**Supplemental Table 1**. Selected child, maternal, and household-level characteristics of the 305 Samoan children by nutritional status outcomes[[1]](#footnote-2)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Characteristic | Stunting(n = 62) | No stunting(n = 243) | P | Overweight/Obesity(n = 49) | No Overweight/Obesity(n = 256) | P | Any anemia(n = 104) | No anemia(n =201) | P‡ |
| % or mean  | SD | % or mean | SD |  | % or mean  | SD | % or mean | SD |  | % or mean  | SD | % or mean | SD |  |
| Census Region: Apia Urban Area | 29.0 |  | 33.7 |  | 0.313 | 44.9 |  | 30.5 |  | 0.124 | 33.7 |  | 32.3 |  | 0.769 |
|  North West Upolu | 29.0 |  | 34.6 |  |  | 24.5 |  | 35.2 |  |  | 30.8 |  | 34.8 |  |  |
|  Rest of Upolu | 41.9 |  | 31.7 |  |  | 30.6 |  | 34.4 |  |  | 35.6 |  | 32.8 |  |  |
| *Child* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age (months) | 34.0  | 6.7 | 41.6 | 10.4 | **<0.001** | 37.4 | 9.9 | 40.5 | 10.2 | **0.047** | 37.1 | 9.2 | 41.5 | 10.4 | **<0.001** |
| Female | 37.1 |  | 51.4 |  | **0.044** | 46.9 |  | 48.8 |  | 0.808 | 51.0 |  | 47.3 |  | 0.540 |
| Physical activity score |  |  |  |  | 0.511 |  |  |  |  | 0.615 |  |  |  |  | 0.479 |
|  Tertile 1 (mean: 24.1, SD: 3.8) | 41.9 |  | 34.2 |  |  | 40.8 |  | 34.8 |  |  | 32.7 |  | 37.3 |  |  |
|  Tertile 2 (mean: 29.1, SD: 0.7) | 25.8 |  | 28.0 |  |  | 22.5 |  | 28.5 |  |  | 31.7 |  | 25.4 |  |  |
|  Tertile 3 (mean: 32.0, SD: 1.2) | 32.3 |  | 37.9 |  |  | 36.7 |  | 36.7 |  |  | 35.6 |  | 37.3 |  |  |
| Total energy intake (kJ/day)  | 14211.2 | 9986.7 | 14069.7 | 11185.7 | 0.743 | 13984.1 | 9806.6 | 14120.4 | 11157.8 | 0.785 | 14283.5 | 11161.0 | 14002.7 | 10846.1 | 0.601 |
| Ever breastfed | 58.1 |  | 70.8 |  | 0.055 | 65.3 |  | 68.8 |  | 0.635 | 66.4 |  | 69.2 |  | 0.618 |
| Ate breakfast daily in the past week | 80.7 |  | 62.6 |  | **0.007** | 73.5 |  | 64.8 |  | 0.242 | 72.1 |  | 63.2 |  | 0.118 |
| Eats weekly frozen desserts | 56.5 |  | 81.9 |  | **<0.001** | 71.4 |  | 77.7 |  | 0.339 | 70.2 |  | 80.1 |  | 0.052 |
| Vitamin C intake[[2]](#footnote-3) (mg/day) | 270.7 | 113.0 | 241.5 | 78.3 | 0.058 | 238.2 | 92.3 | 249.2 | 86.1 | 0.420 | 250.0 | 88.7 | 246.1 | 86.4 | 0.709 |
| Calcium intakeb (mg/day) | 790.5 | 276.2 | 746.8 | 167.6 | 0.579 | 802.4 | 194.7 | 746.8 | 194.0 | **0.021** | 784.9 | 236.7 | 740.6 | 167.9 | 0.236 |
| Sugar intakeb (g/day) | 139.9 | 39.3 | 147.1 | 35.1 | 0.157 | 135.2 | 31.1 | 147.6 | 36.6 | **0.026** | 145.8 | 35.6 | 145.5 | 36.4 | 0.944 |
| Illness in the past 3 weeks | 8.1 |  | 9.9 |  | 0.664 | 10.2 |  | 9.4 |  | 0.856 | 13.5 |  | 7.5 |  | 0.090 |
| Deworming medication use | 22.6 |  | 18.8 |  | 0.498 | 24.5 |  | 18.6 |  | 0.339 | 25.2 |  | 16.6 |  | 0.072 |
| *Mother* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Age (years) | 32.0 | 9.1 | 34.3 | 9.7 | 0.109 | 35.6 | 10.2 | 33.5 | 9.5 | 0.199 | 32.1 | 9.1 | 34.7 | 9.8 | **0.024** |
| OW/OB | 80.7 |  | 88.9 |  | 0.083 | 91.8 |  | 86.3 |  | 0.290 | 85.6 |  | 88.1 |  | 0.538 |
| Any anemia | 30.7 |  | 20.7 |  | 0.094 | 26.5 |  | 22.0 |  | 0.484 | 33.0 |  | 17.4 |  | **0.002** |
| High school graduate | 48.4 |  | 63.4 |  | **0.031** | 69.4 |  | 58.6 |  | 0.157 | 56.7 |  | 62.2 |  | 0.356 |
| Married or cohabitating | 72.6 |  | 77.0 |  | 0.471 | 75.5 |  | 76.2 |  | 0.921 | 69.2 |  | 79.6 |  | **0.044** |
| *Household* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Material lifestyle score |  |  |  |  | 0.188 |  |  |  |  | **0.030** |  |  |  |  | 0.962 |
|  Quartile 1 (mean: 1.3, SD: 0.8) | 19.4 |  | 21.0 |  |  | 10.2 |  | 22.7 |  |  | 21.2 |  | 20.4 |  |  |
|  Quartile 2 (mean: 3.5, SD: 0.5) | 32.3 |  | 19.8 |  |  | 20.4 |  | 22.7 |  |  | 23.1 |  | 21.9 |  |  |
|  Quartile 3 (mean: 5.9, SD: 0.8) | 29.0 |  | 32.5 |  |  | 28.6 |  | 32.4 |  |  | 29.8 |  | 32.8 |  |  |
|  Quartile 4 (mean: 10.5, SD: 2.8) | 19.4 |  | 26.8 |  |  | 40.8 |  | 22.3 |  |  | 26.0 |  | 24.9 |  |  |
| Annual income ≥$10,000 tala | 11.3 |  | 24.4 |  | **0.026** | 20.4 |  | 22.0 |  | 0.809 | 19.2 |  | 23.0 |  | 0.450 |

