

Weekday Diets of Burmese Refugee School-Aged Children

Report prepared by

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- Don't use food (and especially unhealthy food) as a reward—coupons for fast food should be avoided. Consider rewards such as passes to MOSI's ropes course, bowling alleys, and skating rinks.
- Expand the refugees' knowledge of healthy places and activities—Lettuce Lake Park, city (free) water parks.

Introduction

Table 1: Forgotten Foods

Chiles	6
Soda	6
Fruit	5
Candy	4
Cookies	3
Noodles	2
Chips	2
Tea	2
Popsicle	2
Fish paste	2
Fish sauce	2
Juice	1
Milk	1

snacks, fruit for breakfast was not considered a healthy snack). Liquid calories included any liquids consumed throughout the day, regardless of if they were part of a meal or not and included items such as milk in cereal or popsicles. A portion of liquid calories was considered to be 8 ounces; milk in cereal was counted as 0.5 portions, while a 12 ounce can of soda was 1.5 portions.

We wanted to look at how the length of time in the U.S. related to diets. However, since four years in the U.S. at age 2-6 is very different from the four years in the U.S. at age 13-17, we used percentage of life in the U.S. rather than number of years in the U.S.

Food recalls were explored with scatterplots. However, because there are so many zeros in the food recalls, the distributions are badly skewed in a way that makes it impossible to transform them to run parametric tests. So they were treated as rank-order variables whenever a strong and possibly significant pattern was observed. We looked for patterns between food consumption and age, anthropometric variables (heights and weights), and percentage of life in the U.S. We also analyzed the data by gender, place of birth, ethnicity, and whether or not the individual came to the U.S. directly from a refugee camp.

Anthropometric Data

Data Collection

The children gathered in one apartment. The anthropometric assessment of stature and weight was measured with a stadiometer and digital scale to collect data for each child at one time point to the nearest .1inch/.1lb unit.

Data analysis

Body Mass Index percentiles and z-scores were determined by inputting the age in months, weight and height data into the Center for Disease Control and Prevention program Epi Info 7 (CDC 2013).

All anthropometric data were explored as continuous variables. We looked for patterns between height, weight, BMI, age, and percentage of life in the U.S. We analyzed the data by, gender, place of birth, ethnicity, and whether or not the individual came to the U.S. directly from a refugee camp.

Focus Group Data

Data Collection

The focus groups—one for older boys, girls, and younger boys--provided an opportunity to explore perceptions of American and Burmese food, food and health, desired body images, ideas about prestige of different foods, and the challenges of being a refugee in school and at home (Appendix 1). Not all questions were asked in

Results

The Sample

The majority of the children were of the Karen ethnic group. All but four of the children came to the U.S. after spending many years in refugee camps in Thailand. These children were Chin and had each spent just 1 year in the U.S. That 1 year equals an average of just 10% of their lives. The Kayah and Karen children all came to the U.S. directly from refugee camps in Thailand. There were only 3 Kayah children in the population. They have spent an average of 3 years or 44% of their lives in the U.S. The Karen children (n=17) have spent an average of 5 years or 47% of their lives in the U.S. (Table 3).

Table 3: Description of Sample Population

		Gender					
		F		M		Total	
		Count	Mean	Count	Mean	Count	Mean
Ethnicity	Chin	3		1		4	
	Karen	5		12		17	
	Kayah	1		2		3	

Table 4). At home, the American foods most commonly eaten were cake, chicken nuggets, cold cereal, bread, and hot dogs.

Table 4: American Meals

Home 19%			School 81%
Fruit Loops	2	10%	Pizza meal (pizza—15, pizza, chips—3, pizza, popcorn—2, pizza, chips, cookies—1, pizza, <u>vegetables</u> —1, pizza, fruit—1, pizza, fruit, salad—

A mean of 1.2 (range 0-2) Burmese meals were consumed by each child/day (Table 5). Burmese meals were almost exclusively consumed at home. Only in one case did a child bring lunch to school. Burmese meals are usually mixed dishes of rice, meat and vegetables.

