

Reducing exposure
of pregnant women
and young children
to plastics

The alternatives proposed by
the Maternity of Angoulême
Hospital Center

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Early childhood and the first thousand days

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 endocriniens

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.



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)

CIBLES PHYSIOLOGIQUES DES PERTURBATEURS ENDOCRINIENS CHEZ LA FEMME

POURCENTAGE DES FEMMES ENCEINTEES IMPRÉGNÉES PAR LES POLLUANTS DE L'ENVIRONNEMENT, DE LA COHORTE ELFE ÉTUDIÉE PAR SANTÉ PUBLIQUE FRANCE (4145 FEMMES)

LE SYSTÈME ENDOCRINIEN

EST REPRÉSENTÉ PAR L'ENSEMBLE DE NOS GLANDES ET NOS ORGANES QUI PRODUISENT DES HORMONES, LESQUELLES VONT RÉGULER LES FONCTIONS DE NOTRE CORPS.

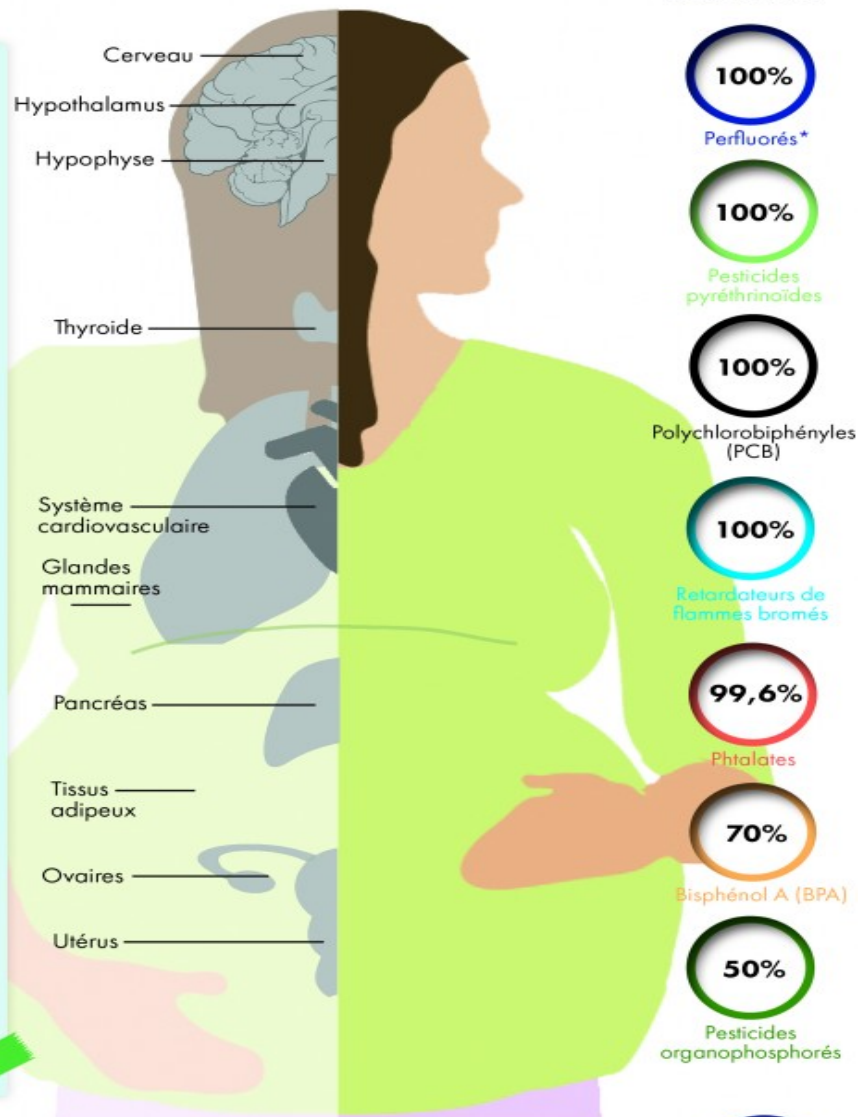
LES HORMONES

MESSAGERS CHIMIQUES SÉCRÉTÉS PAR NOS GLANDES ET IMPLIQUÉS DANS TOUTES LES FONCTIONS BIOLOGIQUES COMME LA CROISSANCE, LA REPRODUCTION OU ENCORE LE MÉTABOLISME.

