

Behaviour Intervention Framework for Hypertension in Children

Nicolas Wipf, Ahmed Khalifa, Hadeel Ziad, Tsion Gurmu

The Problem

- Underdiagnosed blood pressure in US children
- In UAE
 - 67% of all deaths CVD
 - 53 mean age for noncommunicable related deaths
 - Decade younger than Europe
- “Catch a silent killer before it kills.”
- Hypertension in UAE 15.5% - 17.5%, pre 10.5% - 11.5% in children

Lurbe, Empar, et al. "Diagnosis and Treatment of Hypertension in Children." *SpringerLink*, Current Science Inc., 25 Sept. 2010, link.springer.com/article/10.1007/s11906-010-0155-x.

Abdulle, Abdishakur, et al. "High Blood Pressure and Its Association with Body Weight among Children and Adolescents in the United Arab Emirates." *PLOS ONE*, Public Library of Science, journals.plos.org/plosone/article?id=10.1371/journal.pone.0085129.

World Health Organization NCD Country Profiles ,2014.

Who Cares?

- The Government
- Parents
- Schools
 - Lessen pressure
 - recognition
- Developing company
 - Advertisement

Work Force

- Persuaders
 - Groups
- Developers
 - Groups
- Data analyst
 - Professional

Childhood Hypertension Core

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graph TD; A[Childhood Hypertension Core] --> B((Smoking)); A --> C((Diet)); A --> D((Exercise)); B --> E[→ Education, Games, Technology, Policy]; C --> E; D --> E;
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The diagram is a flowchart. At the top is a teal rounded rectangle labeled 'Childhood Hypertension Core'. Three arrows point downwards from this rectangle to three grey circles labeled 'Smoking', 'Diet', and 'Exercise'. From each of these circles, an arrow points downwards to a light blue rectangular box at the bottom containing the text '→ Education, Games, Technology, Policy'.

Smoking

Diet

Exercise

→ Education, Games, Technology, Policy

*“We all do better when we all know better”
- Abu Dhabi PHTT group (modified)*



Smoking

- 82 % of young smokers in the UAE start smoking before the age of 14.
- More than 50 % of students claimed not to have smoking related health education in school.
- Between 14% to 30% of children have smoked.

Breakdown

- Persuaders team
- Aimed towards children
 - **Education**
 - Assembly
 - Follow up through app
- film / advertisement / person
 - Celebrity

Exercise

- 2-3 classes per week (roughly 150 minutes)
- Usually PE is just open play, no structure

Breakdown

- Persuaders team & developer team
- Propose to Headmaster
 - Aerobic PE
 - Tracker Band
 - During for cardiovascular activity, steps
 - Competition
 - Data to core
 - **Games**
 - Pressure before

Diet

- Need more K, less NaCl, DASH diet

Breakdown

- Persuaders & developers
- Food
 - Recipes
 - Basic cooking classes
- Education

”الوقاية خير من العلاج“

”

Game

- Children
 - Personalized avatar
 - Cross between Fortnite & Pokemon (PG friendly)
 - Teams, lessons, chatting
 - Token economy + rankings
- Guardians
 - Cooking
 - Monitor
- Notifications
- No money, only healthy input

Education

- Leaflets
- FAQs
- Advice
- Submitted stories / comments
- Newsletters

Evaluation

- Pilot with 2 schools
 - 1 semester / 3 months
- Surveys before / after education
- Data
- Retention survey at end
- Success of diagnosis of new cases
- Cost sustainability

The Benefit

- Economical
- Health
- Governmental stress
- Awareness
- Prevention

The Drawback

- Moving of schools
- Persuaders & developers are unemployed
- non-compliance

Next Steps

- Cooking classes
- Employment
- Hand over to government organization
- Globalization of app
- QR codes for apps EVERYWHERE!