

DEFINICIONES DE ALIMENTACION COMPLEMENTARIA



OMS: Periodo durante el cual se administran otros alimentos junto a la leche materna (incluyendo sucedáneos)



ESPGHAN: Cualquier alimento sólido ó líquido que no sea leche materna ó fórmula adaptada

¿COMO LA PAUTAMOS?



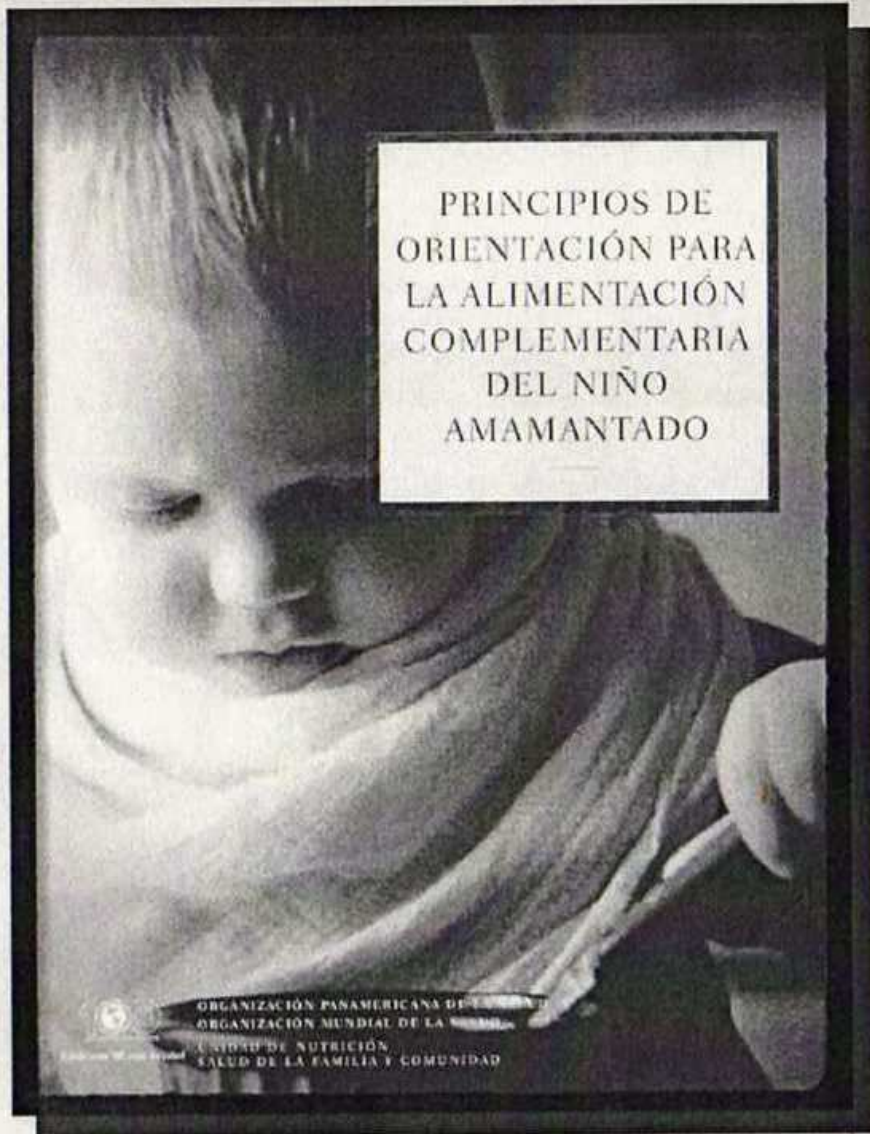
- Rígidamente
- Basada en hábitos más que en pruebas científicas
- Sin tener en cuenta multiculturalidad
- Cada uno a su manera



¿CUANDO EMPEZAMOS?

- Gran disparidad
- Antes de los 4 meses: Italia 34%
Alemania 16%
Reino Unido 51%

ESPAÑA ??



PRINCIPIOS DE
ORIENTACIÓN PARA
LA ALIMENTACIÓN
COMPLEMENTARIA
DEL NIÑO
AMAMANTADO

ORGANIZACIÓN PANAMERICANA DE LA SALUD
ORGANIZACIÓN MUNDIAL DE LA SALUD
CENTRO DE NUTRICIÓN,
SAÚDE DE LA FAMILIA Y COMUNIDAD

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North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition

Medical Position Paper

Complementary Feeding: A Commentary by the ESPGHAN
Committee on Nutrition

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ABSTRACT

This position paper on complementary feeding summarizes evidence for health effects of complementary foods. It focuses on healthy infants in Europe. After reviewing current knowledge and practices, we have formulated these conclusions: Exclusive or full breast-feeding for about 6 months is a desirable goal. Complementary feeding (ie, solid foods and liquids other than breast milk or infant formula and follow-on formula) should not be introduced before 17 weeks and not later than 26 weeks. There is no convincing scientific evidence that avoidance or delayed introduction of potentially allergenic foods, such as fish and eggs, reduces allergies, either in infants considered at increased risk for the development of allergy or in those not considered to be at increased risk. During the complementary feeding period, >90% of the iron requirements of a breast-fed infant must be met by complementary foods, which

source of iron and should not be used as the 12 months, although small volumes may be complementary foods. It is prudent to avoid both early and late (≥7 months) introduction of gluten gradually while the infant is still breast-feeding; this may reduce the risk of celiac disease, type 1 diabetes, and wheat allergy. Infants and young children on a vegetarian diet should receive a sufficient amount of iron from breast milk or formula and dairy products. Children should not be fed a vegan diet. **JPGN** Key Words: Complementary feeding—Solid Breast-feeding—Dietary intake—Early nutrition of adult health © 2008 by European Society for Pediatric Gastroenterology, Hepatology, and Nutrition and North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition

