Reducing exposure of pregnant women and young children to plastics

The alternatives proposed by the Maternity of Angoulême Hospital Center

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Endocrine disruptors affect pregnant women and their children very strongly through them. These chemicals cross the placental barrier and permeate breast milk. The ELFE (French Longitudinal Study since childhood) conducted by Public Health France for more than 10 years has thus yielded clear results: "This study, which is based on a subsample of 4,145 mothers included in the Elfe cohort, provides for the first time reliable results at the national level of the impregnation of pregnant women by certain environmental pollutants, measured from biological samples collected in maternity wards (cord blood, urine, hair and maternal blood)."
Early childhood and the first thousand days

The study shows that the majority of pollutants studied are present in almost all pregnant women, and that food is the main source of exposure, despite the existence of other sources especially in indoor and outdoor air. » The following diagram, produced by the Environmental Health Network (RES) based on the results of this study, shows the main targets of endocrine disruptors as well as the percentages of pregnant women affected by these substances.
Stratégie Nationale sur les Perturbateurs Endocriniens - 2014

L’EXPOSITION aux perturbateurs endocriens

Les perturbateurs endocriniens sont des substances chimiques d’origine naturelle ou artificielle qui dérèglent le fonctionnement hormonal des organismes vivants. Ils ont des effets néfastes sur la santé humaine et peuvent provoquer des troubles de la croissance, du développement sexuel ou neurologique, des troubles de la reproduction, ainsi que l’apparition de certains cancers et maladies métaboliques comme le diabète.

CONTENANTS ALIMENTAIRES
(bisphénol A, ex : boîtes de conserve, barquettes plastique, etc.)

ALIMENTS CONTAMINES PAR CERTAINS PESTICIDES
(ex : céréales), DES PCB
(ex : poissons d’eau douce)

CONTAMINES DES COSMETIQUES
(des phthalates, parabènes, ex : crèmes, shampooings, etc.)

PRODUITS MENAGERS
(ex : détergents, antimicrobiens, etc.)

OBJETS DU QUOTIDIEN EN PLASTIQUE OU EN MATIERES SYNTHETIQUES
(retardateurs de flammes, ex : peluches, canapés, etc.)

ENVIRONNEMENT CONTAMINE
(ex : sols, cours d’eau, etc.)

Les espèces animales sont également affectées par la diffusion de ces substances dans l’environnement.
ELFE Study: Summary of Human Studies

**Bisphenol A (BPA): Endocrine Disruptors**
- In children after exposure in utero: hyperactivity, attention deficit, anxiety
- In adults exposed directly: diabetes, hypertension, metabolic syndrome, obesity, arterial disease and fertility problems

**Phthalates: Endocrine Disruptors**
- In children after exposure in utero: lowering IQ (Intellectual Quotient) observed at age 7 years (DnBP and DiBP), decrease in ano-genital distance in small boys (feminization sign) (DEP, BBzP, DnBP and DiBP)
- In adults exposed directly: endometriosis in women (affects fertility) and oxidative stress (mechanism involved in cancer in particular) (DEHP) (DiBP)
Phtalates et BPA +++
Conséquences de l’exposition aux perturbateurs endocriniens chez l’humain

NB : Il s’agit d’un échantillon d’une revue de la littérature scientifique chez l’humain non exhaustif

Bisphénol A (BPA)

Chez l’enfant
▶ Hyperactivité
▶ Déficit d’attention
▶ Anxiété

Chez l’adulte
▶ Diabète
▶ Hypertension
▶ Syndrome métabolique
▶ Obésité
▶ Artéropathie
▶ Problèmes de fertilité

Phthalates

Chez l’enfant
▶ Baisse du QI
▶ Féminisation des garçons

Chez l’adulte
▶ Stress oxydatif (cancer)
▶ Endométriose (fertilité)
ONE LESS POLLUANT IS AN EXTRA CHANCE OF SANTE!

Diseases are multi-factorial events. The disease a is exposed to a pollutant a and b. The health effects that may appear as a result of the addition of accumulated substances over time are called cocktail effects. The appearance of the disease is shown with a sad face.

Factors include:
- Age
- Exposure to a pollutant a
- Eating
- Stress
- Genetic factors

THE DISEASE A MULTI-FACTORIAL EVENT

Appearance of the disease
The actions of the Maternity of the Angoulême Hospital Center to reduce the exposure of pregnant women and young children to pollutants
Food containers for breakfast: changes since 2018

• Plastic food containers have been removed and replaced with porcelain or glass

• Food packaging has been modified from individual to bulk
  - Jam
  - Cereals

• Fruit juices, 2 main actions: Glass containers and local products
  - Glass bottle / Cardboard bricks
  - Apple juice locally and in reasoned agriculture
Before the health crisis: breakfast in the parents' lounge
Before the health crisis: breakfast in the parents' lounge
The health crisis in Maternity wards
Adaptations with room service
But containers always respectful of the environment and women's health
Adapted food containers, bulk and local products..

Maternity sets an example for breakfast
Bamboo panière

Glass or stainless steel containers
Maternity of the POITIERS University Hospital Center

Lunch

There are still plastic containers but for cold starters and desserts (yogurt ...)

Maternity of the Angoulême Hospital Center

Mostly plastic food containers 😞
4 infant milk laboratory groups are operating in the maternity ward: Blédina, Guigoz, Modilac and Lactalis. We put the Lactalis group forward for June 2021 because they are the only ones to provide milk in mini glass bottles for newborns. We have reduced orders for those who do not have glass bottles, on the other hand we have switched to organic milk. We have been sorting plastics with the help of parents for several years.
Other actions carried out by Maternity with the support of the Regional Health Agency of New Aquitaine

- Cleaning floors with microfiber and water
- Control of cosmetics distributed to parents
- Disinfection of cradles, steam incubators
- Putting on cloth diapers instead of disposable diapers
- The creation of France's first educational baby room and models to introduce parents and early childhood professionals to Charente
- 4 WECF-certified Animators Nesting environmental health workshops for parents since 2018 and 6 in the process of being certified
- The involvement of technical services, purchasing department, cooking...
IN CONCLUSION
A distinction...
2nd maternity in France
Very High Quality
Environmental Health
Thank you