CET ENSEMBLE CONSTRUIT L'ÉQUILIBRE HORMONAL PROPRE À CHACUN INDISPENSABLES AU DÉVELOPPEMENT ET AU BON FONCTIONNEMENT DU CORPS

LES PERTURBATEURS ENDOCRINIENS

« LES PERTURBATEURS ENDOCRINIENS SONT DES SUBSTANCES CHIMIQUES D'ORIGINE NATURELLE OU ARTIFICIELLE ÉTRANGÈRES À L'ORGANISME QUI PEUVENT INTERFÉRER AVEC LE FONCTIONNEMENT DU SYSTÈME ENDOCRINIEN ET INDUIRE AINSI DES EFFETS DÉLÉTÈRES SUR CET ORGANISME OU SUR SES DESCENDANTS » (OMS 2002)



Phthalates
et BPA +++

* Chez 100% des femmes étudiées dans la cohorte ELFE, au moins un composé perfluoré a été retrouvé. (exemple de lecture applicable à tous les pourcentages)
 Sources : 1. Diamanti-Kandarakis E et al., "Endocrine-Disrupting Chemicals An Endocrine Society Scientific Statement" (Endocrine Reviews, 2009)
 2. Santé Publique France, « Imprégnation des femmes enceintes par les polluants de l'environnement en France en 2011, Volet périnatal du programme national de biosurveillance mis en œuvre au sein de la cohorte Elfe - Tome 1 : polluants organiques », décembre 2016

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



— après une exposition in utero

— l'adulte exposé directement

BISPHÉROL A (BPA)

Chez l'enfant

- ▶ HYPERACTIVITÉ
- ▶ DÉFICIT D'ATTENTION
- ▶ ANXIÉTÉ

Chez l'adulte

- ▶ DIABÈTE
- ▶ HYPERTENSION
- ▶ SYNDROME MÉTABOLIQUE
- ▶ OBÉSITÉ
- ▶ ARTÉRIOPATHIE
- ▶ PROBLÈMES DE FERTILITÉ



PHTALATES

Chez l'enfant

- ▶ BAISSÉ DU QI
- ▶ FÉMINISATION DES GARÇONS

Chez l'adulte

- ▶ STRESS OXYDATIF (CANCER)
- ▶ ENDOMÉTRIOSE (FERTILITÉ)