OMS(2002)

El rango de edad óptimo para iniciar alimentación complementaria está

Habitualmente entre los 6 y 24

meses de edad , si bien la lactancia

materna puede continuar hasta

después de los dos años.

INCONVENIENTES INICIO PRECOZ DE ALIMENTACION COMPLEMENTARIA

- Disminución del aporte de LM por ingesta de alimentos menos nutritivos
- Incapacidad del niño para digerir algunos alimentos
- Exposición precoz a patógenos potencialmente contaminantes de los alimentos
- Exposición demasiado temprana a alimentos alergénicos para algunos niños

INCONVENIENTES INICIO TARDÍO DE ALIMENTACION COMPLEMENTARIA

- Fallo de crecimiento y desnutrición por insuficiente aporte de la LM en cuanto a energía y nutrientes
- Anemias carenciales por deficiencias de hierro y cinc
- Retraso en el desarrollo de habilidades orales como la masticación y la capacidad de aceptar nuevos sabores y texturas

PRINCIPIOS GENERALES OMS

- Lactancia materna exclusiva hasta los 6 meses
- Alimentación perceptiva – Seguridad alimentaria
- Forma progresiva y lenta
- Cantidades pequeñas y progresivamente crecientes
- Orden indiferente

EUROPA

- ESPGHAN Committee on Nutrition. Guidelines on infant nutrition.
- III. Recommendations for infant feeding. Acta Paediatr Scand.
- 1982; Supl. 302: 5-10

RECOMENDACIONES HISTORICAS

- Inicio entre 4 y 6 meses
- Introducción nuevos alimentos lenta y progresiva
- Aporte lácteo mínimo 500 ml durante el 1º año
- Orden indiferente
- Considerar huevo y pescado familias atópicas
- Referencia a alimentos altos en nitratos
- Referencia a alimentos altos en sacarosa
- GLUTEN POSPONER HASTA EL 6º MES

Medical Position Paper

Complementary Feeding: A Commentary by the ESPGHAN
Committee on Nutrition

ESPGHAN Committee on Nutrition: *Carlo Agostoni, †Tamas Decsi, ‡³Mary Fewtrell,
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ABSTRACT

This position paper on complementary feeding summarizes evidence for health effects of complementary foods. It focuses on healthy infants in Europe. After reviewing current knowledge and practices, we have formulated these conclusions: Exclusive or full breast-feeding for about 6 months is a desirable goal. Complementary feeding (ie, solid foods and liquids other than breast milk or infant formula and follow-on formula) should not be introduced before 17 weeks and not later than 26 weeks. There is no convincing scientific evidence that avoidance or delayed introduction of potentially allergenic foods, such as fish and eggs, reduces allergies, either in infants considered at increased risk for the development of allergy or in those not considered to be at increased risk. During the complementary feeding period, >90% of the iron requirements of a breast-fed infant must be met by complementary foods, which should provide sufficient bioavailable iron. Cow's milk is a poor

source of iron and should not be used as the main drink before 12 months, although small volumes may be added to complementary foods. It is prudent to avoid both early (<4 months) and late (≥7 months) introduction of gluten, and to introduce gluten gradually while the infant is still breast-fed, inasmuch as this may reduce the risk of celiac disease, type 1 diabetes mellitus, and wheat allergy. Infants and young children receiving a vegetarian diet should receive a sufficient amount (~500 mL) of breast milk or formula and dairy products. Infants and young children should not be fed a vegan diet. *JPGN* 46:99–110, 2008.
Key Words: Complementary feeding—Solid foods—Beikost—Breast-feeding—Dietary intakes—Early nutrition programming of adult health. © 2008 by European Society for Pediatric Gastroenterology, Hepatology, and Nutrition and North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition

The timely introduction of complementary foods during infancy is necessary for both nutritional and developmental reasons, and to enable the transition from milk feeding to family foods. The ability of breast milk to meet requirements for macronutrients and micronutrients becomes limited with increasing age of the infant. Furthermore, infants gradually develop the ability to chew, and they start to show an interest in foods other

than milk. Complementary feeding is associated with major changes in both macronutrient and micronutrient intake. Yet, in contrast to the large literature on breast and formula feeding, relatively little attention has been paid to the complementary feeding period, the nature of the foods given, or whether this period of significant dietary change influences later health and development. The limited scientific evidence-base is reflected in considerable variation in complementary feeding recommendations between countries. The aim of this position paper is to review current knowledge and practice, summarize the evidence for the short- and long-term health effects of the timing and composition of complementary feeding, provide advice to health care providers and regulatory bodies, and identify areas for future research. This position paper focuses on healthy term-born infants living in

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Declaration of conflicts of interest of members of the Committee on Nutrition (CoN) are submitted yearly to the CoN secretary and are available on request.

