

Hold On to the Armenian Plate! Developing Food Based Dietary Guidelines for Armenia Version 2.0

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Outline



- Focus on Women of Childbearing Age Going Into Pregnancy with a 'Full Tank'
- Dietary Sufficiency Can Be Met Many Ways
- How Were US Guidelines Developed
 - Food Based Guides
 - Nutrient Based Guidance
- Food Based Approach for Armenia
 - Reaching the EAR/RDAs for select 'shortfall' nutrients
- Possible Pitfalls Due to Fast Food and Globalization
- Summary and Conclusions



Poland: The Sobczynscy family of Konstancin-Jeziorna
Food expenditure for one week: 582.48 Zlotys or \$151.27



How Can We Keep Armenian Diets Looking Like This, Rather Than....



United States: The Revis family of North Carolina

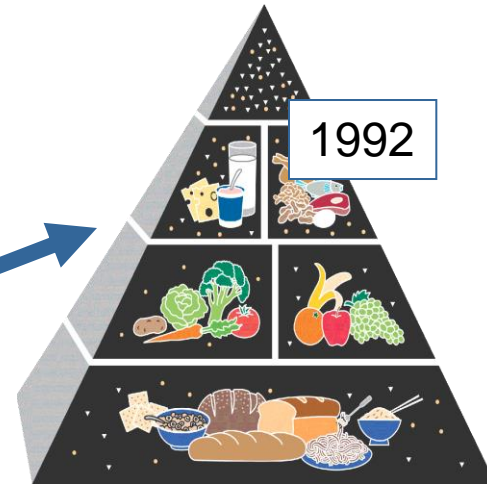
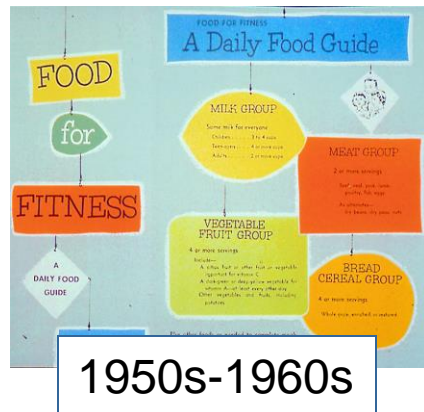
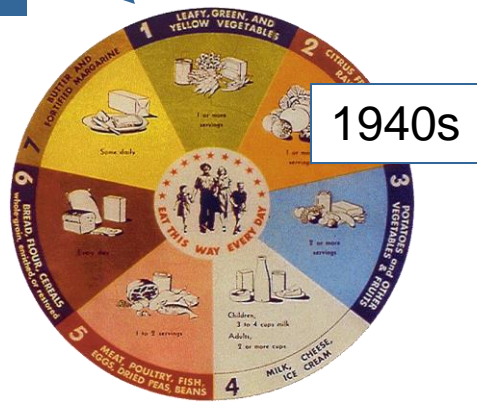
Food expenditure for one week \$341.98



http://www-rohan.sdsu.edu/~cbabroad/documents/PDF_files/Cultural_material/Microsoft%20Word%20-%20Food%20for%20a%20Week%20Around%20the%20World%20in%20Photos.pdf

History of USDA's Food Guidance

Food for Young Children
1916



Current USDA Food Guide



New York City Department of Health and Mental Hygiene Detailing Kits

My Plate Planner

A Healthy Meal Tastes Great

The Plate Method is a simple way to plan meals for you and your family. You don't have to count anything or read long lists of foods. All you need is a 9-inch plate.

1/4 starch

1/4 protein

1/2 vegetable

9-inch plate

1/4 protein. 1/4 starch. 1/2 vegetable.

NYC Health

Michael R. Bloomberg, Mayor
Thomas R. Frieden, M.D., M.P.H., Commissioner

TAKE CARE NEW YORK

Fresh and Local!



US Food Guide for Young Children 1916

1916

The first USDA food guide, *Food for Young Children* by Caroline Hunt. Stipulates five food groups, milk and meat, cereals, vegetables and fruits, fats and fatty foods, sugar and sugary foods, but recommends that diets be selected from a number of different food groups to ensure that both known and unknown nutrients be consumed in adequate amounts.

Hunt, C.L. (1916) *Food for Young Children*. U.S. Department of Agriculture, Farmers' Bulletin No. 717.

Number of food groups	Protein-rich foods Milk/meat	bread	Vegetables/fruit	Other (incl fats)
5	Meats/other protein-rich food 10% cal milk; 10% cal other 1 cup milk plus 2-3 svg other (based on 3-oz. serving)	Cereals and other starchy foods 20% cal 9 svg (based on 1 oz. or 3/4 cup dry cereal svg)	Vegetables and fruit 30% cal 5 svg (based on average 8 oz. svg.)	Fatty foods (20% cal)- 9; Sugars (10% cal)- 10 (based on 1 tbsp. svg)

US Based **Nutrient** Guidance
Developed in 1941 for Military
To Avoid Nutrient Deficiencies (> 30 micronutrients)

DRI Dietary Reference Intakes

RDA Recommended Dietary Allowance

EAR Estimated Average Requirement

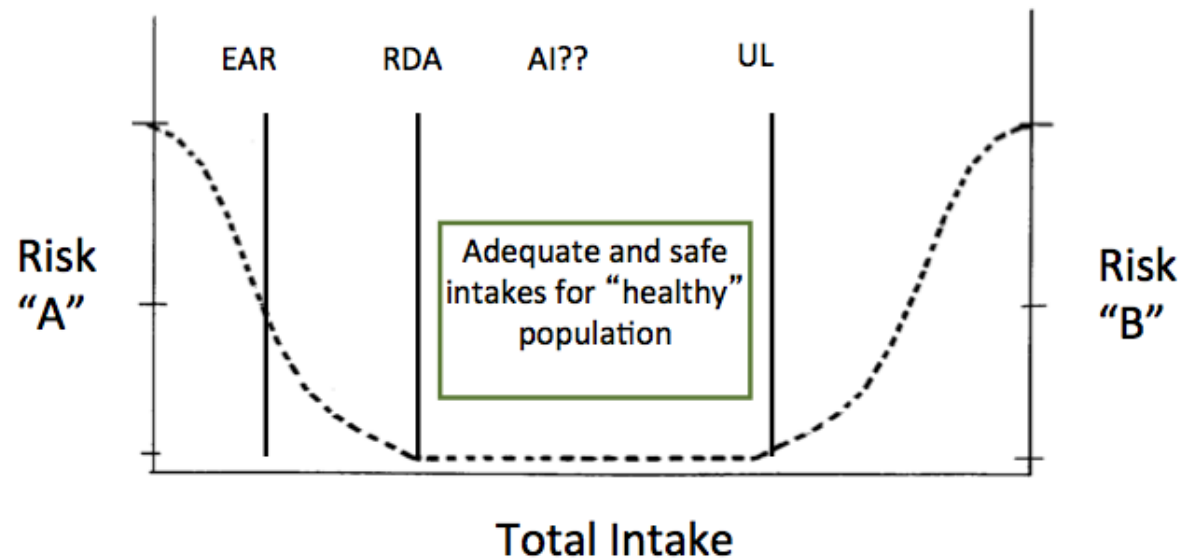
AI Adequate Intake

UL Tolerable Upper Intake Level

U Shaped Curve of Risk



- Risk of deficiency is different from risk of excess
- More is not better



What Armenia Can Learn From Mistakes Made by U.S.

- Centralize Guidance Process in One Agency
- Consider target groups that may differ (seasonally, urban and rural, SES, etc)
- Try to avoid going to dietary pattern similar to US and then having to take measures to restore older pattern, or Mediterranean pattern!