MUSÉE DE LA
BANDE DESSINÉE

PONT
SAINT-ANTOINE

ÎLE MARQUET

BOULEVARD
HENRI THÉBAULT

RUE DE SAINTES

GARE

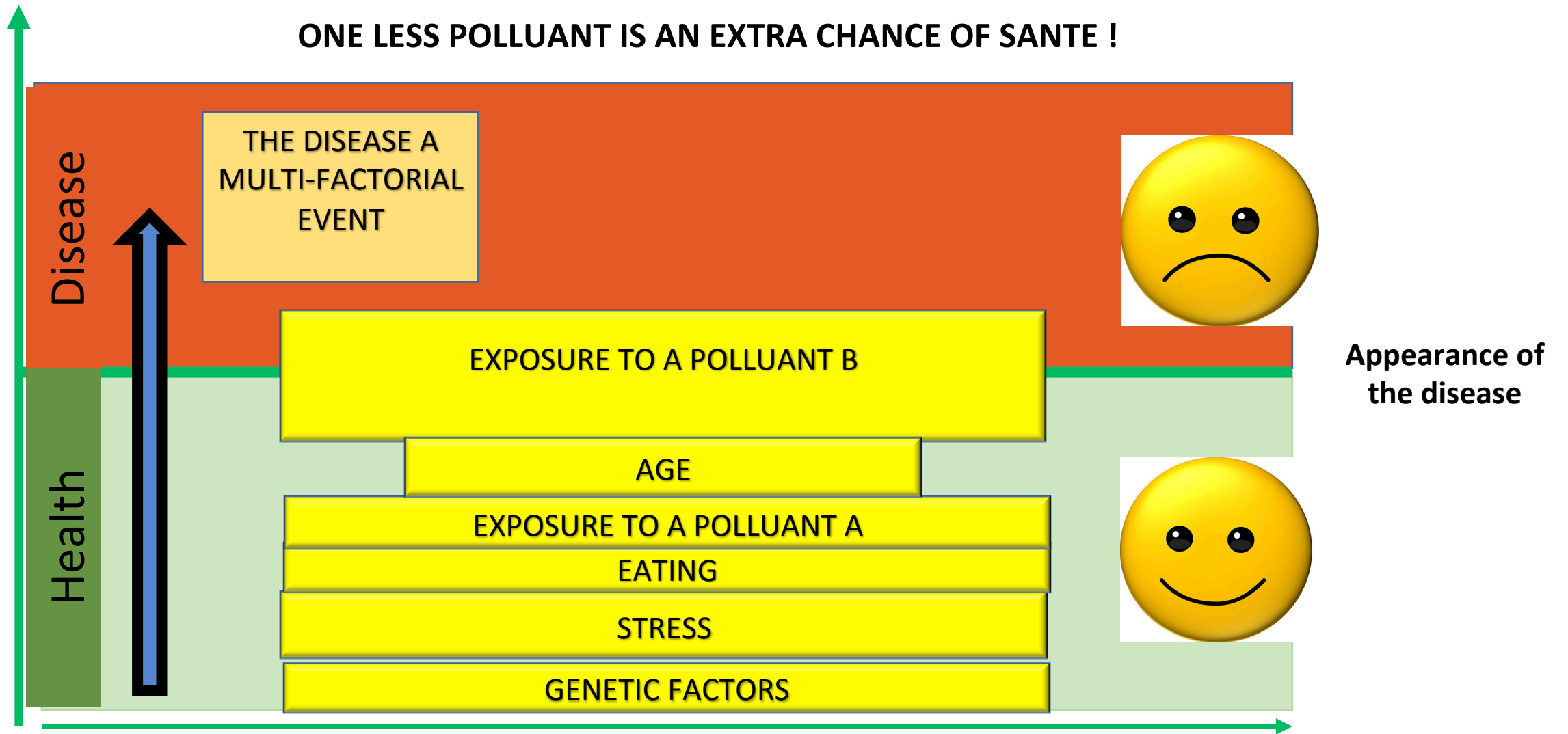
MUSÉE D'ANGOULÊME

CENTRE HOSPITALIER



ANGOULÊME

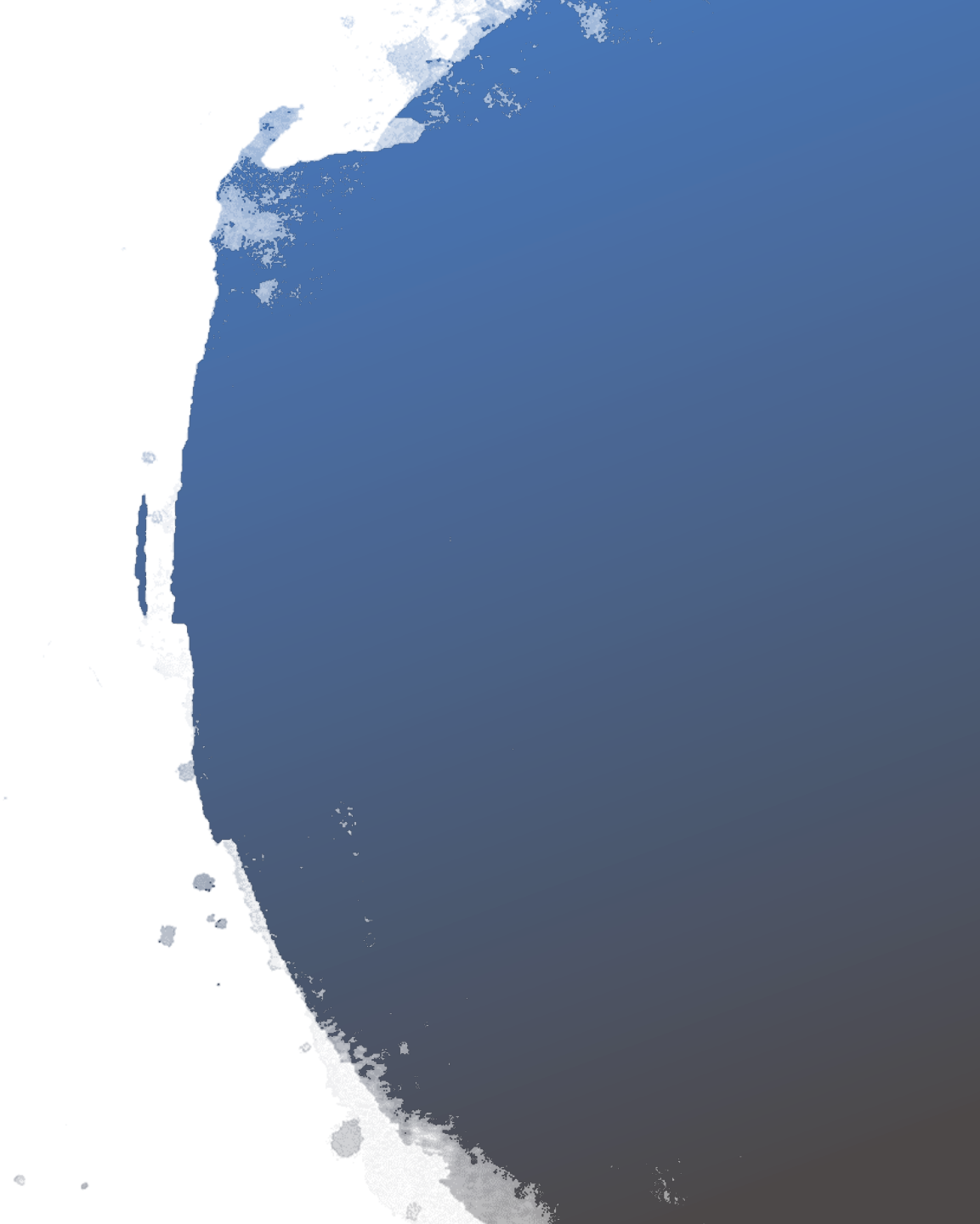
ONE LESS POLLUANT IS AN EXTRA CHANCE OF SANTE !



Cocktail effects

Health effects that may appear as a result of the addition of accumulated substances over time

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 panier



Glass or stainless steel containers



Maternity of the Angoulême Hospital Center

Lunch



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



Maternity of the POITIERS University Hospital Center

Mostly plastic food containers 😞

Switching to a glass bottle in June 2021



- 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



спасибо
danke 謝謝
ngiyabonga
teşekkür ederim
dank je
gracias
tapadh leat
bedankt
hvala
mauruuru
thank you
mochchakkeram
dziękuje
sagolun
sukriya
kop khun krap
go raibh maith agat
arigatō
takk
dakujem
merci
obrigado
sukriya
kop khun krap
arigatō
takk
dakujem
merci
terima kasih
감사합니다
ευχαριστώ

