

Supplementary tables

Supplementary Table –S1: Assessing interaction of maternal gestational smoking or passive smoke exposure at 1-or-2 years (i.e., during lactation) with residuals of duration of exclusive breastfeeding on eczema at ages 1-or-2, 4, 10, and 18 adjusted for covariates (n=3780)

Parameter	Levels	Risk ratio (95% CI)	p-value
Maternal gestational smoking or passive smoke exposure at 1-2 years		0.79 (0.62, 1.00)	0.06
Residual duration of exclusive breastfeeding		1.0 (0.99, 1.01)	0.44
Maternal gestational smoking or passive smoke exposure at 1-2 years × Residual of duration breastfeeding [#]	0 weeks	0.79 (0.62, 1.0)	0.06
	≥ 3 weeks	0.73 (0.57, 0.95)	0.02
	≥ 9 weeks	0.63 (0.46, 0.87)	0.005
	≥ 15 weeks	0.54 (0.36, 0.82)	0.004
	≥ 21 weeks	0.46 (0.27, 0.79)	0.004
FLG loss of function variants		1.58 (1.17, 2.13)	0.0025
Time	Year 4	0.74 (0.62, 0.88)	0.0012
	Year 10	0.95 (0.8, 1.1)	0.54
	Year 18	0.76 (0.63, 0.93)	0.008
	Year 1/ 2	Ref.	Ref.
Weeks of gestation		1.11 (1.01, 1.22)	0.02
Maternal eczema status		1.30 (0.97, 1.74)	0.07
Paternal eczema status		1.71 (1.23, 2.37)	0.001
Gender (Female is the reference)	Male	0.94 (0.76, 1.17)	0.6
Socio economic status (High socioeconomic status is the reference)	Mid	1.00 (0.69, 1.47)	0.96
	Low	0.93 (0.58, 1.49)	0.78

Supplementary table S2: Association of maternal gestational smoking and duration of exclusive breastfeeding with eczema at ages 1-or-2, 4, 10, and 18 adjusted for covariates.

Parameter	Outcome: Eczema prevalence at all the time points (n=3777)			Outcome: Eczema persistence at all three transitions (n=2331)		
	Levels	Risk ratio (95% CI)	p-value		Risk ratio (95% CI)	p-value
Maternal smoking during pregnancy		0.97 (0.70, 1.36)	0.87		0.79 (0.45, 1.40)	0.42
Duration of exclusive breastfeeding		1.00 (0.99, 1.01)	0.87		0.99 (0.98, 1.01)	0.75
Maternal smoking during pregnancy × Duration of exclusive breastfeeding ^{#*}	0 weeks	0.97 (0.70, 1.36)	0.87		0.8 (0.45, 1.42)	0.45
	3 weeks	0.88 (0.66, 1.20)	0.44		0.7 (0.4, 1.22)	0.19
	9 weeks	0.74 (0.54, 1.01)	0.06		0.54 (0.30, 0.95)	0.03
	15 weeks	0.62 (0.41, 0.93)	0.02		0.41 (0.21, 0.82)	0.01
	21 weeks	0.51 (0.30, 0.88)	0.016		0.31 (0.13, 0.74)	0.009
FLG loss of function variants		1.57 (1.16, 2.12)	0.0034		1.91 (1.19, 3.06)	0.007
Time	Year 1/ 2	Ref.	Ref.	Transition 1 (1-or-2 to 4 years)	Ref.	Ref.
	Year 4	0.74 (0.62, 0.89)	0.0012	Transition 2 (4 to 10 years)	1.02 (0.97, 1.08)	0.40
	Year 10	0.95 (0.80, 1.12)	0.54	Transition 3 (10 to 18 years)	0.89 (0.74, 1.07)	0.21
	Year 18	0.76 (0.63, 0.93)	0.08			
Weeks of gestation		1.1 (1.0, 1.21)	0.034		1.1 (0.93, 1.31)	0.24
Maternal eczema status		1.31 (0.98, 1.76)	0.06		1.26 (0.75, 2.09)	0.38
Paternal eczema status		1.74 (1.26, 2.41)	0.0008		2.09 (1.26, 3.46)	0.004
Gender (Female is the reference)	Male	0.94 (0.75, 1.17)	0.57		0.97 (0.67, 1.41)	0.89
Socio economic status (high is reference)	Mid	0.98 (0.67, 1.42)	0.90		1.02 (0.56, 1.90)	0.93
	Low	0.92 (0.58, 1.45)	0.70		0.81 (0.36, 1.86)	0.63

Overall significance is 0.04 when the outcome is eczema prevalence at ages 1-or-2, 4, 10, and 18 years.

*Overall significance is 0.03 when the outcome is persistent eczema for all the transitions from age 1-or-2 to 4 years; age 4 to 10 years; age 10 to 18 years

Supplementary Table S3: Association of exclusive breastfeeding duration with prevalence of eczema (measured repeatedly at ages 1-or-2, 4, 10, and 18 years) stratified by maternal smoking during pregnancy.

