1.660$; $p= 0.108$) and to 71.8 +10.7mmHg at month three ($t =-.032$; $p= 0.975$). **A drop of 4.5**)
- The changes were not statistically significant.

Some observations

- The messages received overwhelming support. The women had started daily evening exercise in the church compound where they meet. The group leader described it as the best thing that ever happened to them. They had never known there was any relationship between blood pressure and salt, nor did they have any information on most of the health issues that were discussed.









Challenges

- High drop out rate
 - Cumbersome urine collection
 - Getting out of usual routine not easy
 - Other social commitments
- Unhappy men
- Resistance within the home to reduced salt

Conclusions

- It is possible to reduce salt consumption and BP using health promotion
- It is labor intensive
- Sustainability may not be sustainable by education alone
- There is need for multi pronged approach