Understanding the determinants of diet diversity and healthy eating among urban households in the Pacific

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Understanding the determinants of diet diversity and healthy eating among urban households in the Pacific

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1 Introduction & Background

We explore how food market environments and socio-economic factors influence the diet quality of urban Fijians. Pacific Island Countries (PICs), including Fiji, are experiencing obesity epidemics resulting in high rates of diet-related non-communicable diseases (NCDs).

Little research has focused on understanding drivers of diet-related health issues in PICs.

Fiji provides a unique context for several reasons:
1. It is one of the most developed economies of PICs.
2. Between 2002 and 2012, the share of the Fijian population overweight or obese rose from 59% to 67% (Ministry of Health Fiji 2015).
3. It has undergone a significant nutrition transition, the relatively healthy traditional diet has been replaced by processed foods, meat, sugar and refined staples (Thow and Snowdon, 2010).

2 Data & Case Study

1,000 households from Suva (n=759) and Nadi (n=241) were interviewed in 2014 via face-to-face interviews by trained enumerators from the Fiji Ministry of Agriculture.

The instrument, based on Umberger et al. (2015), elicited socio-demographics and health status of individuals, food expenditures for 79 different food categories, and food shopping behavior across a mix of 10 modern and traditional retail formats.

Households (n=20) were selected randomly from 50 enumeration areas (EAs).

The respondent was the head of household responsible for food purchase decisions.

3 Methods

We use United States Department of Agriculture (USDA) Dietary Guidelines (2010), adjusted on Fiji health guidelines, to aggregate 79 food items into 9 healthy and 3 unhealthy food groups (see Table 1).

We solve the following equation for the household:

\[ y_i = g(x_i, b) \]

\[ y_i = \text{Household Diet Diversity Score (HDDS) for household } i; \]

1. Total share of expenditures on healthy food (Healthy Share) for household \( i \); and

2. Expenditure Shares on 12 food groups for household \( i \).

\[ x_i = \text{Vector of common independent variables representing food market environment and household socio-economic characteristics; and} \]

\[ b = \text{Vector of parameter estimates.} \]

We estimated an Ordered Probit Model for HDDS (1): an OLS for Healthy Share (2) and simultaneous Multivariate Tobit regressions for Expenditure Shares (3):

\[ y_i = f\left( \text{Total share of food purchased from modern markets, distance to modern market, frequency of eating out, income, hh size, use of nutritional table, female age, female education, female work, ethnicity, location} \right) \]

4 Results

Higher HDDS was associated with higher household income and frequency of eating out, as well as use of nutritional information.

Healthy Share had a significant and positive relationship with female head’s education and a significant and negative relationship with share of food from modern markets and household income.

Table 1 provides a summary of the results for expenditure shares on each of the 12 food groups.

5 Conclusions

Changing food markets, increasing disposable incomes and more women in the workforce are influencing the diet quality of urban Fijians.

In Fiji, food market environment and socio-demographic factors both contribute to diet quality and diet-related health issues.

This study provides timely insights into the factors influencing diet quality and diet-related health in urban Fiji, with wider implications for other PICs also in the midst of a diet-related health crisis.

Table 1: Regression results of expenditure shares on different food groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Healthy Food Groups</th>
<th>Unhealthy Food Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cereals</td>
<td>Roots &amp; Tubers</td>
</tr>
<tr>
<td>Share of expenditure in modern markets</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Household disposable Income</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Distance to supermarket</td>
<td>-</td>
<td>*</td>
</tr>
<tr>
<td>Female empowerment proxy variables</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: * = not significant; ** p < 0.01, *** p < 0.005, * p < 0.1

References