PRINCIPIOS GENERALES

- Lactancia materna exclusiva hasta los 6 meses
- AC no antes de 17 ni después de 26 semanas de vida.
- Gluten, no antes de los 4 meses ni tras los 7 meses (pequeñas cantidades a la vez que LM, puede reducir el riesgo de enfermedad celiaca, diabetes y alergia al trigo)

PRINCIPIOS GENERALES

- Especifica que no hay evidencia de beneficio en el retraso de alimentos mas alergénicos
- Leche de vaca no antes del año, aunque ...
- En vegetarianos mas de 500 ml lácteos día
- Niños no veganos

LACTANCIA MATERNA Y GLUTEN

ORIGINAL ARTICLE

Effect of breast feeding on risk of coeliac disease: a systematic review and meta-analysis of observational studies

A K Akobeng, A V Ramanan, I Buchan, R F Heller



Arch Dis Child 2006;91:39-43. doi: 10.1136/adc.2005.082016

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Background: Coeliac disease (CD) is a disorder that may depend on genetic, immunological, and environmental factors. Recent observational studies suggest that breast feeding may prevent the development of CD.

Aim: To evaluate articles that compared effects of breast feeding on risk of CD.

Methods: Systematic review and meta-analysis of observational studies published between 1966 and June 2004 that examined the association between breast feeding and the development of CD.

Results: Six case-control studies met the inclusion criteria. With the exception of one small study, all the included studies found an association between increasing duration of breast feeding and decreased risk of developing CD. Meta-analysis showed that the risk of CD was significantly reduced in infants who were breast feeding at the time of gluten introduction (pooled odds ratio 0.48, 95% CI 0.40 to 0.59) compared with infants who were not breast feeding during this period.

Conclusions: Breast feeding may offer protection against the development of CD. Breast feeding during the introduction of dietary gluten, and increasing duration of breast feeding were associated with reduced risk of developing CD. It is, however, not clear from the primary studies whether breast feeding delays the onset of symptoms or provides a permanent protection against the disease. Long term prospective cohort studies are required to investigate further the relation between breast feeding and CD.

Coeliac disease (CD), also known as gluten sensitive enteropathy, is defined as a permanent intolerance to gluten, a protein found in cereals such as wheat, rye, and barley, associated with mucosal disease of the proximal small bowel.¹ The true prevalence of CD is difficult to ascertain as many affected people are asymptomatic. In a recent UK paediatric study, Bingley *et al* found that, based on IgA endomysial antibody testing, the prevalence of CD in children aged 7 years was 1%, a figure comparable to the prevalence in UK adults.²

CD is characterised by intestinal malabsorption, histological abnormalities of the small bowel mucosa, clinical and histological improvement on a gluten-free diet, and a relapse on a gluten containing diet. The condition is entirely dependent on the presence of gluten in the diet, but exactly why some people develop the disorder on ingestion of gluten

In this study, we sought to explore the potential association between breast feeding and reduced risk of CD by conducting a systematic review and meta-analysis. In particular, we looked for the following effects: (1) the effect of breast feeding, compared with no breast feeding; (2) the effect of duration of breast feeding; and (3) the effect of breast feeding at the time of introduction of dietary gluten.

METHODS

Types of studies

We included observational studies if they: (1) compared risk of CD in people who were breast fed with risk in those who were not breast fed, or compared risk of CD according to duration of breast feeding; (2) had used histological criteria for diagnosing CD; (3) had controlled for potential confounders by matching in the study design or used risk

LACTANCIA MATERNA Y GLUTEN

- El riesgo de desarrollar EC se reducía si LM en el momento de introducir el gluten con respecto a los de LA
- El riesgo también se reducía a mayor duración de la LM
- No queda claro si retrasa ó protege permanente

LACTANCIA MATERNA Y CELIACA

Risk of Celiac Disease Autoimmunity and Timing of Gluten Introduction in the Diet of Infants at Increased Risk of Disease

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CELIAC DISEASE, ALSO CALLED gluten-sensitive enteropathy, is characterized by chronic inflammation in the small intestine, resulting in villous atrophy and flattening of the mucosa, induced by prolamins (gluten) present in wheat, barley, or rye.^{1,2} The classic form of celiac disease typically presents in early childhood with abdominal pain and diarrhea, malabsorption, and nutrient deficiencies. Most patients with celiac disease carry the human leukocyte antigen HLA-DRB1*03 allele (usually associated with HLA-DQ2) or HLA-DRB1*04 (associated with HLA-DQ8).^{1,3} These alleles also confer increased risk for type 1 diabetes; thus,

Context While gluten ingestion is responsible for the signs and symptoms of celiac disease, it is not known what factors are associated with initial appearance of the disease.

Objective To examine whether the timing of gluten exposure in the infant diet was associated with the development of celiac disease autoimmunity (CDA).

Design, Setting, and Patients Prospective observational study conducted in Denver, Colo, from 1994-2004 of 1560 children at increased risk for celiac disease or type 1 diabetes, as defined by possession of either HLA-DR3 or DR4 alleles, or having a first-degree relative with type 1 diabetes. The mean follow-up was 4.8 years.

