Duration of Breastfeeding and the Risk of Childhood Asthma in Children Living in Urban Areas

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Asthma is one of the most common chronic diseases during childhood, and the role of breastfeeding in its development remains controversial [1-4]. Our objective was to quantify the association between the duration of breastfeeding and the occurrence of asthma in infancy.

We invited 5736 children randomly selected from elementary schools in the city of Porto (Portugal) and their parents to participate in the study: 3327 parents signed and returned the consent form. Anthropometric measurements were taken and parents answered a questionnaire on

Table. Prevalence of Physician-Diagnosed Asthma in Children by Categories of Possible Confounders.

	Girls			Boys		
	N	n	%	N	n	%
Total	978	72	7.4	968	108	11.2
Age, y						
5	15	2	13.3	16	4	25.0
6	212	12	5.7	240	20	8.3
7	265	20	7.5	246	29	11.8
8	210	17	8.1	209	29	13.9
9	236	16	6.8	214	23	10.7
10	40	5	12.5	43	3	7.0
	P for trend=.498			*P* for trend=.942		
Body mass index						
Not overweight	579	37	6.4	566	62	11.0
Overweight	263	19	7.2	243	26	10.7
Obese	106	13	12.3	135	16	11.9
	P for trend=.058			*P* for trend=.833		
Atopic mother						
Yes	246	32	13.0	245	38	15.5
No	702	36	5.1	683	61	8.9
	P<.001			*P*=.004		
Atopic father						
Yes	169	18	10.7	162	28	17.3
No	723	43	5.9	710	68	9.6
	P=.029			*P*=.005		
Mother's age at birth						
1st tertile (10-27 y)	365	27	7.4	332	42	12.7
2nd tertile (27-32 y)	344	23	6.7	324	31	9.6
3rd tertile (32-52y)	262	21	8.0	305	33	10.8
	P for trend=.813			*P* for trend=.446		
Smoking inside the house						
Yes	295	18	6.1	259	30	11.6
No	677	54	8.0	708	78	11.0
	P=.305			*P*=.805		
Breastfeeding						
Never	54	6	11.1	61	8	13.1
< 1 mo	152	11	7.2	125	19	15.2
1 to 3 mo	267	22	8.2	227	29	12.8
3 to 6 mo	210	13	6.2	234	25	10.7
6 to 12 mo	187	13	7.0	206	17	8.3
> 12 mo	95	6	6.3	104	8	7.8
	P for trend=.329			*P* for trend=.022		

sociodemographic characteristics, asthma, and breastfeeding. Overall, 2462 questionnaires were returned and 486 children were excluded, leaving a final sample of 1976 children aged 5 to 10 years. Asthma was defined as self-reported and physician-diagnosed. Unconditional logistic regression models adjusting for confounders were applied to estimate the association between asthma and breastfeeding.

Asthma was more prevalent in boys than in girls (11.2% vs 7.4%, *P*=.004) and in children who had an atopic mother (13.0% vs 5.1%, *P*<.001 for girls; 15.5% vs 8.9%, *P*=.004 for boys) or father (10.7% vs 5.9%, *P*=.029 for girls; 17.3% vs 9.6%, *P*=.005 for boys) (Table). In boys, increased duration of breastfeeding was associated with a lower probability of a medical diagnosis of asthma (*P*=.022) (Table). Breastfeeding for more than 6 months was inversely related to the presence of asthma in boys (odds ratio, 0.554; 95% confidence interval, 0.323-0.949). The results observed for other cutoffs (3 and 12 months) were similar.

Breastfeeding is important for the development of the immune system in infancy and, therefore, may influence the incidence and severity of asthma [2]. Until some time ago, the role of breastfeeding in preventing asthma and allergy was unquestionable. However, in 2000, data from a cohort in Tucson (Arizona, USA) showed that breastfeeding was generally protective against atopy, although breastfeeding mothers with high immunoglobulin E levels had children with higher rates of asthma and allergy [4]. The results from a New Zealand cohort study showed that children who were breastfed for at least 4 weeks were more likely to have asthma as young adults [3]. The methodology of both studies was criticized by Peat et al [5]. The duration of follow-up and age of onset of asthma are the main reasons why in some studies breastfeeding protects against atopy and asthma, whereas in others the risk increases. If breastfeeding delays the onset of asthma, current prevalence of asthma would be lower in breastfed babies than in nonbreastfed babies, although it would be similar later in life [6]. In the present study, occurrence of asthma at the age of 5 to 10 years was an outcome measure. Other reasons for the heterogeneity of these results are as follows: duration of breastfeeding in the study population, which varies considerably; immunological complexity of breast milk, which contains allergens that may be sensitizing in some cases and protective in others; exposure to diverse environmental factors; use of different cutoffs for established breastfeeding; and different confounding factors. The reasons for the gender-specific differences we found could be numerous, because asthma is usually a multifactorial disease in which genetic, environmental, pathophysiologic, and immunologic aspects play a part.

We concluded that prolonged breastfeeding (≥6 months) could reduce the risk of asthma in boys who live in the city.

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Selective Immunoglobulin M Deficiency in a Patient With Refractory Giardiasis

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Palabras clave: *Giardia lamblia*. Giardiasis. Refractoria. Deficiencia selectiva de IgM.

Giardia lamblia is one of the most common gastrointestinal parasites in the world. Failure of treatment in patients with giardiasis is infrequent and usually occurs in immunosuppressed patients such as those with HIV infection and common variable immunodeficiency [1]. Giardiasis has only been found in 1 case of selective immunoglobulin (Ig) M deficiency [2]. The present report describes a patient with selective IgM deficiency who first presented with refractory giardiasis.

In 2007, a 16-year-old Thai boy presented with a 2-year history of chronic diarrhea and weight loss. His medical and family histories were unremarkable, as was a physical examination. Stool examination revealed persistent