New Frontiers in CVD
Aging / Disease - Youth / Health

Science Health Education

ACC New York, Dec 10, 2017
No Disclosures
Aging / Disease - Youth / Health

1. Economic

Earlier Too Late

Health Policy Environment

Present

2. Scientific

Prom. Health Subcl. Stable Disease Disease

Our Future

3. Educational

Window Young Behav. Adherence Change Simplicity

V Fuster, JACC 2015; 66: 1627
From Aging / Disease to Youth / Health

NHLBI $-1

Secondary
50-100 yrs

Primary
25-50 yrs

Primordial
00-25 yrs

1) Surgery
2) Intervention
3) Pharmacology
4) Imaging
5) Genetics
6) Primordial
7) SHE
8) 6) Primordial
1) HRP
2) PESA
3) AWHS
5) 7) HARLEM
6) VILLAGE
7) MEXICO
8) 50/50
9) IIIP
10) 1) SHE
11) HARLEM
12) VILLAGE
13) MEXICO
14) 50/50
15) IIIP
6). Child’s Brain Development
Less Networking Brings Attention
**COLOMBIA – CHILDREN’S PROGRAM**

**EDUCATIVE GOAL: HEALTHY HABITS FOR CHILDREN BETWEEN 3 & 5 YRS**

**CHILDREN**
- 3-5
  - HOW YOUR BODY & HEART WORK
  - HEALTHY FOOD HABITS
  - PHYSICAL ACTIVITY
  - EMOTIONAL HABITS TO AVOID ADDICTIONS

**GENERAL PUBLIC**
- 3-5
  - La Cocina de la Salud
- 6-8
  - Pequeña Ciencia de la Salud
- 9-14
  - La Mediana Ciencia de la Salud
In Children’s KAH Mean Scores*

- Knowledge
- Attitudes
- Habits (physical activity)

The Amer J of Med 2012; 126, 27
The Amer J of Med 2013; 126:1122
Bogota – 25,000
6b) Changes in Anthropometric Variables At Each FU in Overweight Children

Body Mass Index (BMI)

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<thead>
<tr>
<th>z-score &gt;1</th>
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Waist Circumference (WC)

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JL Peñalvo, V Fuster et. al. JACC 2015;65:1065. - 10,000,
CHILDREN’S – BOGOTA, SPAIN, NEW YORK – N = 50,000

## Children’s Program - Spain

### Pre-school & Primary Study (CCAA Madrid)

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- 3y.o: 24 schools/2,062 children
- 6 y.o: 21 schools/469 children (who started at 3 y.o.)

### Primary Study (CCAA Madrid)

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- 6 y.o: 48 schools/1,769 children

### Secondary Study (CCAA Catalonia - Madrid)

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- 12 y.o: 24 High schools / 1,200 children

### Intervention: Green
- Control: Red
- Pre-school: Pink
- Primary: Blue
- Secondary: Green
BARRIERS TO IMPLEMENTATION OF A HEALTH PROMOTION PROGRAM IN HARLEM, NY

THE FAMILIA STUDY

An AHA Strategically Focused Research Network Study

Sameer Bansilal, MD, MS, Rajesh Vedenathan, MD, MPH, Risa Jaslow, MS, RDN, Martha Hadley, PhD, Amy Siskind, PhD, Carmina Marcial, MA, Ana Victoria Soto, MD, Claire Kofler, BS, Zahi A Fayad, PhD, Valentin Fuster, MD, PhD
**KAH-BEA** = Knowledge, Attitude, Habit, -BMI, Exercise, Alimentation;  
**FUSTER-BEWAT** = BP, Exercise, Weight, Alimentation, Tobacco; S=Sustained
Interactive “Circle of Health” - App

The app helps you improve your cardiovascular health

www.thecircleofhealth.org
Children’s Health & Biology: The Effect of Disparities

Icahn School of Medicine at Mount Sinai (ISMMS)

December 13th, 2017
Project I: Background

Colombia

2013;126(1):27-35

Spain

Fuster V et al. *J Am Coll Cardiol.*
2015;66(14):1525-34

Harlem, NY

Fuster V et al. *Am Heart J.*
2017;187:170-181
Project I: Aims

Objective: The effect of disparities on CHILDREN's HEALTH outcomes following a health promotion educational intervention in preschool children.

