

**Table S1. Significant risk factors in univariate analysis which were associated with any wheeze in children and adolescents of Rabigh's community**

Variable	Any wheeze (n=82)		No wheeze (n=267)		Odds ratio (95% CI)	X <sup>2</sup>	P
	N	%	N	%			
<b>Residence near to main roads</b>	31	37.80	64	23.97	1.93 (1.14-3.27)	6.6	0.01
<b>Atopy in the child</b>	34	41.50	62	23.22	4.67 (2.76-7.88)	36.2	<0.0001
<b>Allergic rhinitis in the child</b>	43	52.43	43	16.10	5.74 (3.34-9.88)	44.6	<0.0001
<b>Allergic conjunctivitis in the child</b>	8	9.76	8	2.99	3.50 (1.27-9.64)	6.55	0.01
<b>Drug allergy in the child</b>	11	13.41	10	3.75	3.98 (1.63-9.75)	10.4	0.001
<b>Atopy in the family</b>	53	64.63	95	35.58	3.31 (1.97-5.55)	21.7	<0.0001
<b>Atopy in the mother</b>	28	34.15	46	17.23	2.49 (1.43-4.34)	10.7	0.001
<b>Atopy in the sister</b>	24	29.27	34	12.73	2.84 (1.56-5.15)	12.4	<0.0001
<b>Allergic rhinitis in the family</b>	42	51.22	75	28.09	2.69 (1.62- 4.47)	15.1	<0.0001
<b>Eczema in the family</b>	22	26.83	32	11.99	2.69 (1.46-4.97)	10.6	0.001
<b>Allergic conjunctivitis in the family</b>	13	15.85	12	4.49	4.00 (1.75-9.17)	12.2	<0.0001
<b>Food allergy in the family</b>	29	35.37	43	16.10	2.85 (1.63-4.98)	14.1	<0.0001
<b>Drug allergy in the family</b>	7	8.54	7	2.62	3.47 (1.18-10.19)	5.7	0.02
<b>Carpet/Mouquette in rooms</b>	53	64.63	127	47.57	2.01 (1.21-3.36)	7.32	0.007
<b>Exposure to passive smoking</b>	32	39.02	58	21.72	2.31 (1.36-3.92)	9.80	0.002
<b>Exposure to burned coal/wood</b>	25	30.49	48	17.98	2.00 (1.14-3.52)	5.69	0.02
<b>Exposure to perfumes/incense</b>	70	85.37	181	67.79	2.77 (1.43-5.38)	9.6	0.002
<b>Exposure to dust</b>	45	54.88	93	34.83	2.28 (1.38-3.76)	10.5	0.001
<b>Viral respiratory infection induced-wheeze</b>	25	30.49	14	5.24	7.93 (3.88-16.19)	40.2	<0.0001
<b>Fast food more than once/week</b>	39	47.56	76	28.46	2.28 (1.37-3.79)	10.4	0.001
<b>Associated chronic illness/comorbidity</b>	20	24.39	33	12.36	2.29 (1.23-4.26)	7.05	0.008

**Table S2. Significant risk factors in univariate analysis which were associated with wheeze in the last 12 months in children and adolescents of Rabigh's community**