		Maternal smoking during pregnancy			
		NO (n=3011)		YES (n=839)	
Parameter	Levels	Risk ratio (95% CI)	p-value	Risk ratio (95% CI)	p-value
Duration of exclusive breastfeeding		1.00 (0.99, 1.01)	0.75	0.97 (0.94, 0.99)	0.04
	0 weeks	Ref.		Ref.	
	3 weeks	1.00 (0.97, 1.03)	0.75	0.91 (0.84, 0.99)	0.04
	9 weeks	1.01 (0.93, 1.10)	0.75	0.76 (0.58, 0.98)	0.04
	15 weeks	1.01 (0.91, 1.14)	0.75	0.63 (0.41, 0.97)	0.04
	21 weeks	1.03 (0.85, 1.25)	0.75	0.52 (0.29, 0.96)	0.04
FLG loss of function variants		1.5 (1.06, 2.06)	0.02	1.99 (1.02, 3.90)	0.04
Time	Year 1/ 2	Ref.	Ref.	Ref.	Ref.
	Year 4	0.76 (0.63, 0.92)	0.006	0.66 (0.4, 1.08)	0.10
	Year 10	0.94 (0.78, 1.13)	0.51	0.98 (0.64, 1.48)	0.90
	Year 18	0.74 (0.60, 0.92)	0.007	0.86 (0.54, 1.39)	0.55
Weeks of gestation		1.1 (1.0, 1.23)	0.09	1.12 (0.96, 1.33)	0.15
Maternal eczema status		1.3 (0.97, 1.85)	0.07	1.17 (0.61, 2.24)	0.62
Paternal eczema status		1.87 (1.32, 2.63)	0.0004	1.24 (0.54, 2.86)	0.61
Gender (Female is the reference)	Male	0.89 (0.70, 1.14)	0.36	1.06 (0.64, 1.76)	0.81

Socio economic status not added in the model since it did not have enough variability in the smoking='Yes' group

Supplementary Table S4: Association of exclusive breastfeeding duration with prevalence of eczema (measured repeatedly at ages 1-or-2, 4, 10, and 18 years) where mothers smoked during gestational.

	Age 1 or 2 years (n=231)		Age 4 years (n=184)		Age 10 years (n=217)		Age 18 years (n=207)			Repeated measures (n=839)	
Parameter	Risk ratio (95% CI)	p*	Risk ratio (95% CI)	p*	Risk ratio (95% CI)	p*	Risk ratio (95% CI)	p*		Risk ratio (95% CI)	p*
Duration of exclusive breastfeeding											
0 weeks	0.98 (0.9, 1.0)	0.5	0.96 (0.9, 1.0)	0.8	0.95 (0.8, 1.0)	0.1	0.97 (0.9, 1.0)	0.4		0.9 (0.94, 0.99)	0.04
≥ 3 weeks	Ref.		Ref.		Ref.		Ref.			Ref.	
≥ 9 weeks	0.95 (0.8, 1.1)	0.5	0.91 (0.7, 1.1)	0.4	0.85 (0.7, 1.0)	0.1	0.91 (0.7, 1.1)	0.4		0.91 (0.8, 0.99)	0.04
≥ 15 weeks	0.87 (0.5, 1.4)	0.5	0.74 (0.3, 1.5)	0.4	0.62 (0.3, 1.1)	0.1	0.77 (0.4, 1.4)	0.4		0.76 (0.6, 0.98)	0.04
≥ 21 weeks	0.83 (0.4, 1.5)	0.5	0.68 (0.3, 1.7)	0.4	0.53 (0.2, 1.2)	0.1	0.7 (0.3, 1.6)	0.4		0.63 (0.5, 0.97)	0.04
	0.72 (0.2, 2.1)	0.5	0.51 (0.1, 2.5)	0.4	0.33 (0.1, 1.3)	0.1	0.54 (0.1, 2.2)	0.4		0.52 (0.29, 0.96)	0.04
									Time		
									Year 1/2	Ref.	
									Year 4	0.66 (0.4, 1.08)	0.1
									Year 10	0.98 (0.64, 1.48)	0.9
									Year 18	0.86 (0.54, 1.39)	0.5
<i>FLG</i> variants	1.1 (0.3, 3.6)		1.2 (0.3, 5.5)	0.8	2.07 (0.8, 5.6)	0.1	3.8 (1.5, 10.1)	0.01		1.99 (1.02, 3.90)	0.05
Weeks of gestation	1.1 (0.8, 1.5)	0.3	1.2 (0.8, 1.7)	0.3	1.07 (0.8, 1.4)	0.6	1.13 (0.8, 1.6)	0.4		1.12 (0.96, 1.33)	0.1
Maternal eczema	1.4 (0.5, 3.9)	0.4	1.4 (0.4, 5.2)	0.6	0.83 (0.3, 2.8)	0.8	1.3 (0.4, 3.9)	0.6		1.17 (0.61, 2.24)	0.6
Paternal eczema	0.7 (0.1, 4.8)	0.7	2.5 (0.6, 11.3)	0.2	1.26 (0.3, 5.4)	0.7	1.4 (0.3, 6.3)	0.6		1.24 (0.54, 2.86)	0.6
Gender (Female is reference)	0.9 (0.4, 1.9)	0.8	0.9 (0.3, 2.6)	0.9	1.7 (0.8, 3.8)	0.2	0.8 (0.3, 2.0)	0.7		1.06 (0.64, 1.76)	0.8

Note: Socio economic status not added in the model since it did not have enough variability in the smoking = 'Yes' group