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Dietary share of ultra-processed foods among US infants and toddlers

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Declaración de Intereses:

There is no conflict of interest to declare.
THE NOVA CLASSIFICATION SYSTEM

**in natura or minimally processed foods**

FORMULATIONS CREATED BY THE INDUSTRY, WITH LITTLE OR NO WHOLE FOOD AND LARGE AMOUNTS OF OIL, SALT AND SUGAR, AS WELL AS OTHER SOURCES OF ENERGY AND NUTRIENTS OF VERY LOW COST AND PRESENCE OF ADDITIVES. THEY MUST BE AVOIDED.

**processed foods**

**ultraprocessed foods**

BACKGROUND

It varies according to the population studied.

Increasing consumption of UPP

Decreasing consumption of basic foods

BACKGROUND

THE GREATER THE SHARE OF UPP IN THE DIET

ENERGY DENSITY, TOTAL, SATURATED AND TRANS FAT, SUGAR

PROTEINS, FIBER, VITAMINS, MINERALS (vit C, B12, iron, zinc, magnesium)

Louzada et al., 2015; Louzada et al. 2017; Moubarac et al. 2017; Martinez et al. 2017; Rauber et al. 2018
BACKGROUND

It is proving to have a negative impact to health, since more and more studies show its association with several chronic noncommunicable diseases.

Canella, Levy, et al., 2014; Mendonça, Lopes, et al., 2016; Fiolet et al, 2018; Tavares et al, 2011; Rauber et al, 2015; Melo et al, 2018
BACKGROUND

Crucial impact on health programming throughout adult life

Feeding practices in the first year of life

Quality and quantity of food consumed

Infants and toddlers have a small gastric capacity with a great need for nutrients

There is a lack of dietary analysis in children under 2 years using NOVA in the literature

Barker, 2005; Leng et al, 2017
SPECIFIC AIMS

TO STUDY THE DIETARY SHARE OF ULTRA-PROCESSED FOODS AND THEIR SUBGROUPS AMONG US INFANTS AND TODDLERS
Team - Thematic Project
Carlos Augusto Monteiro | Patricia Constante Jaime | Renata Bertazzi Levy
Leading Researchers

ULTRAPROCESSED FOOD CONSUMPTION, NUTRITIONAL PROFILE OF THE DIET AND OBESITY IN SEVEN COUNTRIES

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RESEARCH DESIGN AND METHODS

SAMPLE
- 6 - 11 months: N= 576
- 12 - 23 months: N= 727

1,303 subjects

NHANES CYCLES:
- 2009 - 2010
- 2011 - 2012
- 2013 - 2014

The survey has a complex, multistage, probability sampling.

Participants with at least one day 24-hour dietary recall data

Children were stratified by age:
- 6-11, and 12-23 months

Foods were categorized according to NOVA classification

BECAUSE THE CONSUMPTION OF INFANT FORMULAS IN THE USA IS VERY HIGH, TO AVOID ITS OVERSHEADOW CONSUMPTION OF REMAINING ULTRA-PROCESSED FOOD SUBGROUPS, MILK (INCLUDING HUMAN OR COW’S MILK) WAS EXCLUDED FROM ALL ANALYSIS.
The percentage of energy coming from each NOVA group and its subgroups was then estimated, and this consumption was then categorized into quintiles.

Linear regression analysis was used to compare the dietary contribution of ultra-processed foods and their subgroups across quintiles, adjusting for sex, age, race/ethnicity, family income, and education.

The increase in the contribution of UPP across quintiles was evaluated using a linear trend test.
PRELIMINARY RESULTS

SHARE OF SUBGROUPS OF NOVA IN INFANTS AND TODDLERS

PERCENTAGE OF TOTAL DIETARY ENERGY

AGE

6 to 11 months

12 to 23 months

Ultra-processed foods
Processed foods
Processed culinary ingredients
Unprocessed or minimally processed foods
PRELIMINARY RESULTS

TREND OF INCREASING CONSUMPTION OF UPP ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

QUINTILES OF UPP CONSUMPTION

Q1  Q2  Q3  Q4  Q5

6-11 meses
12-23 meses
TREND OF INCREASING CONSUMPTION OF UPP ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

54.8%
PRELIMINARY RESULTS

TREND OF INCREASING CONSUMPTION OF UPP ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