Table 5: Burmese Meals

Home 99%	School 1%
<p>Rice meal (rice, chicken—8, rice—7, rice, chiles—7, rice, chicken, chiles—5, rice, pork—4, rice, egg—3, rice, pork, vegetables—3, rice, potatoes, tea salad, nuts, onions, dried shrimp—2, rice, chicken, fruit—1, rice, chicken, pork, MSG—1, rice, chicken, pork—1, rice, chicken, noodles, vegetables—1, rice, chicken, fish—1, rice, pork, chiles—1, rice soup—1, rice, egg, chiles—1, rice, chiles, salad, bacon bits—1, rice, chiles, vegetables, MSG--1, rice, vegetables—1, rice, chicken, vegetables—1, rice bamboo shoots, MSG--1, rice soup, bamboo—1, rice, chicken, boiled sour leaves, vegetables, chiles—1, rice, fish—1, rice, soup, pork, chiles, fish sauce, donuts—1, rice, soup, pork, eggs—1, rice and chicken soup—1, rice, fish paste—1, rice, fish paste, soup—1, rice, chicken, vegetables, soup—1, rice, chicken soup—1, rice, onion, beef, chile—1, spicy rice—1, spicy rice, Thai noodles—1, spicy ricepa,yyy. 2 (,)2 5 (s)1.5e, Thailies(h)6.1oTJ0 TcoTJ0-0.8 (1)-2.4 (s)TJ0 Tw 2.4 (,)2 (sT0.776s0 T(—)</p>	

A mean of 2.9 portions (range 1--8.8) of liquid calories was consumed by each child/day (Table 6). Half of the liquid calories were consumed at home and these were most often soda or “juice.” Liquid calories consumed at school were either flavored milk or apple juice.

Table 6: Liquid Calories (portions)

Home 48%			School 52%		
Soda	49.5	42%	Chocolate/strawberry milk	48	42%
Juice (apple, orange, red, mango, blueberry)	31	26%	Apple juice	46.5	41%
Milk, Milk w/ sugar	18	15%	Milk	13.5	12%

A mean of .4 (range 0-2) portions of healthy snacks was consumed by each child/day (Table 8). Healthy snacks were primarily consumed at home. These were most commonly fruit.

Table 8: Healthy Snacks (portions)

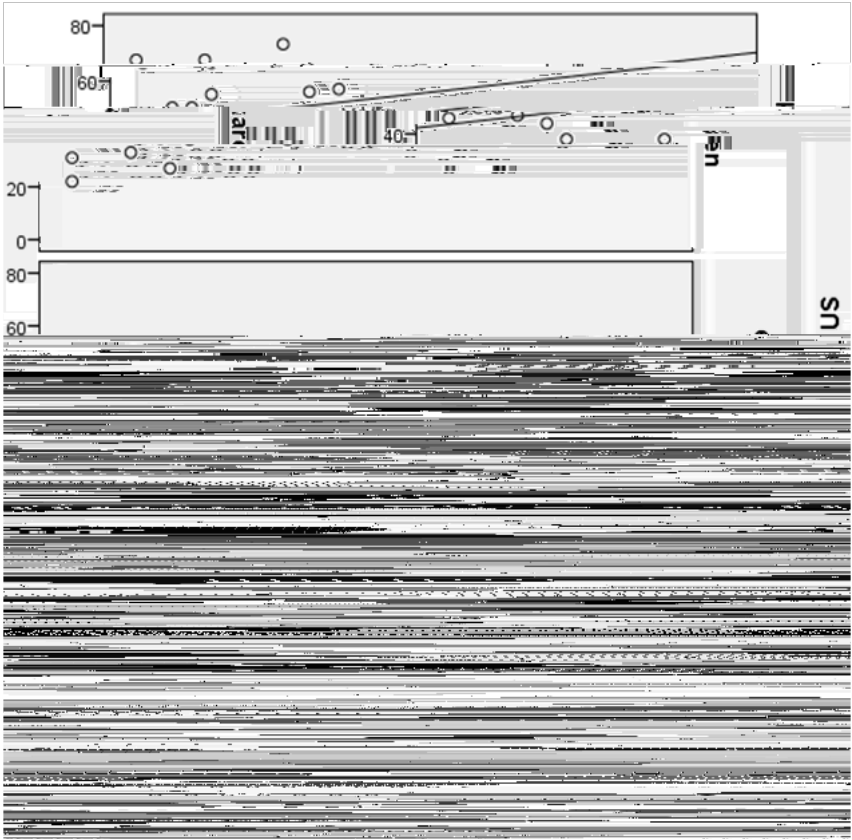
Home 97%			School 3%		
Noodles with mushrooms	1	3%	Rice	1	100%
Fruit (orange, watermelon, banana, blueberries, apple, grapes)	24	75%			
Thai noodles	1	3%			
Red beans	1	3%			
Vegetables (cauliflower, avocado)	2	7%			
Rice and chicken soup	1	3%			
Prunes	1	3%			
Rice and egg	1	3%			

Figure 3 indicates that as the percentage of life in the U.S. increases there is a strong and statistically significant increase in liquid calorie consumption for females (Spearman's Rho $R^2=.71$, $p=.05$; but not for males (Figure 3). The data at this time indicate that the increase happens both at home and at school.