Variable	Wheeze in the last 12 months (n=52)		No wheeze in the last 12 months (n=297)		Odds ratio (95% CI)	X <sup>2</sup>	P
	N	%	N	%			
<b>Residence near to main roads</b>	23	44.23	72	24.24	2.48 (1.35-4.55)	8.9	0.003
<b>Atopy in the child</b>	34	65.38	75	25.25	6.09 (3.23-11.51)	36.3	<0.0001
<b>Allergic rhinitis in the child</b>	31	59.62	55	18.52	6.49 (3.47-12.15)	40.2	<0.0001
<b>Eczema in the child</b>	11	21.15	22	7.41	3.35 (1.51- 7.42)	9.77	0.002
<b>Allergic conjunctivitis in the child</b>	7	13.46	9	3.03	4.98 (1.77-14.03)	11.00	0.001
<b>Drug allergy in the child</b>	11	21.15	10	3.37	7.70 (3.08-19.26)	24.8	<0.0001
<b>Atopy in the family</b>	32	61.54	116	39.06	2.49 (1.36-4.57)	9.16	0.002
<b>Atopy in the mother</b>	18	34.62	56	18.86	2.28 (1.20-4.33)	6.58	0.01
<b>Atopy in the brother</b>	16	30.77	54	18.18	2.00 (1.04-3.86)	4.37	0.03
<b>Atopy in the sister</b>	16	30.77	42	14.14	2.69 (1.38-5.29)	8.83	0.003
<b>Allergic rhinitis in the family</b>	27	51.92	90	30.30	2.48 (1.37-4.52)	9.28	0.002
<b>Eczema in the family</b>	14	26.92	40	13.47	2.37 (1.18-4.75)	6.13	0.01
<b>Food allergy in the family</b>	17	32.69	55	18.52	2.14 (1.12-4.09)	5.40	0.02
<b>Exposure to passive smoking</b>	21	40.38	69	23.23	2.24 (1.21-4.14)	6.80	0.009
<b>Exposure to burned coal/wood</b>	17	32.69	56	18.86	2.09 (1.09-3.99)	5.12	0.02
<b>Exposure to perfumes/incense</b>	45	86.54	206	69.36	2.84 (1.23-6.54)	6.47	0.01
<b>Exposure to dust</b>	35	67.31	103	34.68	3.88 (2.07-7.26)	19.70	<0.0001
<b>Exposure to viral respiratory infections</b>	20	38.46	19	6.40	9.14 (4.42-18.91)	44.83	<0.0001

**Table S3. Significant risk factors in univariate analysis which were associated with ever physician-diagnosed asthma in children and adolescents of Rabigh's community**

Variable	Physician-diagnosed asthma (n=110)		No Physician-diagnosed asthma (n=239)		Odds ratio (95% CI)	X <sup>2</sup>	P
	N	%	N	%			
<b>Residence near to main roads</b>	42	38.2	53	22.2	2.17 (1.32-3.54)	9.6	0.002
<b>Atopy in the child</b>	51	46.4	59	24.7	2.63 (1.64-4.25)	16.4	<0.0001
<b>Allergic rhinitis in the child</b>	42	38.2	44	18.4	2.73 (1.65-4.54)	16.3	<0.0001
<b>Allergic conjunctivitis in the child</b>	9	8.2	7	2.9	2.95 (1.07-8.15)	4.8	0.03
<b>Drug allergy in the child</b>	13	11.8	8	3.3	3.83 (1.54-9.53)	9.6	0.004
<b>Atopy in the family</b>	68	61.8	80	33.5	3.22 (2.01-5.14)	24.8	<0.0001
<b>Atopy in the mother</b>	34	30.9	40	16.7	2.23(1.31-3.77)	9.10	0.003
<b>Atopy in the father</b>	23	20.9	25	10.5	2.26 (1.22-4.20)	6.90	0.008
<b>Atopy in the brother</b>	31	28.2	39	16.3	2.01(1.17-3.45)	6.60	0.01
<b>Atopy in the sister</b>	27	24.5	31	13.0	2.18 (1.23-3.88)	7.30	0.007
<b>Allergic rhinitis in the family</b>	53	48.2	64	26.8	2.54 (1.59- 4.07)	15.5	<0.0001
<b>Eczema in the family</b>	35	31.8	19	7.9	5.40 (2.92-10.01)	32.8	<0.0001
<b>Allergic conjunctivitis in the family</b>	17	15.5	8	3.3	5.28 (2.20-12.65)	16.6	<0.0001
<b>Food allergy in the family</b>	34	30.9	38	15.9	2.37 (1.39- 4.03)	10.7	0.001
<b>Exposure to passive smoking</b>	40	36.4	50	20.9	2.16 (1.31- 3.55)	9.90	0.002
<b>Carpet/mouquette in home</b>	71	64.5	111	46.4	2.09 (1.32- 3.35)	9.90	0.002
<b>Exposure to burned coal/wood</b>	33	30.0	40	16.7	2.13 (1.25- 3.62)	7.70	0.006
<b>Exposure to perfumes/incense</b>	102	92.7	149	62.3	7.70 (3.58-16.56)	34.4	<0.0001
<b>Exposure to dust</b>	67	60.9	71	29.7	3.69 (2.30- 5.92)	30.7	<0.0001
<b>Exposure to viral respiratory infections</b>	32	29.1	7	2.9	13.60 (5.77- 32.04)	52.4	<0.0001