Mediterranean Diet Pyramid

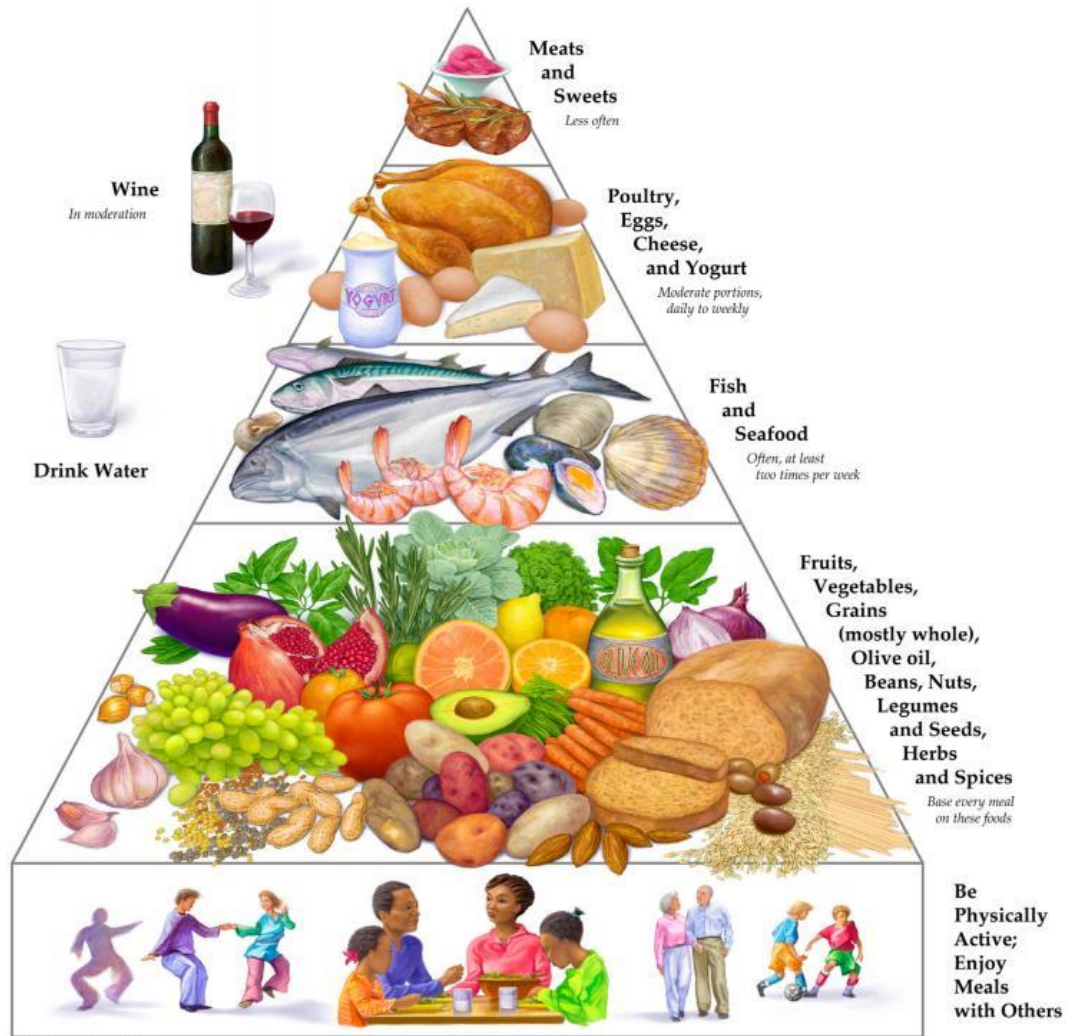


Illustration by George Middleton

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Reaching the Recommended Dietary Allowance for Select Nutrients with Armenian Foods


Traditional Armenian Foods as a Source of Nutrients

What might we add to a daily white-bread-based diet to meet recommended dietary allowance (RDA) of vitamin A, vitamin C, folate, iron (Fe), zinc (Zn) and calcium (Ca)?

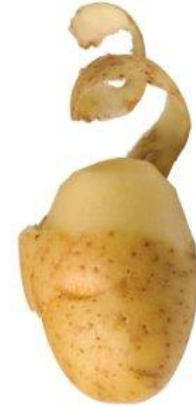
Selected:

- Potato (1 medium, peeled)
- Carrot (1 medium)
- Orange (1 medium)
- Chicken (1 breast)
- Tabouleh (1/2 tomato, ½ cup bulgur, ½ cup parsley)
- Lentils (1/2 cup cooked)
- Sunflower Seeds (50 grams dry roasted)
- Madzun (1cup plain whole yogurt)
- Egg (1 fried)
- Cheese (3 thick slices)
- Cabbage dolma with beef and rice (5 rolls)
- Bread (Matnakash)

Calories, Protein and Cost per Day For a Woman of Reproductive Age (19-50 y/o)

- Calories: 2019 kcal
- Protein: Aimed for at least 48 gm (ended up at 104 grams [200%])
- Cost: About 2400-2800 dram 

