

Dairy intake in relation to breast and pubertal development in Chilean girls

Por: [Gaskins, AJ](#) (Gaskins, Audrey J.)^[1,2,3]; [Pereira, A](#) (Pereira, Ana)^[4]; [Quintiliano, D](#) (Quintiliano, Daiana)^[4]; [Shepherd, JA](#) (Shepherd, John A.)^[5,6]; [Uauy, R](#) (Uauy, Ricardo)^[4,7,8]; [Corvalan, C](#) (Corvalan, Camila)^[4]; [Michels, KB](#) (Michels, Karin B.)^[9]

[Ver ResearcherID y ORCID](#)

AMERICAN JOURNAL OF CLINICAL NUTRITION

Volumen: 105

Número: 5

Páginas: 1166-1175

DOI: 10.3945/ajcn.116.150359

Fecha de publicación: MAY 1 2017

[Ver impacto de la revista](#)

Resumen

Background: Frequent dairy consumption in childhood has been related to higher growth-hormone concentrations that may affect mammary gland and pubertal development.

Objective: We evaluated the relation of dairy intake to breast composition at Tanner stage 4 and age at menarche.

Design: A total of 515 Chilean girls are included in the Growth and Obesity Cohort Study. The subjects have been followed longitudinally since they were 3-4 y old (from 2006 to the present). Starting in 2013, diet was assessed every 6 mo via a 24-h recall. The breast fibroglandular volume (FGV) was measured with the use of dual-energy X-ray absorptiometry at Tanner stage 4. The date of menarche was reported every 6 mo. Our analysis included 290 girls with data on prospective diet and breast composition and 324 girls with data on prospective diet and age at menarche.

Results: The mean \pm SD breast FGV and percentage of fibroglandular volume (%FGV) (i.e., FGV divided by total breast volume times 100) at Tanner stage 4 was 81.7 \pm 6 32.2 cm³ and 42.0% \pm 16.7%, respectively. Only sweetened, artificially flavored milk-based drinks were associated with the %FGV with girls who consumed > 125 g/d having a %FGV that was 4.5% (95% CI: 0.9%, 8.1%) higher than that of girls who consumed none (P-trend = 0.007). Yogurt intake was associated with a lower FGV. Specifically, girls who consumed > 125 g yogurt/d had -10.2 cm³ (95% CI: -20.2, -0.3 cm³) less FGV than did girls who consumed no yogurt (P-trend = 0.03). The majority (90.7%) of girls in our cohort attained menarche before the data analyses with a mean \pm SD age at menarche of 11.9 \pm 6 0.7 y. In multivariable models, low-fat dairy, low-fat milk, and yogurt intakes were associated with a later age at menarche. In particular, girls who consumed > 125 g yogurt/d had menarche, on average, 4.6 mo (95% CI: 1.9, 7.4 mo) later than girls who consumed no yogurt (P-

trend = 0.01).

Conclusion: More-frequent consumption of sweetened, artificially-flavored milk-based drinks is associated with a higher %FGV, whereas higher yogurt intake is associated with a lower FGV and delayed age at menarche in Chilean girls.

Palabras clave

Palabras clave de autor:[age atmenarche](#); [breast composition](#); [dairy](#); [development](#); [puberty](#)

KeyWords Plus:[GROWTH-FACTOR-I](#); [MAMMOGRAPHIC DENSITY](#); [IGF-I](#); [POSTMENOPAUSAL WOMEN](#); [ESTROGEN METABOLITES](#); [SOCIOECONOMIC-STATUS](#); [TISSUE COMPOSITION](#); [MILK CONSUMPTION](#); [ADOLESCENT GIRLS](#); [CANCER RISK](#)

Información del autor

Dirección para petición de copias: Michels, KB (autor para petición de copias)

+ Univ Calif Los Angeles, Dept Epidemiol, Fielding Sch Publ Hlth, Los Angeles, CA 90095 USA.

Direcciones:

- [1] Harvard TH Chan Sch Publ Hlth, Dept Nutr, Boston, MA USA
- + [2] Brigham & Womens Hosp, Dept Med, Channing Div Network Med, 75 Francis St, Boston, MA 02115 USA
- + [3] Harvard Med Sch, Boston, MA USA
- + [4] Univ Chile, Inst Nutr & Food Technol, Santiago, Chile
- + [5] Univ Calif San Francisco, Dept Radiol & Biomed Imaging, San Francisco, CA 94143 USA
- + [6] Univ Calif San Francisco, Univ Calif Berkeley, Grad Program Bioengn, San Francisco, CA 94143 USA
- + [7] Catholic Univ Chile, Sch Med, Div Pediat, Santiago, Chile
- + [8] London Sch Hyg & Trop Med, London, England
- + [9] Univ Calif Los Angeles, Dept Epidemiol, Fielding Sch Publ Hlth, Los Angeles, CA 90095 USA

Direcciones de correo electrónico:k.michels@ucla.edu

Financiación

Entidad financiadora	Número de concesión
National Cancer Institute, NIH	
US Department of Health and Human Services (Public Health Service)	R01 CA158313
World Cancer Research Fund	2010/245

[Ver texto de financiación](#)

Editorial

AMER SOC NUTRITION-ASN, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814 USA

Categorías / Clasificación

Áreas de investigación: Nutrition & Dietetics

Categorías de Web of Science: Nutrition & Dietetics

Información del documento

Tipo de documento: Article

Idioma: English

Número de acceso: [WOS:000402404900019](#)

ID de PubMed: 28381475

ISSN: 0002-9165

eISSN: 1938-3207

Información de la revista

- Impact Factor: [Journal Citation Reports](#)

Otra información

Número IDS: EW3NK

Referencias citadas en la Colección principal de Web of Science: [64](#)

Veces citado en la Colección principal de Web of Science: [3](#)