EPODE

« Together, we can prevent childhood obesity »

PREVENTING NCD: A LONG TERM COMMUNITY BASED INTERVENTION

J M BORYS
EPODE European Network coordinator
borys@villesante.com
• Context

• FLVS

• EPODE: concept, methodology, organisation and philosophy

• EPODE today & tomorrow
Metabolic syndrom, type 2 diabetes, Non Communicable Diseases: lifestyle pathologies

link between lifestyle (less physical activity, more energy intake), overweight, obesity metabolic syndrom and diabetes
Rates of childhood obesity prevalence in Europe (including overweight - children aged 7-11)*

*T. Lobstein & M.L. Frelut, 2003 The International Association for the Study of Obesity; Obesity reviews 4, 195-200
Childhood obesity rates in France since 1965
(children aged 5 to 12)

ERF (3%)
RP (6.1%)
C-O (5.1%)
ELP (10%)
FLVS (10.1%)
C-O (12.7%)
ObEpi 2000

Réf : Etude de Référence Française (données à 10 ans); RP : étude nutrition corpulence, Région Parisienne (7 à 12 ans); C-O : étude IRSA, Centre Ouest (10 ans); ELP : Etude Longitudinale Parisienne (8 ans); FLVS : étude Fleurbaix Laventie Ville Santé (5 à 12 ans); Obépi : enquête France entière
LI FESTYLE I NTERVENTI ON STUDIES

Type 2 diabetes can be avoided by modifying lifestyle conditions on several major levels: nutrition and physical activity

RELATIVE RISK REDUCTION

- Malmöhus study, Sweden: 57%
  (Diabetes 1980)
- Malmö Feasibility study, Sweden: 52%
  (Diabetologia 1991)
- Da Qing Trial, China: 42%
  (Diabetes Care 1997)
- Finnish Diabetes Prevention Study, Finland: 58 %
  (NEJM 2001)
- Diabetes Prevention Program, USA: 58%
  (NEJM 2002)
Modifying lifestyle to prevent obesity may be the only way to struggle this « epidemic »

Strong necessity to put in place long-term and federative obesity prevention actions, that will mobilize all the stakeholders closely to the population
The question is not anymore what to do but... how to do it?
FLVS
FLVS (Fleurbaix Laventie Ville Santé) STUDY

Nord
Pas de Calais

Paris

Fleurbaix
Laventie
Lille

Fleurbaix : 2 222 inhabitants
Laventie : 4 444 inhabitants

J M BORYS  EPODE LONDON 2006 - borys@villesante.com
EPODE: a project inspired by the “Fleurbaix Laventie Ville Santé Study”

• A study designed in 1991-1992

• Two parts:
  - 1992/2000: in order to evaluate whether or not integrating some nutritional education into school programs can modify children’s and their families’ eating habits
  - 2000/2004: to evaluate the influence of a program including local stakeholders to modify lifestyle

• Methodology
  ✓ 2 « intervention » towns: Fleurbaix and Laventie
  ✓ 2 « control » towns
Intervention in schools during the first period

• **A school-centered only** intervention

• **From theory to practice:**
  - Educational programs
    • Designed by an educational board: teachers, scientists, GPs, nutritionists, school doctors.
    • Adapted to each cycle, included in general lessons: biology, mathematics, French, history, sports education.
    • Validated

• **Practical lessons** in and outside schools
  - Cookery courses
  - Visits to the market and supermarkets
  - Tours of manufacturing or agricultural food production units
Evaluation of the first period

1) Do the children have better nutritional knowledge?

2) If yes, has this changed family food habits?

3) If yes, what consequences on BMI and prevalence of obesity on a long-term period?
1) Do the children have better nutritional knowledge?

- Tests carried out under the control of National Education

- Questions about nutrition and biology (control):
  - Evaluation of the nutritional balance of a meal
  - Nutritional analysis of certain foods
  - Preparing a balanced meal
  - Food and physical activity
1) Do the children have better nutritional knowledge? - cont

- Rate of correct answers (%) to nutrition tests:

<table>
<thead>
<tr>
<th></th>
<th>Fleurbaix Laventie</th>
<th>CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology tests</td>
<td>44.30 %</td>
<td>43.20 % NS</td>
</tr>
<tr>
<td></td>
<td>$n = 99$</td>
<td>$n = 99$</td>
</tr>
<tr>
<td>Nutrition tests</td>
<td><strong>53.10 %</strong></td>
<td>42.20 %</td>
</tr>
<tr>
<td></td>
<td>$p &lt; 0.01$</td>
<td></td>
</tr>
</tbody>
</table>
First conclusion:

Compared to children from the control towns, children of Fleurbaix and Laventie have a better nutritional knowledge.
2) Has this changed family eating habits?

- Some family eating habits have been changed, moving towards the direction of PNNS (National Nutrition and Health program) recommendations.