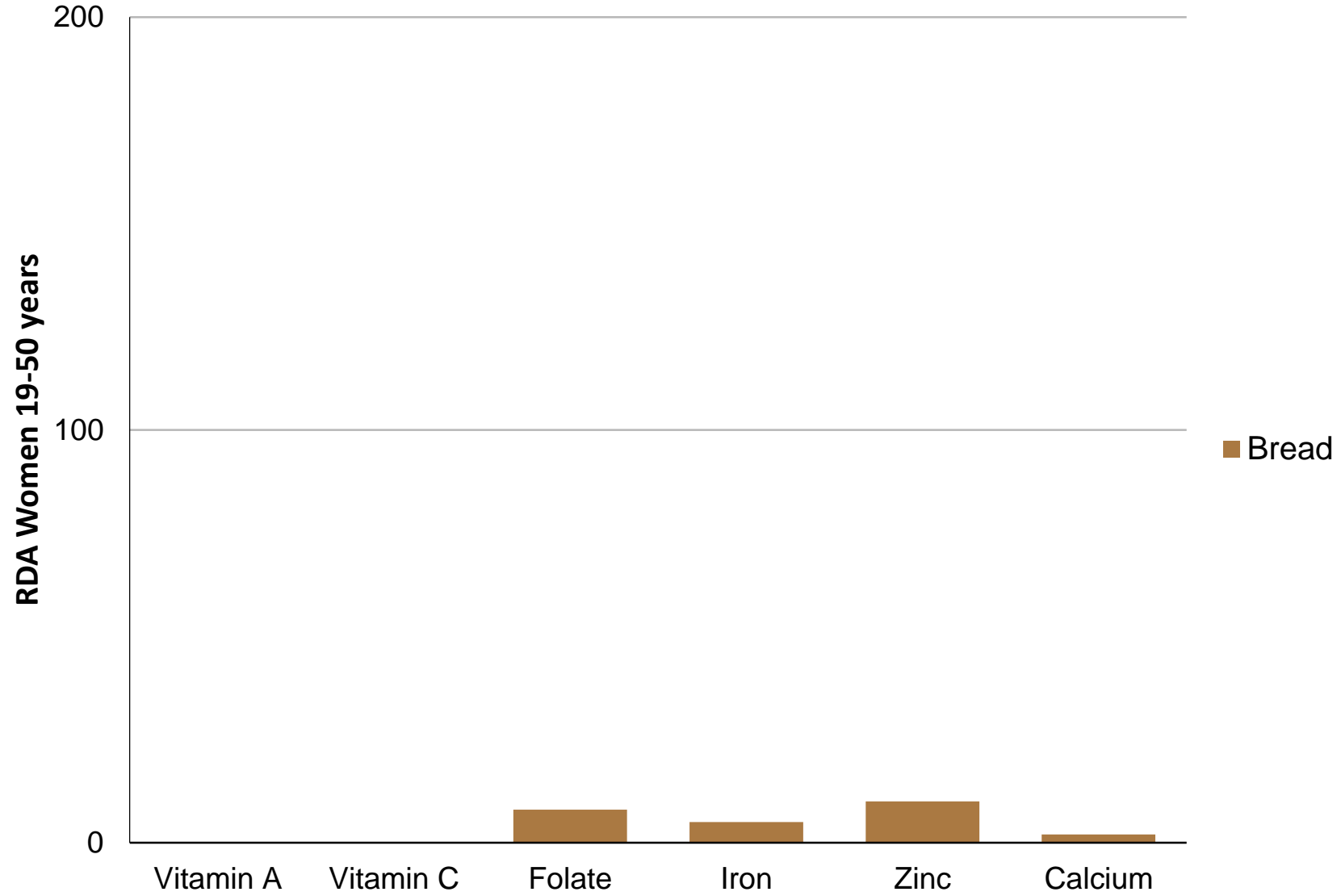
Representative Day ~ 2000 KCAL



Bread, Matnakash 1/4



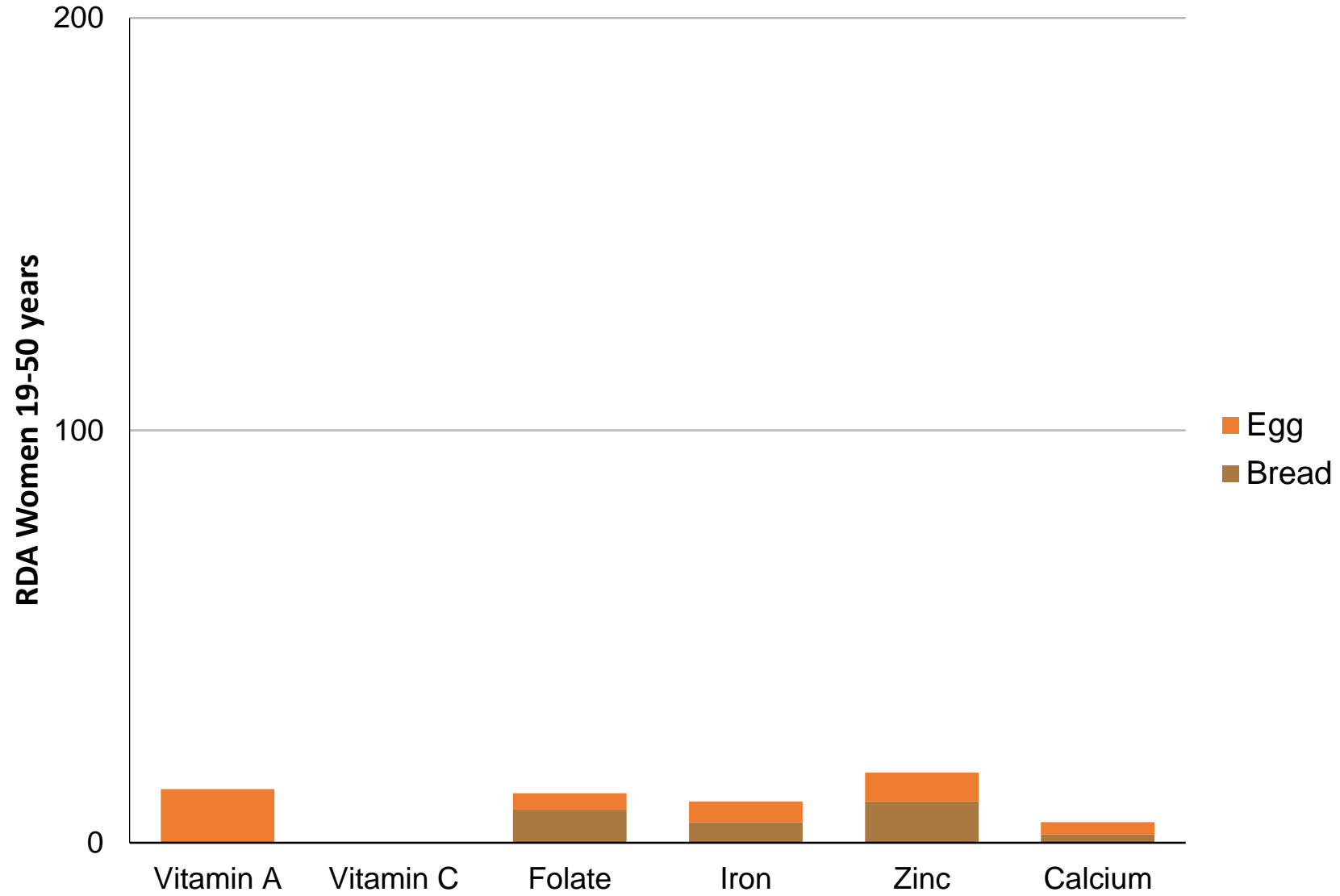
Bread Matnakash



Bread + Egg



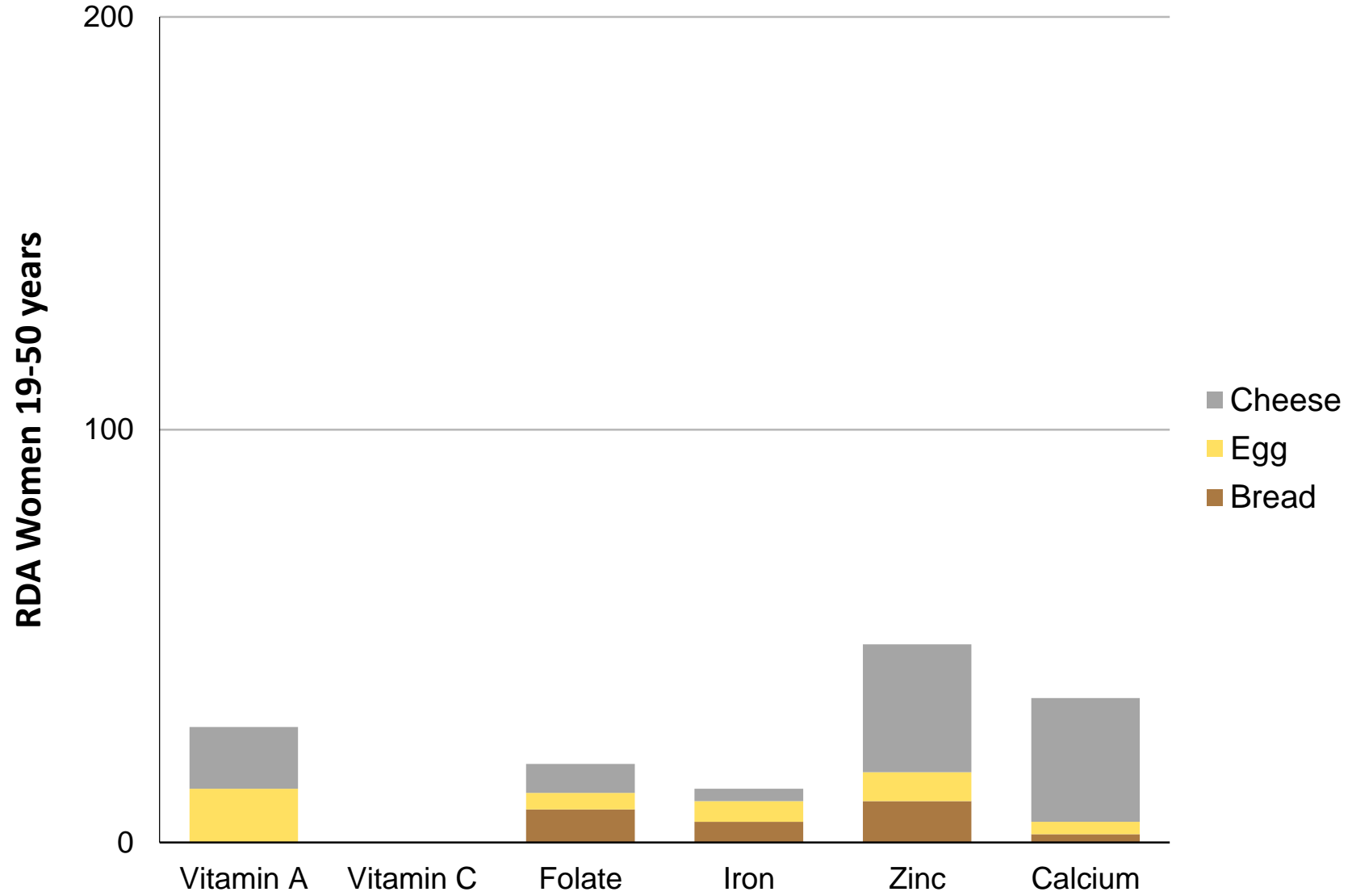
Bread + Egg



Bread + Egg + Cheese