Main Outcome Measure Risk of CDA defined as being positive for tissue transglutaminase (tTG) autoantibody on 2 or more consecutive visits or being positive for tTG once and having a positive small bowel biopsy for celiac disease, by timing of introduction of gluten-containing foods into the diet.

Results Fifty-one children developed CDA. Findings adjusted for HLA-DR3 status indicated that children exposed to foods containing wheat, barley, or rye (gluten-containing foods) in the first 3 months of life (3 [6%] CDA positive vs 40 [3%] CDA negative) had a 5-fold increased risk of CDA compared with children exposed to gluten-containing foods at 4 to 6 months (12 [23%] CDA positive vs 574 [38%] CDA negative) (hazard ratio [HR], 5.17; 95% confidence interval [CI], 1.44-18.57). Children not exposed to gluten until the seventh month or later (36 [71%] CDA positive vs 895 [59%] CDA negative) had a marginally increased risk of CDA compared with those exposed at 4 to 6 months (HR, 1.87; 95% CI, 0.97-3.60). After restricting our case group to only the 25 CDA-positive children who had biopsy-diagnosed celiac disease, initial exposure to wheat, barley, or rye in the first 3 months (3 [12%] CDA positive vs 40 [3%] CDA negative) or in the seventh month or later (19 [76%] CDA positive vs 912 [59%] CDA negative) significantly increased risk of CDA compared with exposure at 4 to 6 months (3 [12%] CDA positive vs 583 [38%] CDA negative) (HR, 22.97; 95% CI, 4.55-115.93; $P=.001$; and HR, 3.98; 95% CI, 1.18-13.46; $P=.04$, respectively).

Conclusion Timing of introduction of gluten into the infant diet is associated with the appearance of CDA in children at increased risk for the disease.

