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Table SI: Patients' characteristics at baseline

Characteristics	Total number [n= 50]	Intervention group [n=25]	Control group [n=25]
Female newborn		11 (44%)	12 (48%)
Cesarean delivery		11 (44%)	7 (28%)
Mother with AD		12 (48%)	10 (40%)
Father with AD		8 (32%)	9 (36%)
At least 1 parent with AD		18 (72%)	17 (68%)
Both parents with AD		2 (8%)	2 (8%)
At least one sibling with AD		7 (28%)	12 (48%)
Mother with asthma		6 (24%)	2 (8%)
Father with asthma		4 (16%)	3 (12%)
Mother with allergic rhinitis		12 (48%)	8 (32%)
Father with allergic rhinitis		12 (48%)	6 (24%)

Table SII: Emollient application frequency: Intervention group; *Telephone Interview

	More than once daily	Daily	5-6 d/wk	3-4 d/wk	1-2 d/wk	none
Visit 2 (Month 1) [n=20]	1 (5.0%)	18 (90.0%)	0	0	0	1 (5.0%)
Visit 3* (Month 3) [n=19]	0	17 (89.5%)	0	0	1 (5.3%)	1 (5.3%)
Visit 4 (Month 6) [n=17]	0	15 (88.2%)	0	0	1 (5.9%)	1 (5.9%)
Visit 5 (Month 12) [n= 17]	0	15 (88.2%)	0	0	1(5.9%)	1 (5.9%)
Visit 6* (Month 18) [n=17]	1 (5.9%)	4 (23.5%)	0	0	5 (29.4%)	7 (41.2%)
Visit 7 (Month 24) [n=14]	0	4 (28.6%)	0	0	4 (28.6%)	6 (42.9%)

Table III: Emollient application frequency: Control group; *Telephone Interview

	Daily	5-6 d/wk	3-4 d/wk	1-2 d/wk	None
Visit 2 (Month 1) [n=25]	4 (16%)	0	3 (12%)	5 (20%)	11 (44%)
Visit 3* (Month 3) [n= 23]	2 (8.7%)	1 (4.3%)	1 (4.3%)	5 (21.7%)	10 (43.5%)
Visit 4 (Month 6) [n= 21]	4 (19%)	1 (4.8%)	2 (9.2%)	5 (23.8%)	6 (28.6%)
Visit 5 (Month 12) [n= 19]	1 (5.3%)	1 (5.3%)	3 (15.8%)	8 (42.1%)	3 (15.8%)
Visit 6* (Month 18) [n= 19]	1 (5.3%)	0	3 (15.8%)	9 (47.4%)	3 (15.8%)
Visit 7 (Month 24) [n= 17]	1 (5.9%)	0	2 (11.8%)	6 (35.3%)	5 (29.4%)

Table SIV: Significantly differentially abundant ASVs between intervention and control group by intention to treat.

ASV_sepcies	log2FoldChange	padj
ASV2 Staphylococcus NA	-1.4329	0.0021
ASV14 Streptococcus mitis	-3.52	0.0009
ASV21 Staphylococcus epidermidis	-2.6724	0.0022
ASV54 Staphylococcus NA	-2.2684	0.0326
ASV56 Streptococcus mitis	2.2287	0.0115
ASV69 Streptococcus NA	2.3734	0.0033
ASV178 Enhydrobacter NA	1.8491	0.024

Table SV: Significantly differentially abundant ASVs between emollient and control group by sensitivity analysis.

ASV_sepcies	log2FoldChange	padj
ASV2 Staphylococcus NA	-1.1027	0.0231
ASV14 Streptococcus mitis	-4.1947	0
ASV21 Staphylococcus epidermidis	-2.0109	0.0464
ASV35 Veillonella NA	-2.4438	0.0197
ASV56 Streptococcus mitis	1.9077	0.0358
ASV94 Collinsella aerofaciens	-1.4408	0.0197
ASV100 Lactobacillus NA	-1.3246	0.0197
ASV109 Chryseobacterium anthropi	-1.6853	0.0358
ASV160 Moraxella catarrhalis	-1.6868	0.0197
ASV178 Enhydrobacter NA	1.9146	0.0197
ASV321 NA NA	-1.0008	0.0358