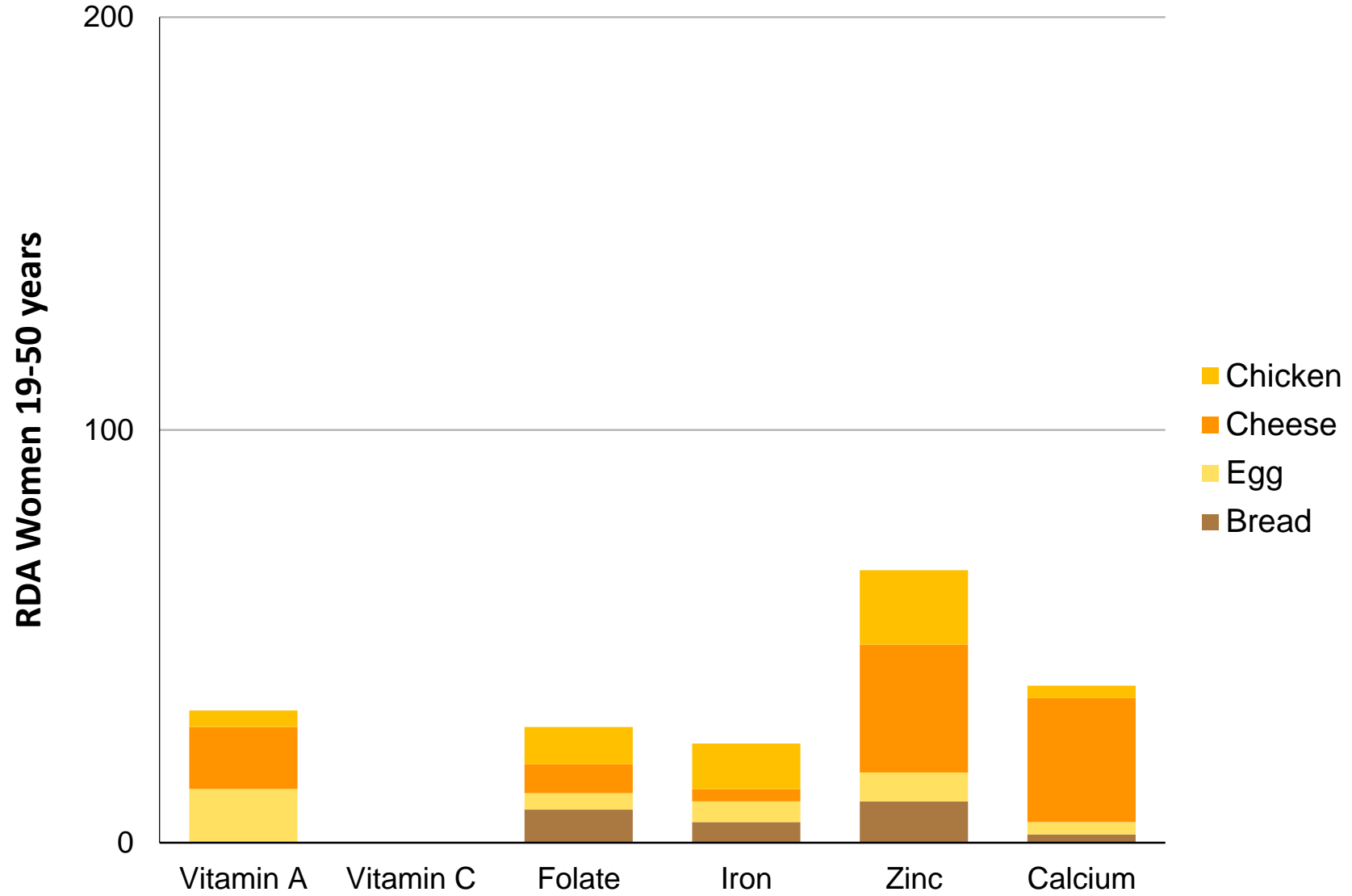
Bread + Egg + Cheese



Bread + Egg + Cheese + Chicken



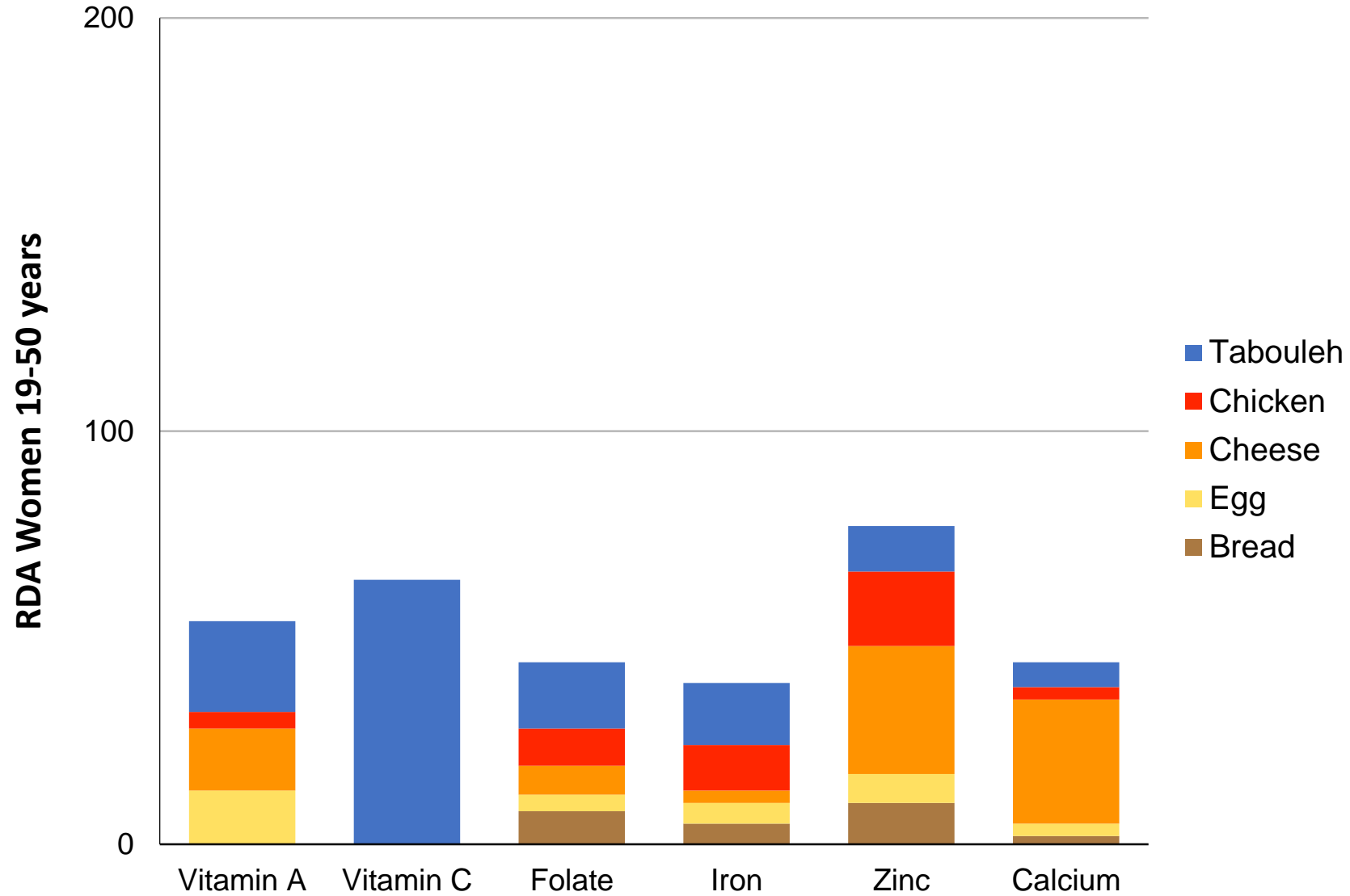
Bread + Egg + Cheese + Chicken



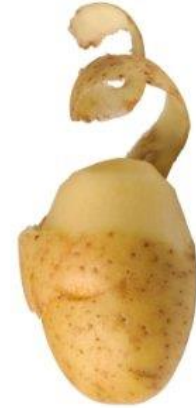
Bread + Egg + Cheese + Chicken + Tabouleh