JAMA. 2005;293:2343-2351

www.jama.com

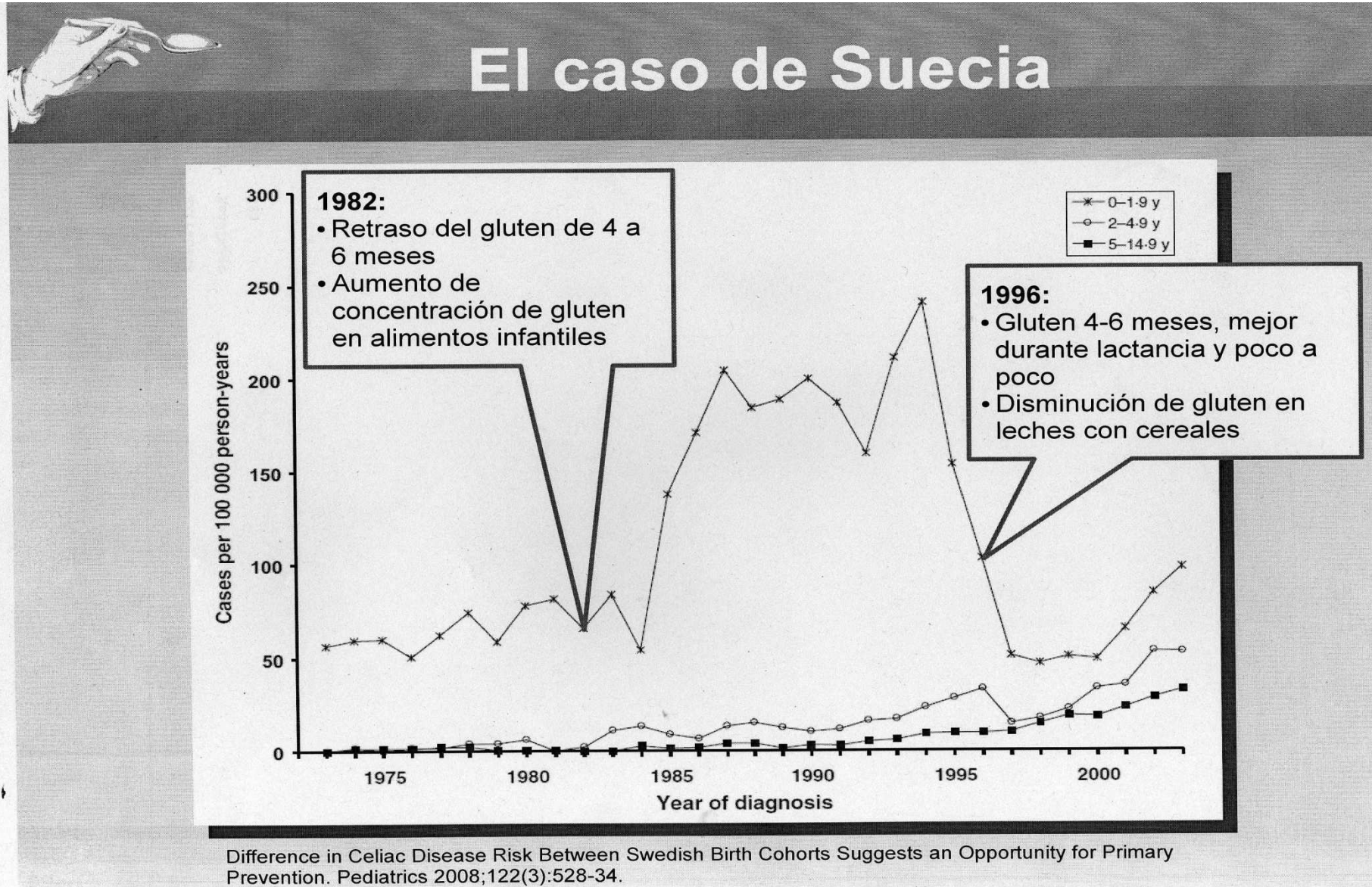
EDAD INTRODUCCION

Seguimiento de cohorte de 1560 niños con riesgo de padecer celiaca (HLA ó familiar de 1º grado)

Miden autoAc ó en su caso biopsia

Encuentran 5 veces mayor riesgo en los de antes de 4 m y después de 7 m que en los de entre 4 y 6 m

EL CASO DE SUECIA



CONFLICTO

- Consejo ESPGHAN

gluten no antes de 4 ni después de 6 meses
y durante LM

- . Consejo OMS

LM exclusiva 6 meses

Perlinfad · [las perlas de PrevIntad]



7 - junio - 2010

Controversias del nuevo documento de la ESPGHAN sobre lactancia materna.

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Tags: [alimentación complementaria](#), [ESPGHAN](#), [lactancia materna](#)

Referencia original: Breast-feeding: A commentary by the ESPGHAN Committee on Nutrition. J Pediatr Gastroenterol Nutr. 2009 Jul; (1):112-25.

http://journals.lww.com/jpgn/Fulltext/2009/07000/Breast_feeding__A_Commentary_by_the_ESPGHAN.18.aspx

El artículo publicado recientemente sobre el amamantamiento por el Comité de Nutrición de la Sociedad Europea de Gastroenterología y Nutrición pediátrica (ESPGHAN) es importante por su influencia en las recomendaciones sobre la alimentación del lactante que realizan los pediatras europeos. Sin embargo, junto a una buena revisión de la evidencia y las recomendaciones más actuales, el artículo contiene una serie de afirmaciones e interpretaciones que, a juicio del Comité de Lactancia Materna de la Asociación Española de Pediatría (AEP), merecen un comentario detenido. Creemos que algunas de ellas no se ajustan a la evidencia científica más actual y pueden favorecer consejos inapropiados del pediatra que contribuyan a perpetuar e incluso ocasionar problemas a las madres que quieren amamantar a sus hijos.

De entrada, el artículo falla en reconocer la lactancia natural como el patrón fisiológico indispensable para alcanzar un crecimiento y desarrollo óptimos. A pesar de que está reconocido por las autoridades sanitarias mundiales y europeas(1), ya desde el principio el documento de Nutrición de la ESPGHAN no parece demasiado convencido de la importancia del amamantamiento para todos los lactantes. Y una de las primeras frases del artículo puede leerse: "...los beneficios en salud derivados de la lactancia materna (LM) son mayores en países en desarrollo que en los desarrollados e inversamente proporcionales al nivel socioeconómico de la población...". Una verdad que puede inducir al lector a pensar que para aquellas personas con un buen nivel de vida no es tan importante dar el pecho, o bien que la lactancia materna es una práctica deseable en países menos favorecidos, pero no tanto en países desarrollados. Está claro que cualquier perjuicio, por pequeño que sea, será más grave y evidente en un país en el que la tasa de morbi-mortalidad infantil sea alta, pero eso significa que los lactantes de los países desarrollados deban ser expuestos a riesgos innecesarios aunque estos sean leves. De hecho, son despreciables puesto que los niños no amamantados en países de alto poder adquisitivo tienen mayor riesgo de morbilidad infecciosa.

Matern Child Nutr. 2011 Oct;7(4):335-43. doi: 10.1111/j.1740-8709.2011.00363.x.

ESPGHAN's 2008 recommendation for early introduction of complementary foods: how good is the evidence?

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Abstract

Since 2002, the World Health Organization and many governments and professional associations have recommended exclusive breastfeeding for 6 months followed by complementary feeding (giving solid foods alongside breast milk) as optimal infant feeding practice. Several articles have been published challenging this recommendation. Arguably, the most influential has been the 2008 commentary of the European Society for Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition, which recommended that complementary foods should be introduced to all infants between 17 and 26 weeks. We challenge the validity of ESPGHAN's position, questioning the adequacy of the literature search, the interpretation and evidence used to reach their conclusions and the balance of an approach that focuses on disease prevention, with scant consideration of growth and neuromotor development. We contend that ESPGHAN's position should be understood as an expert opinion that may be influenced by conflicts of interest. In our view, the ESPGHAN position paper is not evidence based and does not justify a change of the current public health recommendation for 6 months of exclusive breastfeeding. At an individual level, health professionals should understand that developmental readiness for starting solid foods has an age range like other developmental milestones; that fewer infants will probably be ready to start complementary feeding before, rather than after, 6 months; and that their role is to equip parents with the confidence and skills to recognise the signs of developmental readiness. This empowerment process for infants and parents should be preferred over the prescriptive ESPGHAN approach.