QUINTILES OF UPP CONSUMPTION

- Q1
- Q2
- Q3
- Q4
- Q5

6-11 meses: 45.1%
12-23 meses: 79.4%
PRELIMINARY RESULTS

PARTICIPATION OF NOVA’S SUBGROUPS IN TOTAL CALORIES FROM UPP IN INFANTS

SUBGROUPS OF UPP
TREND OF INCREASING INFANT CONSUMPTION OF UPP
SUBGROUPS ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

QUINTILES OF UPP CONSUMPTION

- Cakes, cookies and pies
- Salty Snacks
- Breakfast cereals
PRELIMINARY RESULTS

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

Q1 | Q2 | Q3 | Q4 | Q5

Cakes, cookies and pies
Salty Snacks
Breakfast cereals

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

5.3 | 18.8 | 24.1 | 28.7 | 43.8

8-fold
PRELIMINARY RESULTS

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

QUINTILES OF UPP CONSUMPTION

- Cakes, cookies and pies
- Salty Snacks
- Breakfast cereals

7-fold increase from Q1 to Q5
PRELIMINARY RESULTS

TRENDS OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

Per centage of total dietary energy

Quintiles of UPP consumption

Cakes, cookies and pies
Salty snacks
Breakfast cereals

3-fold
PRELIMINARY RESULTS

PARTICIPATION OF NOVA’S SUBGROUPS IN TOTAL CALORIES FROM UPP IN TODDLERS

PERCENTAGE OF TOTAL DIETARY ENERGY

Breads: 6.9
Silky snacks: 6.6
Breakfast cereals: 6.2
Reconstituted meat or fish products: 5.8
Frozen and shelf-stable pasta meals: 5.5
Soft and Fruit drinks: 4.5
Milk-based drinks: 3.9
Sweets/crackers: 3.6
Other ultra-processed foods: 2.6
Pizza (ready-to-eat/heat): 2.3
French fries and other potato products: 1.9
Ice cream and ice pops: 1.4
Desserts: 1.1
Instant and canned soups: 0.8
Sauces, dressings and gravies: 0.8
Sandwiches and hamburgers on bun (ready-to-eat/heat): 0.7
Infant formula: 0.5

SUBGROUPS OF UPP
PRELIMINARY RESULTS

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

- Soft and Fruit drinks
- Frozen and shelf-stable plate meals
- Pizza (ready-to-eat/heat)

PERCENTAGE OF TOTAL DIETARY ENERGY

QUINTILES OF UPP CONSUMPTION
PRELIMINARY RESULTS

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

PERCENTAGE OF TOTAL DIETARY ENERGY

QUINTILES OF UPP CONSUMPTION

Soft and Fruit drinks
Frozen and shelf-stable plate meals
Pizza (ready-to-eat/heat)

11-fold
PRELIMINARY RESULTS

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

- Soft and Fruit drinks
- Frozen and shelf-stable plate meals
- Pizza (ready-to-eat/heat)

Quintiles of UPP Consumption:
- Q1: 1.2
- Q2: 3.3
- Q3: 3.5
- Q4: 5.6
- Q5: 8.9

7-fold increase
PRELIMINARY RESULTS

TREND OF INCREASING INFANT CONSUMPTION OF UPP SUBGROUPS ACROSS QUINTILES

- Soft and Fruit drinks
- Frozen and shelf-stable plate meals
- Pizza (ready-to-eat/heat)

Percentage of total dietary energy

Q1 Q2 Q3 Q4 Q5
0.2 1.0 0.9 2.7 4.9

25-fold
PRELIMINARY CONCLUSIONS

Consumption of ultra-processed foods in the first year of life is high among US children and it increases steadily with age.

Further research is needed to determine potential association between these dietary patterns and rising rates of childhood obesity in the US.
PRELIMINARY CONCLUSIONS

Lastly...

... the unhealthy dietary exposures observed in this study, can contribute to negative impact to health. Therefore, promoting increasing consumption of unprocessed or minimally processed foods while decreasing ultra-processed foods could be effective ways of decreasing the growing burden of noncommunicable diseases in the US population.
THANK YOU
VERY MUCH
Dra. Denise Cardoso Magarian

Nos dirigimos a usted con la atenta solicitud de que nos envíe un resumen curricular, lo entregaremos al moderador de su sesión, con el propósito que cuente con la información para presentarlo al auditorio que acudirá a la misma.

Para información adicional, con gusto lo atenderá Teresa Téllez su mail ttellez@insp.mx

Debido a la cercanía del evento, apreciaremos nos lo haga llegar lo antes posible.

Seguimos a sus órdenes,

Comité Organizador