

A COMMUNITY BASED FOOD AND HEALTH PROJECT IN A SMALL NORTHERN  
COASTAL ABORIGINAL COMMUNITY.

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As part of a larger project aiming to devise and validate a non-invasive method to quantitatively determine food and nutrient intake in remote Aboriginal communities, apparent dietary intake as determined by the 'store-turnover' method, together with anthropometric, biochemical and haematological measurements, was used as a rational basis for the planning, implementation and evaluation of a community based and initiated nutrition intervention project. For a twelve month period from June 1989, all parameters were remonitored at three month intervals. As a control, store turnover was monitored for a similar community.

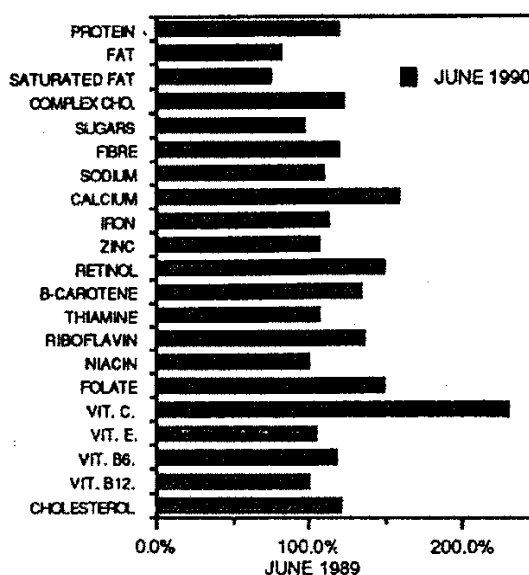
Sixty-eight people (95% of all adults residing in the community) participated in the initial screening, which indicated a high prevalence of diabetes, hypercholesterolaemia, hypertriglyceridaemia and low folic acid status. Major findings of the initial dietary studies revealed that intake of energy, sugars and saturated fat appeared excessive, while nutrient density appeared low. The 'style' of the diet was generally more "western" than that described by the same method in other northern communities. Results were used to design intervention strategies with the community. Strategies applied addressed two major issues; increasing motivation of community members and provision of a greater range of healthy food in the store.

Over the 12 month intervention period there have been significant changes in some indicators of health and nutritional status for those individuals re-monitored in June 1990 (n=44). The following means and standard deviations were calculated and compared by t-tests: total serum cholesterol ( $5.8 \pm 1.2$  mmol/l to  $5.3 \pm 1.1$  mmol/l,  $P < 0.0001$ ), waist:hip ratio ( $0.89 \pm 0.07$  to  $0.87 \pm 0.06$ ,  $P < 0.005$ ), gamma-glutamyl transferase ( $83 \pm 166$  U/l to  $72 \pm 129$  U/l,  $P < 0.05$ ), red cell folate concentration (from  $80.5 \pm 24.9$  ug/l to  $134.7 \pm 42.9$  ug/l,  $P < 0.0001$ ), serum folate concentration ( $2.2 \pm 1.7$  ug/l to  $3.1 \pm 1.6$  ug/l,  $P < 0.004$ ), mean cell volume ( $89.2 \pm 4.2$  fL to  $87.1 \pm 4.0$  fL,  $P < 0.0001$ ), red cell distribution width ( $14.2 \pm 1.2$  % to  $13.8 \pm 1.2$  %,  $P < 0.005$ ) and haematocrit ( $0.44 \pm 0.04$  to  $0.43 \pm 0.04$ ,  $P < 0.001$ ).

Longitudinal store turnover data indicated the relative seasonal changes in the turnover of targetted foods in the community compared to the control community. During the 12 month intervention period the nutrient density of the diet improved in the intervention community (see figure).

Changes in the apparent consumption of targetted foods in the community included a marked increase in the consumption of fresh fruit and vegetables (from 83g to 182.6g per person per day), wholegrain and kibbled bread (from 14g to 33g per person per day), a decrease in the apparent consumption of sugars (from 102g to 89g per person per day), and an increase in the nutritionally preferred type of carbonated beverages and cooking oils consumed. During this period the store profits increased. Various community development initiatives were also supported. As one development of the project a nutrition policy has been implemented in several other community stores managed by the Aboriginal owned enterprise responsible for the store in the intervention community.

CHANGE IN NUTRIENT DENSITY, INTERVENTION COMMUNITY.



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<sup>1</sup> Currently six month values only available for vitamin data (n=48).