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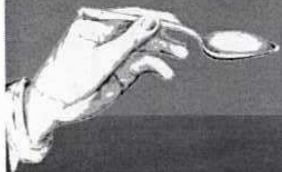
PMID: 21902806 [PubMed - in process]

ALERGIAS ALIMENTARIAS

- Sabemos que algunos alimentos son más alergénicos
- La introducción de éstos antes de los 4 meses se asocia a más riesgo de alergia

¿Sirve para algo retrasarlos más que otros?

¿Qué hacer con los niños de más riesgo ?



Alergia en niños de riesgo

Food allergy and the introduction of solid foods to infants: a consensus document

Alessandro Fiocchi, MD*; Amal Assa'ad, MD†; and Sami Bahna, MD‡; for the Adverse Reactions to Foods Committee of the American College of Allergy, Asthma and Immunology§

Objective: To make recommendations based on a critical review of the evidence for the timing of the introduction of solid foods and its possible role in the development of food allergy.

Data Sources: MEDLINE searches using the following search algorithm: [weaning AND infant AND allergy]/[food allergy AND sensitization]/[dietary prevention AND food allergy OR allergens]/[Jan 1980-Feb 2006].

Study Selection: Using the authors' clinical experience and research expertise, 52 studies were retrieved that satisfied the following conditions: English language, journal impact factor above 1 or scientific society, expert, or institutional publication, and appraisable using the World Health Organization categories of evidence.

Results: Available information suggests that early introduction can increase the risk of food allergy, that avoidance of solids can prevent the development of specific food allergies, that some foods are more allergenic than others, and that some food allergies are more persistent than others.

Conclusions: Pediatricians and allergists should cautiously individualize the introduction of solids into the infants' diet. With assessed risk of allergy, the optimal age for the introduction of selected supplemental foods should be 6 months, dairy products 12 months, hen's egg 24 months, and peanut, tree nuts, fish, and seafood at least 36 months. For all infants, complementary feeding can be introduced from the sixth month, and egg, peanut, tree nuts, fish, and seafood introduction require caution. Foods should be introduced one at a time in small amounts. Mixed foods containing various food allergens should not be given unless tolerance to every ingredient has been assessed.

Ann Allergy Asthma Immunol. 2006;97:10-21.

Off-label disclosure: Drs Fiocchi, Assa'ad, and Bahna have indicated that this article does not include the discussion of unapproved/investigative use of a commercial product/device.

Financial disclosure: Drs Fiocchi, Assa'ad, and Bahna have indicated that in the last 12 months they have not had any financial relationship, affiliation, or arrangement with any corporate sponsors or commercial entities that provide financial support, education grants, honoraria, or research support or involvement as a consultant, speaker's bureau member, or major stock shareholder whose products are prominently featured either in this article or with the groups who provide general financial support for this CME program.

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Timing of Solid Food Introduction in Relation to Eczema, Asthma, Allergic Rhinitis, and Food and Inhalant Sensitization at the Age of 6 Years: Results From the Prospective Birth Cohort Study LISA

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The authors have indicated they have no financial relationships relevant to this article to disclose.

ABSTRACT

OBJECTIVE. Current prophylactic feeding guidelines recommend a delayed introduction of solids for the prevention of atopic diseases. This study investigates whether a delayed introduction of solids (past 4 or 6 months) is protective against the development of eczema, asthma, allergic rhinitis, and food or inhalant sensitization at the age of 6 years.

METHODS. Data from 2073 children in the ongoing LISA birth cohort study were analyzed at 6 years of age. Multivariate logistic regression analyses were performed for all children and for children without skin or allergic symptoms within the first 6 months of life to take into account reverse causality.

RESULTS. A delayed introduction of solids (past 4 or 6 months) was not associated with decreased odds for asthma, allergic rhinitis, or sensitization against food or inhalant allergens at 6 years of age. On the contrary, food sensitization was more frequent in children who were introduced to solids later. The relationship between the timing of solid food introduction and eczema was not clear. There was no protective effect of a late introduction of solids or a less diverse diet within the first 4 months of life. However, in children without early skin or allergic symptoms were considered, eczema was significantly more frequent in children who received a more diverse diet within the first 4 months.

CONCLUSIONS. This study found no evidence supporting a delayed introduction of solids beyond 4 or 6 months for the prevention of asthma, allergic rhinitis, and food or inhalant sensitization at the age of 6 years. For eczema, the results were conflicting, and a protective effect of a delayed introduction of solids cannot be excluded. Positive associations between late introduction of solids and food sensitization have to be interpreted with caution. A true protective effect of a delayed introduction of solids on food sensitization seems unlikely.

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Key Words

eczema, asthma, hay fever, sensitization, allergy, cohort, reverse causality, solid food

Abbreviations

LISA—Influences of Lifestyle-Related Factors on the Immune System and the Development of Allergies in Childhood (LE—immunoglobulin E)

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ALIMENTACION COMPLEMENTARIA Y DERMATITIS ATOPICA

Solid Food Introduction in Relation to Eczema: Results from a Four-Year Prospective Birth Cohort Study

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Objective To assess the association between the introduction of solid foods in the first 12 months and the occurrence of eczema during the first 4 years of life in a prospective study of newborns.