Bread + Egg + Cheese + Chicken + Tabouleh



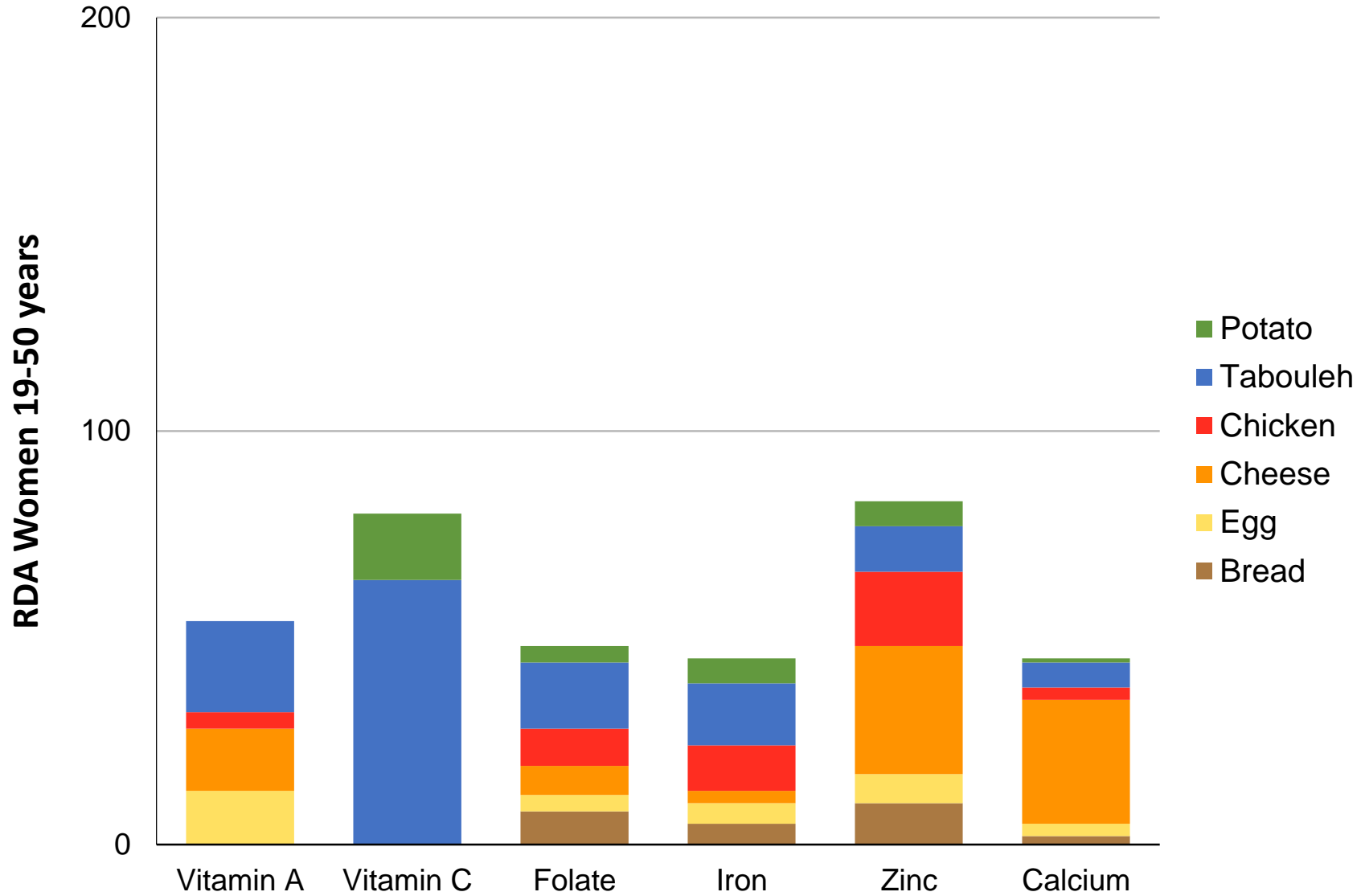
Bread + Egg + Cheese + Chicken + Tabouleh + Potato



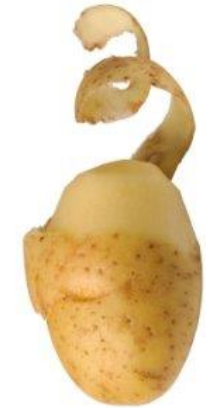
Potato with and without skin (one medium, % RDA)

One Medium Potato	Potato with Skin	Potato – No Skin
Vitamin C	22	20
Folate	12	3
Iron	10	3
Potassium	20	11
Calcium	3	1

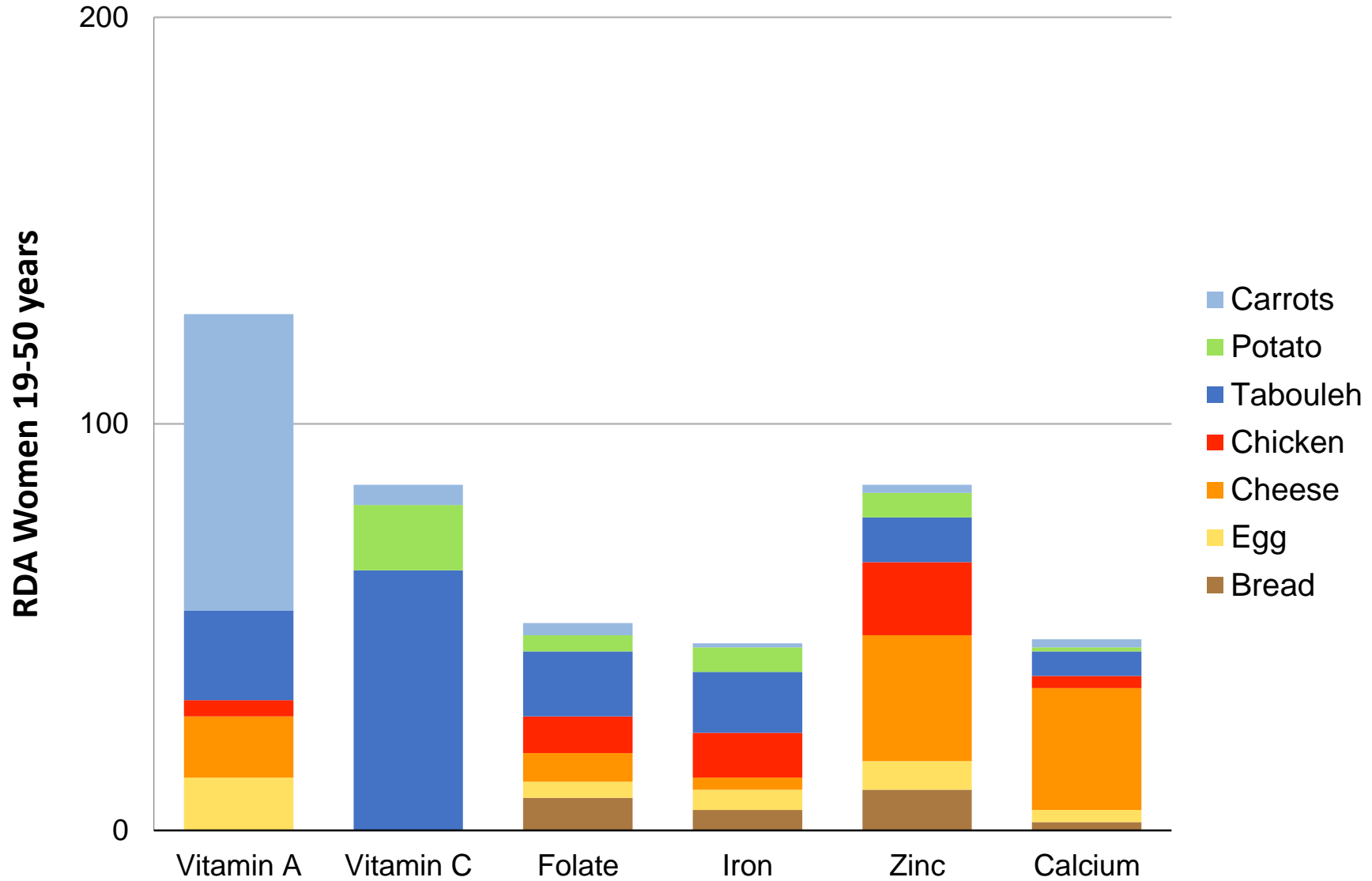
Bread + Egg + Cheese + Chicken + Tabouleh + Potato



Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrot



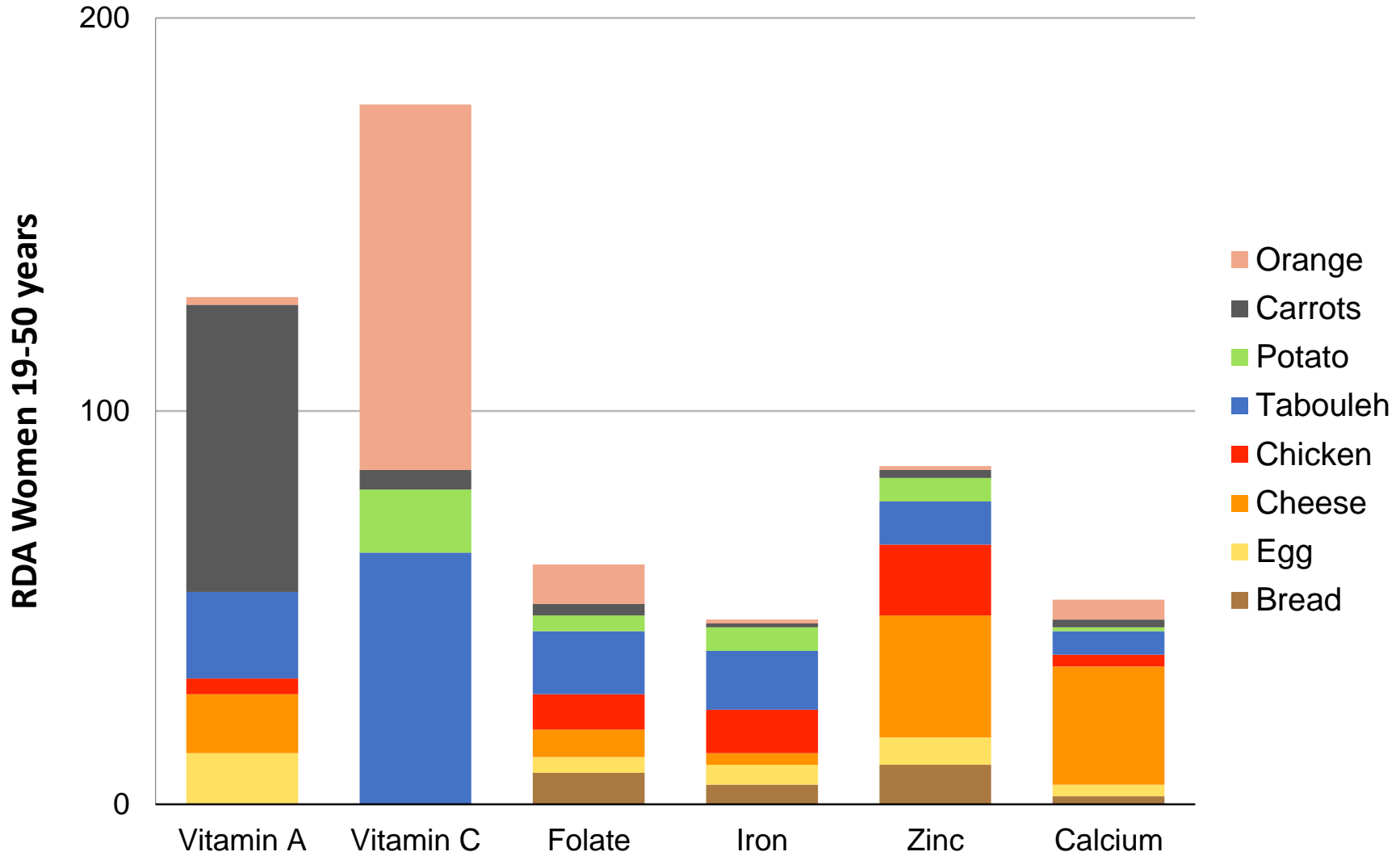
Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrot



Bread + Egg + Cheese + Chicken + Tabouleh + Potato +
Carrot + Orange



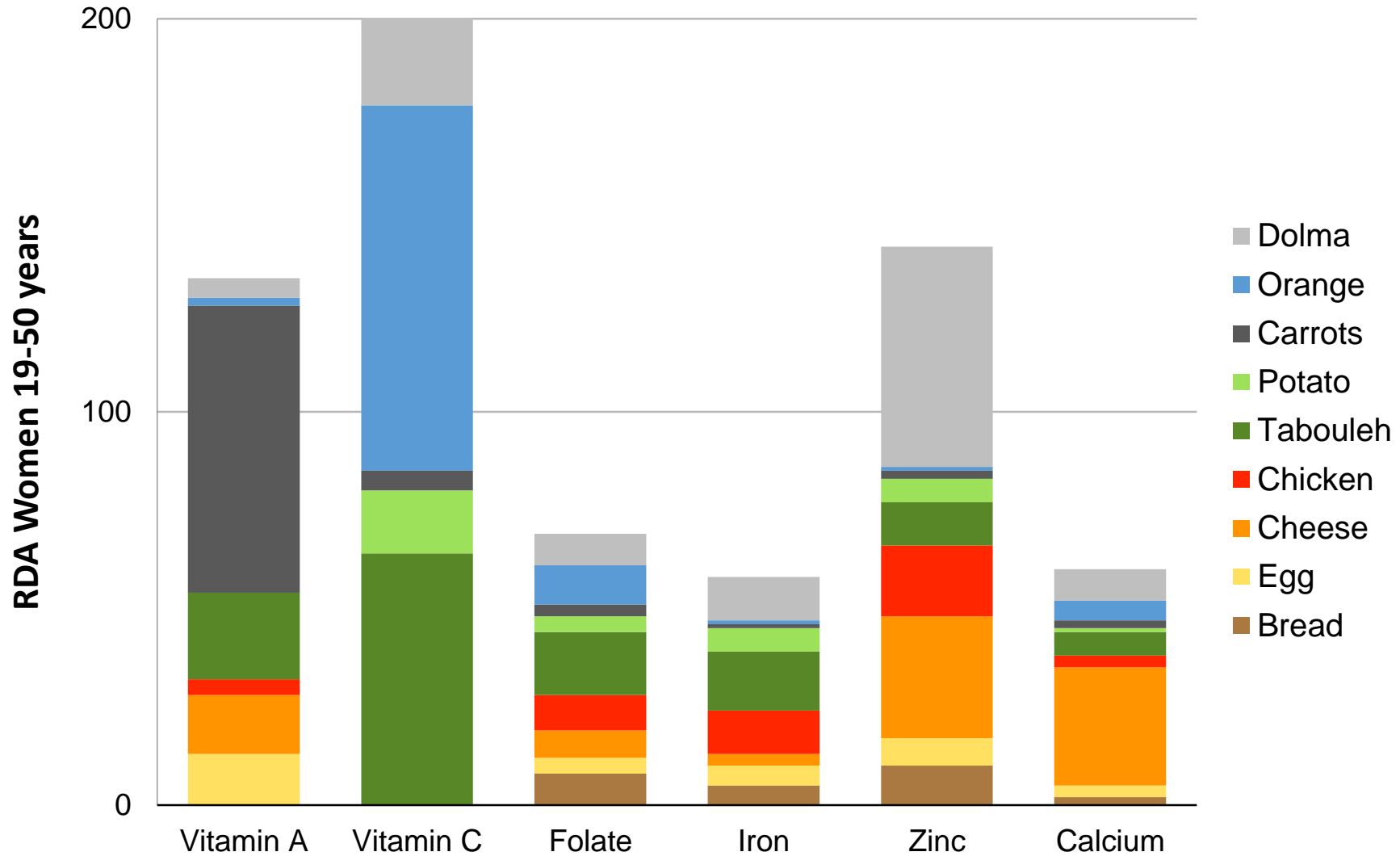
Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrot + Orange



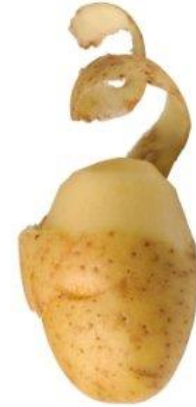
Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrot + Orange + Dolma