- Some changes are significant:
  - More frequent and structured breakfasts
  - Better quality of fats
  - Increase in the number of consumers of pulses
  - Fewer calories: reduction in total energy content and fats, especially in girls

Lafay L, Vray M, Boute D, Basdevant A; Rev Epidemiol Santé Publique 1998; 46 : 263-275
Second conclusion:

Families in Fleurbaix and Laventie whose children have received nutritional information have changed their lifestyle habits towards current PNNS recommendations.
Evolution of overweight including obesity over the first period
prevalence of overweight including obesity
(1992 & 2000 - children aged 5-12; aged-adjusted)

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>2000</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boys N</strong></td>
<td>421</td>
<td>305</td>
<td>0.63</td>
</tr>
<tr>
<td>Prevalence % (N)</td>
<td>9.0 (38)</td>
<td>10.2 (31)</td>
<td>0.63</td>
</tr>
<tr>
<td>OR [IC 95]</td>
<td>1.11 [0.67 - 1.83]</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td><strong>Girls N</strong></td>
<td>383</td>
<td>296</td>
<td>0.11</td>
</tr>
<tr>
<td>Prevalence % (N)</td>
<td>14.1 (54)</td>
<td>18.6 (55)</td>
<td>0.11</td>
</tr>
<tr>
<td>OR [IC 95]</td>
<td>1.28 [0.85 - 1.95]</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td><strong>ALL N</strong></td>
<td>804</td>
<td>601</td>
<td></td>
</tr>
<tr>
<td>Prevalence % (N)</td>
<td>11.4 (92)</td>
<td>14.3 (86)</td>
<td>0.11</td>
</tr>
<tr>
<td>OR [IC 95]</td>
<td>1.08 [0.78 - 1.50]</td>
<td>0.65</td>
<td></td>
</tr>
</tbody>
</table>
THE FLVS program second period: 2000 - 2004
The second period:

• promotion of more physical activity and less sedentary behaviour

• involvement of the city

• target is not only the children but also the families
The FLVS study second period: actions in schools

→ Educational workshops held by teachers to:

- Develop basic nutritional and food diversity knowledge all year long
- Promote concrete discovery of food and of the diversity of flavours: “apprenticeship through experience” educational method
- Adapt schoolyards to physical activity practice with city support
- Make discover sports games again
- Organize inter-class and inter-school contests
The FLVS study second period actions in cities

- Discovering physical and sport activities
- Family workshops on taste and cooking
- Food distributors and shops activities to promote healthy lifestyle
- City street activities for the whole family
- Consumer educational events
- Family-targeted initiatives such as “Together, let’s walk to school”, ‘Pedestrian school buses’ organized by parents
- Playgrounds and secured walking itineraries development

→ Mobilising politicians, Media, associations and sport clubs, producers, distributors, restaurants...

→ Involvement of health professionals: pharmacists, GPs, dieticians
EPODE: concept, methodology, organisation and philosophy
Concept
The EPODE concept: a federative approach

Community
- National initiatives
- Integrate Local projects

FAMILY
- Information
- Training
- Tools
- Animation

- National coordination team
- Information
- Training
- Tools
- Animation
Methodology
Coordinated and cross-cutting actions close to the population

Each quarter, a set of aliments is highlighted eg: NOV 2006 - JAN 2007 : vegetables
The EPODE program in France

- 10 pilot cities involved since June 2004
- Commitment for at least 5 years
- 500,000 inhabitants involved
- 50,000 children involved
Principle of the program: promote a healthy lifestyle by

- Promoting a balanced, diversified, affordable and pleasant diet

- Encouraging children and families to be less inactive and to exercise on a regular basis

Validation (labels) of over 1000 projects since the launching of the program
Examples of tools dedicated to local action

Coaching

CME CD Rom

Quarterly worksheets for local project managers

Feuille de route

La collation matinale à l’école maternelle, le petit goûter du matin en primaire...
Comment faire autrement?

Training tool for morning break at school

JM BORYS  EPODE LONDON 2006 - borys@villesante.com
Examples of tools dedicated to local action
Physical activity

« We move and we like it! » leaflet

Set up methodology for a pedestrian bus
Examples of tools dedicated to local action

Nutrition

« The taste of the season: vegetables »
leaflet

« The taste of the season: fruits »
teaching kit cycle 1

« The taste of the season: milk and dairy products »
teaching kit cycle 2 & 3

« The taste of the season: starchy food »
poster
A continuous communication serving the program

- **Mobilization of all media** to involve local and national players, as well as all expertise and good will around a linking theme

- **Dedicated** Internet and Extranet websites

www.epode.fr

J M BORYS  EPODE LONDON 2006 - borys@villesante.com
The costs of the program

Intervention

2 euros (2.5 US$) per year & per inhabitant

→ 50% from public funds
→ 50% from private funds
EPODE: a public/private partnership

- **Public partnership:**
  - Ministries: health, education, sports, agriculture, research, finances, cities...
  - National Institute for health prevention and education (INPES)
  - National program for nutrition and health (PNNS)
  - Cities

- **Private partnership:**
  - Nestlé company
  - APS (Insurances Consortium)
  - Fondation International CARREFOUR (Distributor Foundation)