Study design Data were taken from annually administered questionnaires from a large birth cohort (recruited 1995–1998) comprised of an intervention and a nonintervention group. Outcomes were doctor-diagnosed and symptomatic eczema. Multiple generalized estimation equation models were performed for the 2 study groups.

Results From the 5991 recruited infants, 4753 (79%) were followed up. The 2 study groups were different in their family risk of allergies and feeding practices. No association was found between the time of introduction of solids or the diversity of solids and eczema. In the nonintervention group, a decreased risk was observed for avoidance of soybean/nuts, but an increased risk was seen in doctor-diagnosed eczema for the avoidance of egg in the first year.

Conclusion The evidence from this study supports neither a delayed introduction of solids beyond the fourth month nor a delayed introduction of the most potentially allergenic solids beyond the sixth month of life for the prevention of eczema. However, effects under more extreme conditions cannot be ruled out. (*J Pediatr* 2007;151:352-8)

See editorial, p 331 and
related articles, p 347
and p 359

Infant feeding guidelines recommend a delayed introduction of solids to beyond 4 to 6 months of age to prevent atopic diseases.¹⁻⁴ In 2001, the World Health Organization tightened their recommendations and proposed exclusive breastfeeding for the first 6 months of life and the introduction of solids only thereafter.³ However, scientific evidence supporting a delayed solid food introduction for the prevention of atopic diseases is scarce and inconsistent.^{5,6} The discussion was revived, and new studies were demanded taking into account reverse causality and confounding factors for population subgroups.⁷

Recently, we published results from the German LISA cohort (Influences of

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ALIMENTOS RICOS EN NITRATOS

- Vegetales de hoja verde : espinacas,acelga,lechuga,repollo,puerro,remolacha..
- Riesgo de metahemoglobinemia : Purés de verduras conservados más de 12 h.
- Lactantes con Ph. gástrico menos ácido las bacterias reducen nitratos a nitritos.
- PREVENCIÓN . Consumir en fresco ó **congelar de inmediato ??**

Y LA OBESIDAD....

- SAL



- SACAROSA



- MOMENTO DE INTRODUCCION DE LA COMPLEMENTARIA

AVC | Artículo valorado críticamente:

Huh SY, Rifas-Shiman SL, Taveras EM, Oken E, Gillman MW. Timing of solid food introduction and risk of obesity in preschool-aged children. *Pediatrics*. 2011;127:e544-51. D.O.I.: 10.1542/peds.2010-0740.

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Palabras clave: lactante; alimento; lactancia materna

Keywords: infant; food; breastfeeding

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Resumen Estructurado

Objetivo: investigar la relación entre la cronología de la introducción de la alimentación complementaria durante la lactancia y la obesidad a los tres años de edad, teniendo en cuenta, además, la relación con la lactancia materna.

Diseño: datos obtenidos a partir del estudio de cohortes Project Viva (estudio de cohortes promovido por la Harvard Medical School a partir de 2000 mujeres embarazadas y sus descendientes con el objetivo de examinar factores pre- y perinatales y sus efectos durante el embarazo –crecimiento fetal, duración de la gestación, diabetes gestacional–, y en la salud postnatal –neurodesarrollo, riesgo cardiovascular, obesidad, asma–). Recogida de datos mediante entrevista personal durante el embarazo, a los seis meses y a los tres años del niño, por parte de los investigadores. Datos antropométricos del nacimiento y a los cuatro meses, obtenidos de los registros clínicos. Recogida de datos nutricionales mediante encuesta cumplimentada por las madres a los 12 y 34 meses de edad del niño.

Emplazamiento: varias policlínicas del este de Massachusetts.

Población de estudio: de 2128 gestantes preseleccionadas, se consideraron 1579 niños elegibles. En el momento de la selección, las gestantes debían utilizar de forma fluida el inglés, tener una edad gestacional de menos de 22 semanas y albergar un único feto. Finalmente, hubo 148 pérdidas en el seguimiento, pero también se excluyeron por datos incompletos 548 niños. El análisis se hizo sobre 847 niños y las pérdidas supusieron un 46,35%.

Evaluación del factor de riesgo: se valora el momento de introducción de la alimentación complementaria (diez grupos de alimentos sólidos) según se realice antes del cuarto mes de vida, entre el cuarto y el quinto mes de vida y el sexto mes de vida o posterior, pero también se separan dos grupos en función de la duración de la lactancia materna (LM): un grupo con LM exclusiva o parcial al menos cuatro meses (LM > 4) y otro sin LM o LM finalizada antes de los cuatro meses de vida (LM < 4).

Medición del resultado: obesidad definida como un índice de masa corporal (IMC) \geq percentil 95 con las gráficas del CDC del año 2000. Análisis estadístico mediante modelos de regresión lineal separados según el tipo de lactancia relacionando el momento de introducción de la alimentación complementaria con las medias del z-score del IMC a los tres años, no ajustado y ajustado según diferentes variables potencialmente de confusión.