**Supplemental Table 2.** Food groups of food frequency questionnaire items among 305 Samoan children based on nutrient profile and culinary use

|  |  |  |
| --- | --- | --- |
| Group number  | Food group | Food item(s) |
| 1 | Butter | Butter |
| 2 | Margarine | Margarine  |
| 3 | Dairy products | Milk  |
| Cheese  |
| Ice cream |
| 4 | Eggs  | Eggs  |
| 5 | Fruits | Ripe banana  |
| Guava  |
| Mango  |
| Pineapple  |
| Papaya  |
| Avocado |
| Pumpkin  |
| Apple/pear/vie  |
| Orange  |
| Other fruits |
| 6 | Fruit juices | Fruit juice  |
| 7 | Nuts | Nuts  |
| Peanut butter  |
| 8 | Vegetables | Carrots  |
| Sweet potato tips  |
| Pumpkin tips |
| Green beans  |
| Cucumber  |
| Eggplant  |
| Onions  |
| Cabbage  |
| Seaweed  |
| Laupele |
| Kangkong |
| Samoan sage/herb |
| Chili leaves |
| 9 | French fries | Fries  |
| 10 | Snacks | Samoan snack |
| Talo, fai, or potato chips/Bongos, Twisties  |
| Fried peas snack |
| 11 | Yam and taro | Yam  |
| Taro  |
| Taro in coconut cream  |
| 12 | Breadfruit | Breadfruit  |
| 13 | Bananas as staple food | Boiled banana  |
|  |  | Bananas in coconut cream  |
| 14 | Potatoes/sweet potatoes | Potato/sweet potato (white color) |
|  |  | Potato/sweet potato (orange color) |
| 15 | Tomato | Tomatoes  |
|  |  | Tomato soup |
|  |  | Tomato sauce |