(no brand/product promotion, no intervention in the program content, corporate communication)
Evaluation of the program - 1: children obesity

✓ Yearly BMI calculation for all children involved in the program:
  ✓  → 27,000 children weighted and measured in 2005, 30,000 in 2006

✓ Statistical analysis of obesity rate for each town, by school, by sex, …

✓ Evaluation of the “family lifestyle coaching”

✓ Final evaluation of childhood obesity rate after 5 years in each city
Evaluation of the program - 2: sociological aspects

✓ Stakeholders’ involvement
✓ Stakeholders’ and population perception
✓ Target population perception
✓ Rate of participation and level of commitment of the local stakeholders (schools, sports association, catering, distributors, ...)
✓ Behavior assessment of target population regarding lifestyle
✓ Number and quality of spontaneous actions undertaken
✓ Level / frequency of tools use
Evaluation of the program - 3: media and economic related aspects

✓ Quality and frequency of media coverage

✓ Evaluation of direct and non direct costs
Organisation
EPODE: Overall organization

National level

Scientific board

NGO: FLVS Association

Partnership (private-public)

National Coordination team PROTEINES

Asnières Beauvais Béziers Evreux Mezieux Roubaix Royan St Jean Thiers Vitré ...

Local level

Local program manager

Local steering committee

Target: the whole population (Families, children, adults, employees...)

J M BORYS EPODE LONDON 2006 - borys@villesante.com
Local level (within each city)

People
- Elected representative
- Scientist or not, w/ good project management skills & A good knowledge of the local network
- Education department rep.
  - Local GP
  - Local pediatrician
  - Dietician
  - Sports association rep.
  - Shop keepers rep.
  - City catering department rep.
  - City sports-leisure department rep.
  - Charity associations reps.
  - ...

Missions
- Political administration / decision making body of the city
- Local funding
- Design of the strategy for the set up of proximity actions
- Definition of the local operational plan
- Set up/ run of the local operational plan
Philosophy
The EPODE philosophy

- Messages based on **scientific recommendations**

- **Promotion of healthy lifestyle** (no specific messages stigmatizing obesity)

- A **smooth awareness** of the obesity issue, both collectively and individually, with **no stigmatization** of overweight and obesity

- A **positive, constructive, concrete** and “step by step” **apprenticeship** of nutritional balance & physical activity points of reference for all the family
The EPODE philosophy - Cont

• An educational method based on apprenticeship through experience, identification of the brakes encountered by the parents and the repetition of the key messages

• A “behavior”-centered approach, with an educational philosophy focused on pleasure and non-stigmatization of any food

• A long term program respecting each city’s specificities by integrating existing initiatives and projects provided that there are compliant with the EPODE philosophy
EPODE in 2007
The french EPODE Cities Network:
objective = 50 cities in 2007

• Extension of the program:

✓ Project supported by the EPODE Mayors’ Club, association created by the mayors of the cities already involved in the program

✓ Launching in 2006

✓ Objective: integration of 50 cities in the program before end of 2007
Extension of the program across Europe: now starting in

Belgium and Spain
The EPODE European Network

- Objective: deliver an “EPODE methodology book” “ready to adapt and to use” throughout all EU countries

- Process:
  - “lab test” the existing EPODE methodology in several operational pilot countries
  - create a network by best practices sharing and methodology enrichment from pilot and additional non operational EU countries concerned either now or in the future by the childhood obesity issue

Initiative submitted to the European Commission via an application to the 2006 DG SANCO call for proposal

J M BORYS   EPODE LONDON 2006 - borys@villesante.com
Acknowledgments: teams, population, partners...

- **Sponsor**: the Fleurbaix Laventie Ville Santé Association (Pr Fossati, and Senator Brigitte Boute)
- **INSERM** (French Institute of Health and Medical Research) (Pr Eschwege & Ducimetiere)
  - *From 1992 to 1997*, under the supervision of Eveline Eschwège, Head of U 21 Unit (Villejuif) Marie Aline Charles, Annick Fontbonne, Lionel Lafa, Gauthier Maillard, Nadine Thibul, Frédérique Thomas, Muriel Vray
  - *From 1997 to 2005* under the supervision of Professor Pierre Ducimetière & Marie Aline Charle Head of U 258 Unit (Villejuif): Jérémy Botton, Sophie Daniel, B. De Lauzon, Valérie Deschamps, Murielle Tafflet, Barbara Heude, Adrien Kettaneh
- The National Coordination, the European Coordination and **PROTEINES AGENCY** headed by Sandrine Raffin (Agnès Lommez, Karine Peze, Séverine Bordas, Sandrine Guinot)
- FLVS local team: **Dieticians**: Carole Debailleul, Emmanuelle Lecuyer, Hélène Sabbre; **Nurse**: Sylvie Cuppens; **Assistants**: Claudine Halut, Sandrine Cruzol, Anita Canavèze, Fabienne Sabre
- Institutional supports
- The private partners (Nestlé, APS insurances, Carrefour International Foundation, FERRERO...)
- The FLVS population
Thank you for your attention!