Resultados principales: dada la gran cantidad de pérdidas, se compara el grupo de niños incluidos (847) con el de los excluidos (732), de forma que en el grupo incluido hay mayor probabilidad de ser de raza blanca (71% frente a 59%), de tener la madre un nivel educativo mayor, mayores ingresos económicos y de haber lactado más de cuatro meses (67% frente a 60%). Un 8% de LM > 4 meses inició la alimentación complementaria antes de los cuatro meses de vida, frente a un 33% de LM < 4. No hubo significación estadística en las *odds ratio* (OR) de IMC \geq percentil 95 o de las medias del z-score del IMC a los tres años de edad en LM > 4 según el momento de introducción de sólidos, pero sí en LM < 4 meses. En este grupo, la OR de IMC \geq percentil 95 entre los que inician la alimentación complementaria antes del cuarto mes, frente a los que lo hacen al cuarto y quinto mes, es de 6,3 (intervalo de confianza del 95% [IC 95%]: 2,3 a 16,9) y la diferencia media del z-score del IMC a los tres años es de 0,36 (IC 95%: 0,01 a 0,61) a favor del grupo que la inicia antes del cuarto mes.

Conclusión: en los lactantes alimentados con leche de fórmula o destetados antes del cuarto mes de edad, la introducción de alimentación complementaria antes del cuarto mes se asocia con un aumento de la probabilidad de obesidad a los tres años de edad.

EN FIN.....

- La mayoría de las guías y recomendaciones **no** están basadas en la evidencia
- **Los recomendaciones difieren en función de aspectos más socioculturales que científicos casi en todas las guías**
- Se desconocen en gran parte efectos de alimentación complementaria y su introducción sobre el niño

A Pesar de todo...

**¡Que en esto de los
alimentos aún no hay
mucho ciencia!**

Pero que si queremos...

**...podemos hacer las
cosas de forma
ordenada**



PARA LOS ORDENADOS

1. **Lactancia materna exclusiva**

Debe animarse a las madres para que realicen una lactancia materna prolongada, que en nuestro medio puede aconsejarse de forma exclusiva hasta los 6 meses y posteriormente suplementada.

En caso de abandono reciente es aconsejable ensayar métodos farmacológicos de reinducción de lactancia materna.

PARA LOS ORDENADOS

2. En caso de fracaso de la lactancia natural, se dará **lactancia artificial** con fórmula de inicio hasta los 6 meses y posteriormente se puede continuar con ella o dar una fórmula de continuación, aconsejable sobre todo en los casos en que la leche de inicio no sea enriquecida en hierro. La ingesta adecuada de leche entre los 6 y 24 meses se estima en torno a 500 ml al día.

PARA LOS ORDENADOS

3. La **introducción de la alimentación complementaria** no debe hacerse antes del 4º mes y tampoco más tarde del 6º, siempre según el ritmo de crecimiento del lactante.

Se hará paulatina y escalonada, pudiendo comenzar por cereales o fruta o por verdura con carne, en dependencia de diversos factores individuales y del tipo de lactancia del niño.

Nunca la alimentación complementaria superará el 50% del total de la ingesta calórica del niño

PARA LOS ORDENADOS

4. Una vez iniciada la alimentación complementaria, aumentan las **necesidades de líquidos**, siendo las principales fuentes de los mismos la propia leche y suplementos de agua.

Moderar los aportes de zumos de frutas por su escaso valor nutricional y el riesgo de afectar el apetito del niño para otros alimentos.

PARA LOS ORDENADOS

5. Durante el primer año **los cereales** se ofrecerán al lactante añadidos a la fórmula láctea que esté tomando.

Los cereales con **gluten** no deben introducirse antes de los 4 meses de vida; tampoco existen evidencias de que sea preciso postergarlos más allá de los 6 meses. Siendo recomendable el inicio de su administración, **coincidiendo con lactancia materna y hacia el 5 o 6 mes ????**

PARA LOS ORDENADOS

6. Las **proteínas de origen animal**, (comenzar con carnes magras rojas o blancas), se introducirán , mezcladas con vegetales.

Evitar o retrasar la introducción de alimentos potencialmente alergénicos (pescado y huevo) no ha demostrado convincentemente reducir las alergias, ni en niños considerados de riesgo, ni de no riesgo.

Los sesos y vísceras por su alto contenido en lípidos limitar su consumo.

PARA LOS ORDENADOS

7. La **leche entera de vaca** no debe ser administrada antes de los 12 meses por su elevada carga renal de solutos y el riesgo de ferropenia asociada a su consumo precoz.

Los **derivados lácteos**, concretamente el yogur o los quesos blandos frescos, pueden incorporarse a la dieta del lactante hacia los 10 meses de vida.

PARA LOS ORDENADOS

8. Los niños no deberían seguir **una dieta vegetariana**.

Los niños que tomen dieta vegetariana deben recibir una cantidad adecuada de leche (500 ml) y productos derivados de la misma.

OBJETIVOS DEL PEDIATRA EN ALIMENTACION COMPLEMENTARIA GUADALAJARA AEPAP NOV 2011

1. Mejorar la formación en habilidades para apoyar LM
2. Promover una alimentación complementaria centrada mas en habilidades que en alimentos y cantidades
3. No demorar la introducción de sólidos y la masticación.
4. Eliminar los biberones y los triturados cuanto antes.
5. Sentar al bebé a la mesa familiar cuanto antes.
6. Frenar la influencia de los alimentos industriales para niños.