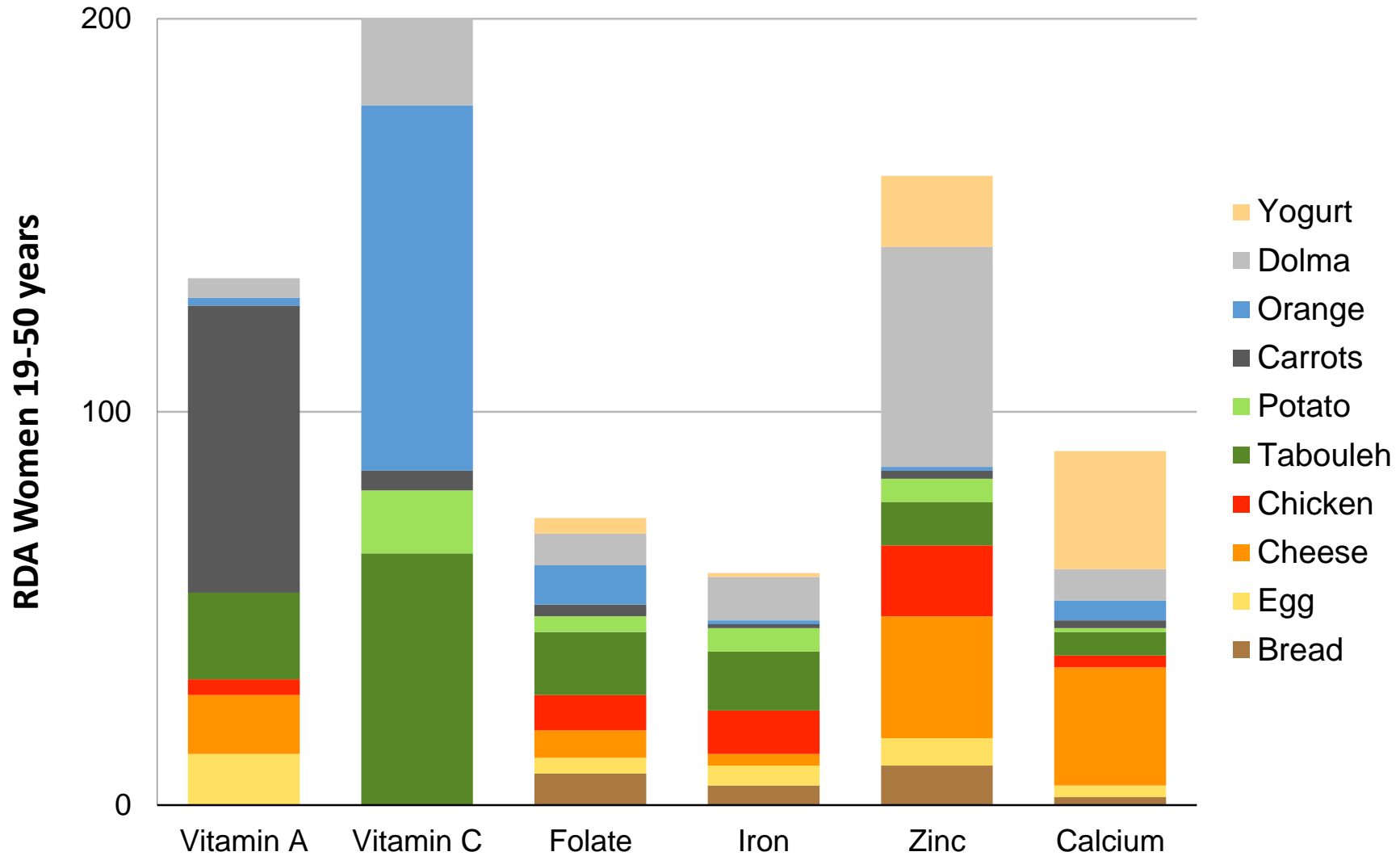
Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Orange + Dolma



Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrot + Orange + Dolma + Madzun



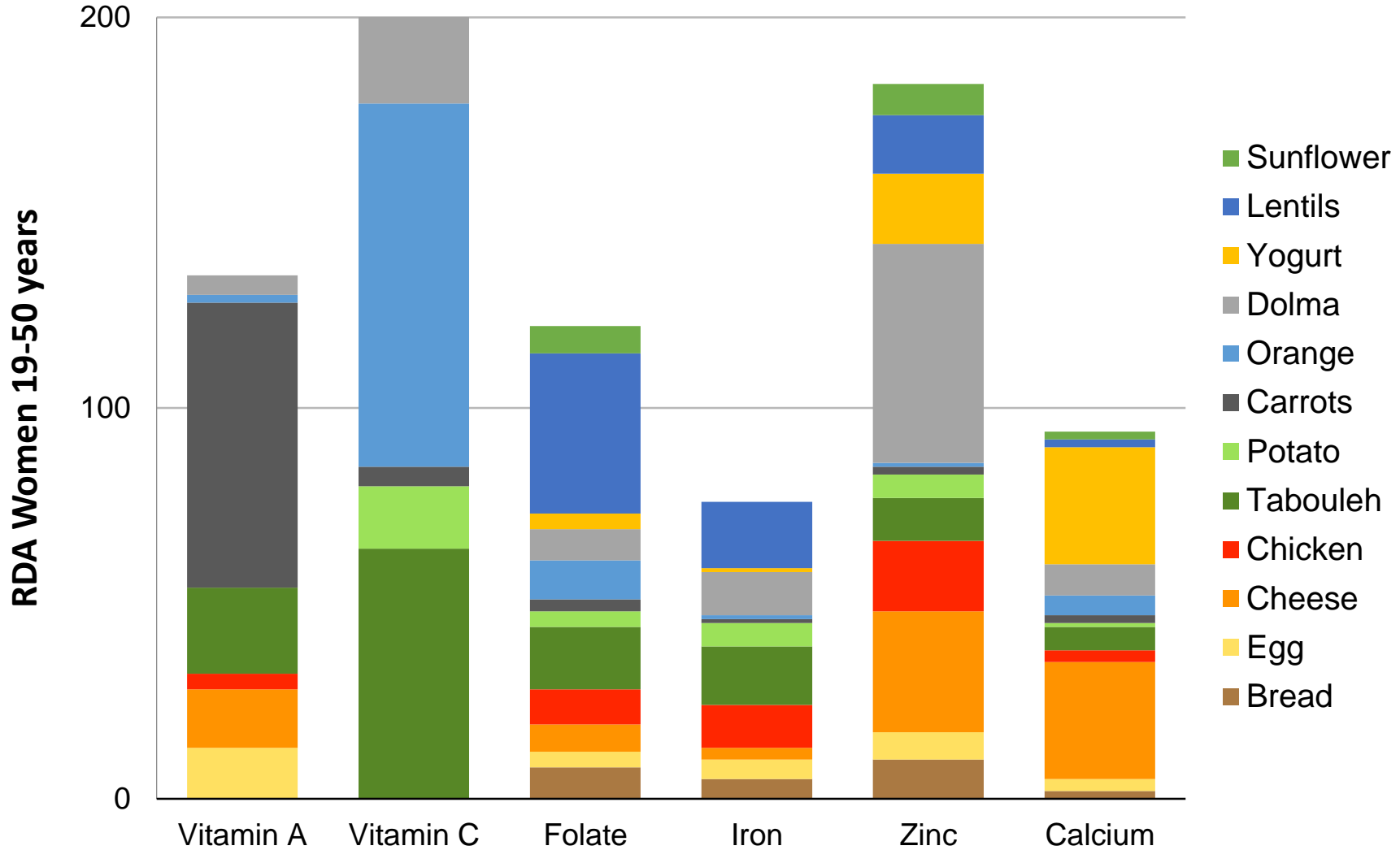
Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Orange + Dolma + Madzun



Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrot + Orange + Dolma + Madzun