Figure 3: Gender and liquid calorie consumption by percentage of life in the U.S.

To summarize, as the percentage of one's life in the US increases, all children are likely to increase junk food snack consumption, particularly at home. But girls are also likely to increase liquid calorie consumption.

Figure 5: Junk food snacks and ethnicity



Food Consumption data—summary of findings:
The children’s lunch choices seem reasonable; they take fruit and eat salads. But much of the junk food/liquid calories they are eating comes from home supplies.

Anthropometric Data

Histograms were produced to compare the Tampa Burmese refugee children to U.S. children using CDC z-scores . Figure 6 shows that the population is short in comparison to the CDC reference population - the children are on average one standard deviation below the CDC

Figure 7 shows that the shorter children are those arriving from refugee camps, while the 4 children who did not arrive in the U.S. from a refugee camp have a mean height similar to that of U.S. children. This pattern repeats itself when the data are considered by ethnicity because all 4 children who did not arrive directly from refugee camps are Chin and there are only 3 Kayah children.

Figure 7:

Figure 8 shows that the population tends to have a normal weight (if not a bit underweight) in comparison to the CDC reference population, but there are some heavy children. The pattern holds when gender or place of birth is considered.

Figure 8: Z-scores for weight/age

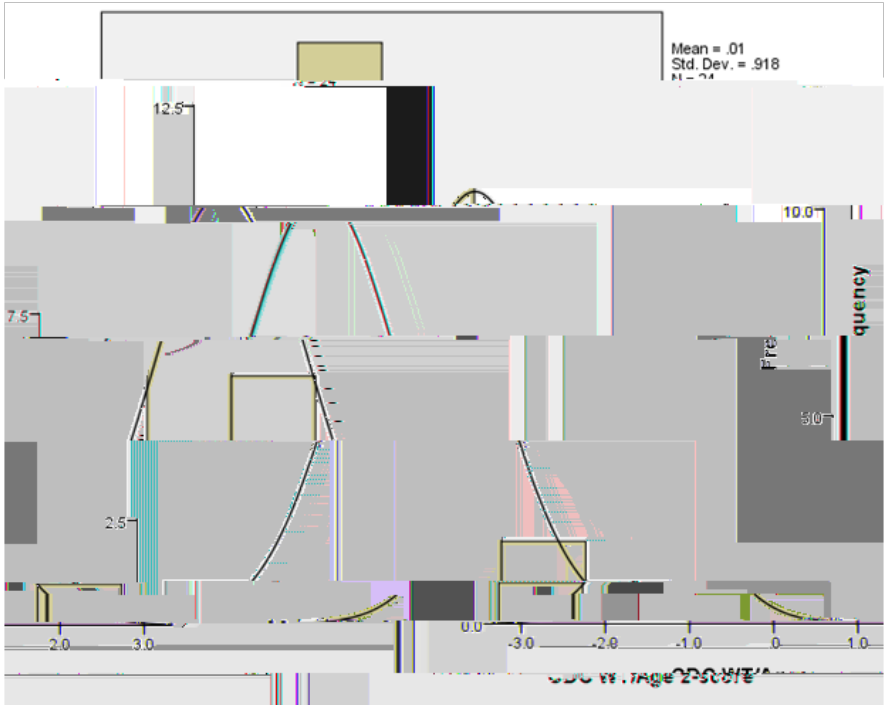


Figure 9 shows that the Kayah and Chin children tend to be a bit heavier than the Karen

Figure 10 indicates that those not arriving directly from refugee camps tend to be a bit heavier. These are the same 4 Chin children seen in the figure above. Recall that these 4 children are also taller for their age than the others, so we would expect them to be a bit heavier.

Figure 11 indicates that the population is a bit overweight based on BMI z-scores when compared to the CDC reference population. They are on average .66 standard deviations above normal and two children are obese ($z=2$). One of these was a girl from the Kayah group. Her mother was concerned about

This pattern holds when considered by gender, ethnicity, place of birth, and whether or not they arrived from a refugee camp (Figure 12).