Variables modulating such outcomes:

Aim 1. Impact of socio-economic differences at the family level.

Aim 2. Factors that impact the teachers’ efficacy in implementing the educational intervention and health outcomes in children.

Aim 3. Effect of school environment in implementing the educational intervention and health outcomes in children.
Project I: Methods and Feasibility

- Prospective educational intervention
  - Public preschools in all five boroughs of NYC
  - Children between 3 and 5 years of age
  - Evidence-based health promotion educational curriculum
  - Duration of intervention: 5 months
  - Follow-up: 24 months

- Variables impacting children’s health
  1. Socio-economic
  2. Teachers
  3. School environment
From Aging / Disease to Youth / Health

NHLBI $-1

Secondary
50-100 yrs

Primary
25-50 yrs

Primordial
00-25 yrs

1) TANSNIP
2) PESA
3) AGING
4) HRP
5) IIIP
6) SHE
7) HARLEM VILLAGE MEXICO

Surgery Intervention Pharmacology, Imagin Genetics/Tr

50/50

From Aging / Disease to Youth / Health

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Surgery Intervention Pharmacology, Imagin Genetics/Tr

50/50
CARDONA MEXICO PERU ?
EDUCATION (7)

CARDONA – MEXICO – PERU ?

HARLEM

US - SPAIN
GRENADA - SPAIN
KENYA

SPAIN
BOGOTA

CONCEPTS, SCIENTIFIC STUDIES, NPOs

Continuity

Villages (3)
Family (1)
Adults (5)
Children (2)
Global Health
Future Role of the United States

Global Health
and the Future Role of the United States

National Academies of Sciences, Engineering & Medicine
Report Conceptual Model

SECURING AGAINST GLOBAL THREATS

Global Health Security
Continuous Communicable Threats

ENHANCING PRODUCTIVITY AND ECONOMIC GROWTH

Saving and Improving the Lives of Women and Children
Promoting Cardiovascular Health and Preventing Cancer

Maximizing Return
Catalyzing Innovation
G.H. Leadership
Smart Financing
Advancing Early Childhood Development: from Science to Scale 1

Early childhood development coming of age: science through the life course

Maureen M Block, Susan P Walker, Lia C H Fernald, Christopher T Andersen, Ann M DiGirolamo, Chunling Lu, Dana C McCoy, Günther Fink, Yusra R Shawar, Jeremy Shiffman, Amanda E Deveceilli, Quentin T Wodon, Emily Vargas-Barón, Sally Grantham-McGregor*, for the Lancet Early Childhood Development Series Steering Committee

Advancing Early Childhood Development: from Science to Scale 2

Nurturing care: promoting early childhood development


Advancing Early Childhood Development: from Science to Scale 3

Investing in the foundation of sustainable development: pathways to scale up for early childhood development

Cardiovascular Health Promotion
Eight Factors to be Addressed

1. Nutrition & Diet
2. Healthy Weight
3. Exercise & Physical Activity
4. Tobacco-Free Lifestyle
5. Blood Pressure
6. Cholesterol
7. Blood Sugar
8. Psychological Health
Cardiovascular Health Promotion
Four Questions to be Answered

1. **Pathophysiological Effects**: Detrimental impact that adverse RFs & behaviors can cause to the CV system, from molecular to clinical levels.

2. **Mechanistic/Triggering Factors**: Desmotivators of good health: at personal, community or societal levels.

3. **Role of Preventive Action**: Motivators of good health: at personal, community/educational or societal/authoritative.

4. **Competencies for training**: Standardized methods of education that impact on health promotion.