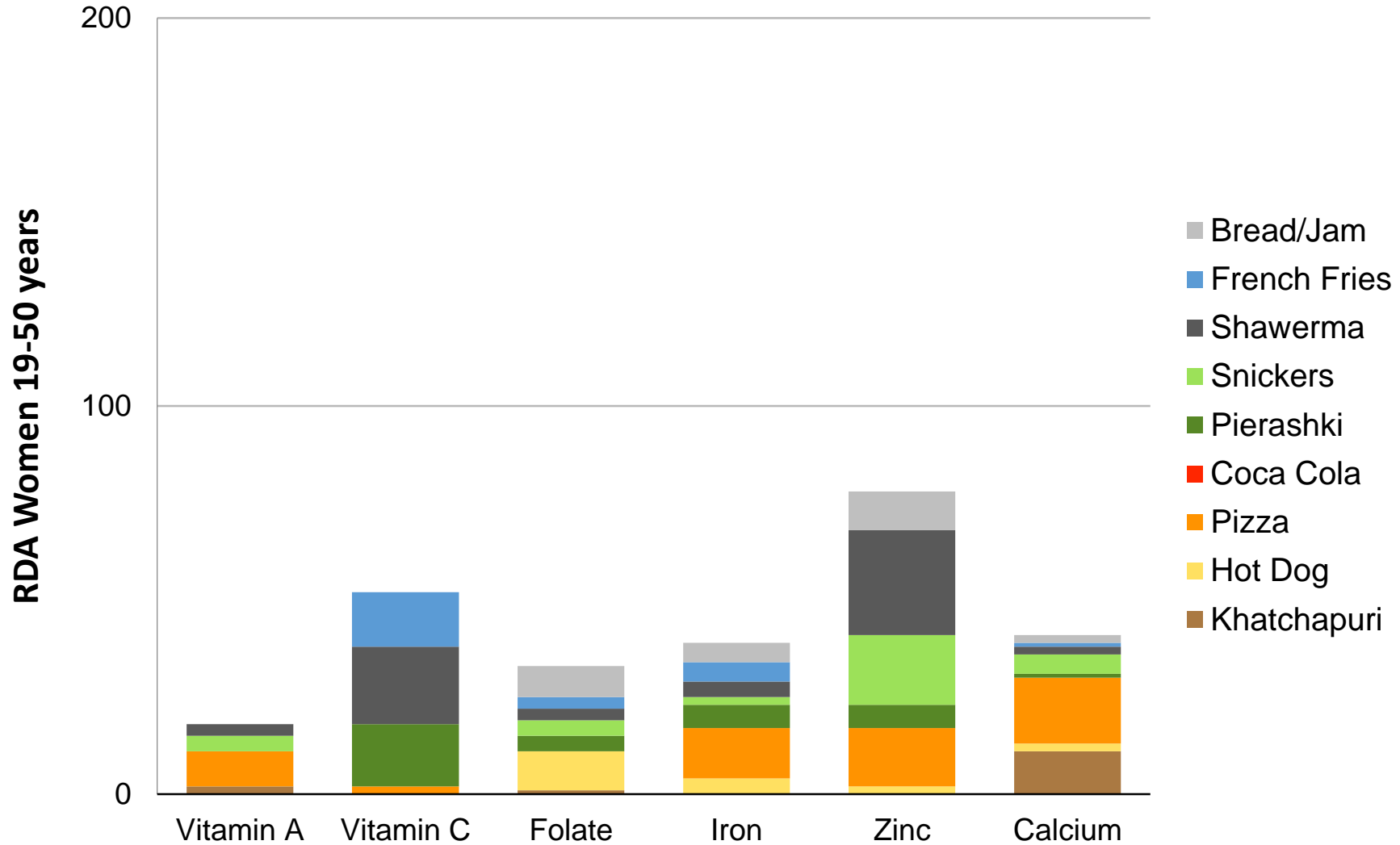
Bread + Egg + Cheese + Chicken + Tabouleh + Potato + Carrots + Orange + Dolma+ Yogurt + Lentils + Sunflower



But what do we eat often, easy, quick?
How do these 'fast foods' measure up
in terms of micronutrients?

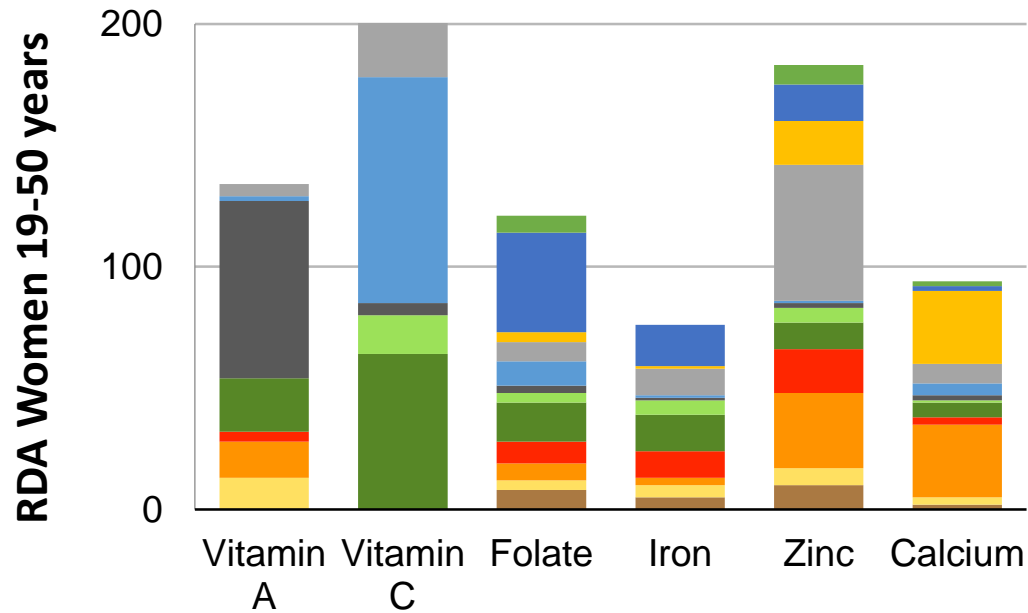


Khatchapuri + Hot dog + Pizza + Coca Cola + Pirashki+
Snickers + Shawerma+ Bread with jam and butter

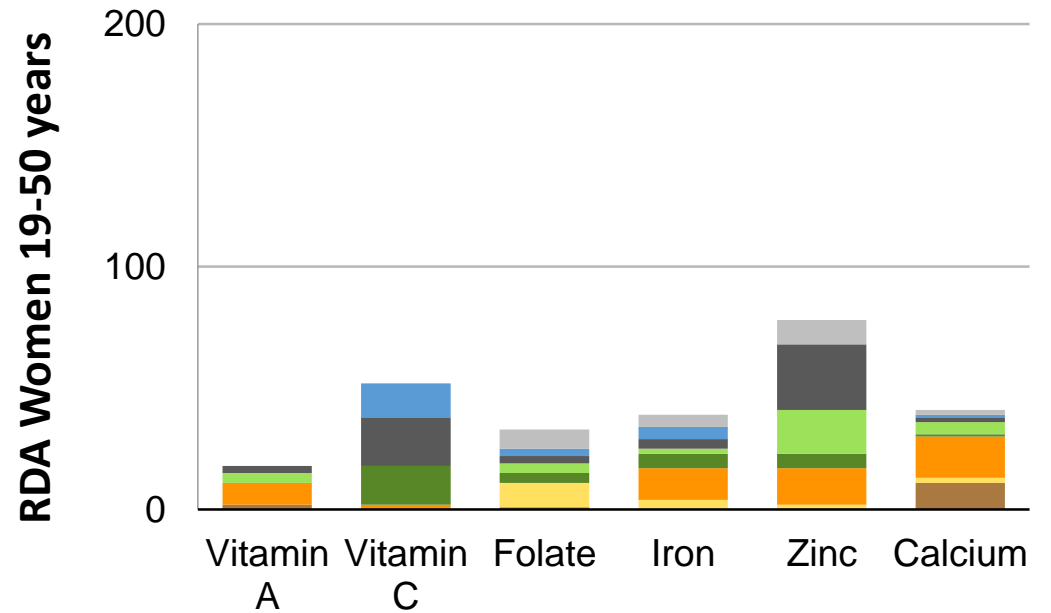


How do the two diets compare?

Bread + Egg + Cheese + Chicken +
 Tabouleh + Potato + Carrots +
 Orange + Dolma+ Yogurt + Lentils +
 Sunflower



Khatchapuri + Hot dog + Pizza +
 Coca Cola + Pirashki+ Snickers +
 Shawerma+ Bread with jam and
 butter



Summary and Conclusions



- Armenian diet has affordable, available and favorable pattern to meet macro- and micronutrient needs for a woman of childbearing age
 - This is good for the mother and the whole family
- Any substitution of a 'fast food' reduces sufficiency of Armenian diet because the 'fast food' has lower nutrient density than the Armenian diet
- Adding bread mainly adds calories
- Any meal where 'Armenian plate' is maintained is better than a 'fast food' meal
- Armenian plate reduces risk of double burden
- Secondary gains can be considered (employment: local, artisanal food industry, local agriculture, etc)

Shnorhagalutyun!! (Merci!)

Kim Hekimian, PhD

American University of Armenia Fund for Armenian Relief (FAR)