Figure 12: Z-scores BMI by refugee camp experience



Anthropometric data—summary of findings:

The anthropometric data suggest that, on the whole, the Burmese refugee children are shorter than the average U.S. child. However, those arriving from refugee camps are shorter than those who did not spend years in the refugee camps. The sample has a fairly average weight when compared to U.S. children. A second conclusion from the anthropometric data is that the population is overweight but not obese; they have slightly higher than average BMIs. This seems to be true for everyone. If the children's short heights are a reflection of their diets at the refugee camps then this pattern may mean that in the short time the children have been in the U.S. they have developed lifestyles (diets and patterns of exercise) that are leading to them gaining weight.

Focus Group Data

The focus groups revealed that Burmese children have fairly consistent ideas about food across the three age groups we interviewed. When asked for examples of American food, the younger boys listed potatoes, pizza, juice, bacon, hot Cheetos, and cheese. The girls agreed on pizza, but also included hamburgers, hot dogs, fries, milk and donuts. The older boys also agree on pizza, hamburgers, hotdogs, and bacon, but also added “unhealthy foods,” oatmeal, bread, cereal,

Overall Key Findings:

While an earlier study of this population (Baer et al 2014) suggested that school lunches would be the problem, the children's lunch choices seem reasonable; they take fruit and eat salads. Much of the junk food/liquid calories comes from home supplies. The children who spent time in the refugee camps are lower than average on height/age, but at or above average weight for their ages. The result is that they are becoming fat.

The children are also culturally isolated.

■ Recommendations

Culturally appropriate nutritional education programs for parents (and children) should be offered:

- Educational programs should teach about wider range of "American" meals/foods, including healthy options when eating away from home.
- The community should be encouraged to continue using Burmese meals/foods.
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All organizations working with the Burmese (and other refugees) should:

- Model good habits—don't serve soda or "juice" at functions/meetings. Explain that you care about the community's health and teeth. Do serve fruit and healthy food at all opportunities.
- Don't use food (and especially unhealthy food) as a reward—coupons for fast food should be avoided. Consider rewards such as passes to MOSI's ropes course, bowling alleys, and skating rinks.
- Expand the refugees' knowledge of healthy places and activities—Lettuce Lake Park, city (free) water parks.

References

Baer, Roberta D. et al.

2011 A Health Needs Assessment of the Burmese Community in Tampa, Fl. (available from baer@usf.edu)

Baer, Roberta D.

■ Appendix A

Focus Group Guide

1. How long have you lived in the US? In Tampa?
2. If you could change the lunches at your school what changes would you make? What would there be more of? Less of?
3. If you could change the breakfasts at your school what changes would you make? What would there be more of? Less of?
4. Do you sit with other Burmese kids at breakfast and lunch? If not, what kinds of kids?
5. What should a child do to grow up strong and healthy?
6. If your family had more money, what would you spend it on?
7. If your family could spend more money on food, what would you want to buy?
8. If your family had to spend less money on food, what changes do you think they should make?
9. What do rich people eat? Poor people?
10. Are there foods that make you fat? Which ones?
11. For you, what is American food?
12. Do you like American food or Burmese food better? Why?
13. Is it important to eat rice? Why? How often do you eat rice?
14. What other foods is it important to eat? Why?
15. Are there new foods you would like your mom/dad to learn how to cook? Which? Why?
16. If you had a special Burmese friend come to your house, what would you give them to eat? Why?
17. If you had a special American friend come to your house, what would you give them to eat? Why?
18. Have you ever gone to an American friend's house to eat? What did you eat?
19. What are your favorite places to eat out? Why?
20. How do Burmese boys like girls to look?
21. How do Burmese girls like boys to look?
22. How do American boys like girls to look?
23. How do American girls like boys to look?

24. Is it hard to be Burmese at your school? Why?
25. Do you get hassled by other kids at school? Which ones? What do they say or do?
26. Do you have any problems because English is not your first language? What?
27. What about where you live--do you get hassled there? By who? What do they say or do?
28. Do you want people to know that you and your families are refugees? Why?
29. What kinds of things would you like to be able to do after school and in your free time (ex. sports, cooking/sewing classes, art classes, homework help, help finding jobs, help getting into college, etc.)?