**Supplemental Table 2 (continued).** Food groups of food frequency questionnaire items among 305 Samoan children based on nutrient profile and culinary use

|  |  |  |
| --- | --- | --- |
| Group number  | Food group | Food item(s) |
| 16 | Whole grains | Brown rice |
| Whole wheat bread |
| 17 | Refined grains | White rice  |
| White bread |
| Pancakes  |
| 18 | Corn | Corn  |
| 19 | Unprocessed red meat | Beef  |
| Pork  |
| Lamb chops  |
| Cheeseburger, double patty & bun  |
| 20 | Processed red meat | Corned beef  |
| Sausage  |
| Pigs trotters  |
| Camp pie/malini/spam  |
| 21 | Mixed dishes | Meat pie  |
| Fried egg sandwiches |
| 22 | Poultry | Chicken  |
| Fried chicken  |
| Chicken curry without bones  |
| Turkey wings  |
| Turkey tails |
| 23 | Fried fish | Fried fish |
| 24 | Other Fish | Fish  |
| Tinned/canned fish  |
| Tinned fish in tomato sauce  |
| Tinned fish with coconut cream  |
| 25 | Seafood | Clam  |
| Shellfish  |
| Crab/lobster  |
| Octopus/sea eel  |
| Sea cucumber/jellyfish/sea slug  |
| 26 | Pizza | Pizza with meat and think crust  |
| 27 | Cereals | Breakfast cereal  |
| 28 | Coconut and coconut products | Coconut |
|  | Coconut cream in banana leaves  |
|  | Coconut cream in taro leaves steamed in umu  |
|  | Coconut porridge with green coconut and sago  |
|  | Coconut cream with water  |
|  | Undiluted coconut cream |
|  | Niu-coconut water |
| 29 | Tea | Tea  |
| 30 | Sugary drinks | Coke  |
|  |  | Sprim/tang/icebel |
|  |  | Cocoa  |
|  |  | Soft drinks |
|  |  | Sports drinks |

**Supplemental Table 2 (continued).** Food groups of food frequency questionnaire items among 305 Samoan children based on nutrient profile and culinary use

|  |  |  |
| --- | --- | --- |
| Group number  | Food group | Food item(s) |
| 31 | Noodles | Pasta  |
| Chop suey |
| Ramen/ packaged noodles |
| 32 | Soup | Saimin soup  |
| Soup, chicken noodle, dry mix, prep |
| Soup with vegetables & meat |
| 33 | Sweets or desserts | Chewing gum  |
| Lole/monkey balls |
| Donuts/cream buns |
| Chocolate bar |
| Cake/pie  |
| Fruit pie  |
| Dried Chinese candy  |
| Chinese biscuit |
| Ice cake |
| Biscuits  |
| Jam/Honey/Siamu Popo |
| Jello |
| 34 | Salad dressings | Mayonnaise  |
| 35 | Infant food items | Infant formula |
| Breast milk |
| Canned Infant food meals |
| Canned infant puree pouches |

1. One missing value for maternal anemia and household annual income, and three missing values for deworming medication use. [↑](#footnote-ref-2)
2. Adjusted for total energy intake using the residual method.

‡ P values report significance t-tests for continuous variables and chi-squared tests for categorical variables. [↑](#footnote-ref-3)