



Ev ii allerjenlerin ocukluk ađı astımı zerine etkileri nelerdir?



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Marmara ni. ocuk Gđs Hast.



Eviçi allerjenler

%80 astımlı hastanın en az bir ev içi allerjisi var.

1. Ev tozu akarları
2. Hayvan tüyleri
3. Küfler
4. Hamamböceği vb.



Hangi Yöntemler ?

- Akarisitler
- Hava temizleyiciler
- Halı kaldırma /süpürge
- Yastık kılıfları
- Küf uzaklaştırma
- Evdeki hayvanların gönderilmesi

Ev tozu akarı

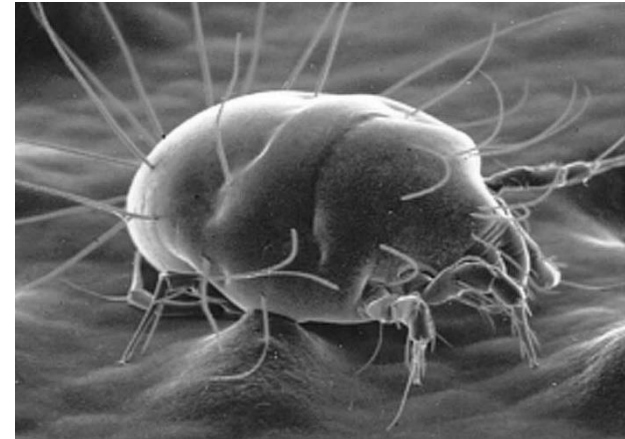
- Isle of Wight alıřması – 120 ocuk, 18 yıl
Astım azalmıř ama atopi aynı
- Manchester alıřması
Astımda fark yok, atopi yksek
- PIAMA alıřması
2 yařta astım az ama 8 yařta etki yok

Indoor Environmental Control Practices and Asthma Management

Elizabeth C. Matsui, MD, MHS, FAAP, Stuart L. Abramson, MD, PhD, AE-C, FAAP, Megan T. Sandel, MD, MPH, FAAP, SECTION ON ALLERGY AND IMMUNOLOGY, COUNCIL ON ENVIRONMENTAL HEALTH

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- %30-62 Akar allerjisi
- Akarisit: zahmetli ve etkisiz
- Kimyasal riski
- Mite sayısı %80 azalıyor



Akarisitler

Table 4. Acaricide (dust mite pesticide) interventions summary and strength of evidence

Comparison	Outcome*	Conclusion	Study Design and Sample Size	Strength of Evidence (Rationale)**
Acaricide vs. placebo	Asthma control	Not evaluable: Not reported in included studies.	NA	NA
	Exacerbations	Not evaluable: Not reported in included studies.	NA	NA
	Health care utilization	Not evaluable: Not reported in included studies.	NA	NA
	Pulmonary physiology: spirometry	No effect: No reported differences between acaricide and placebo for FEV ₁ , PEFR, or FVC measures.	4 RCTs ²⁶⁻²⁹ 1 non-RCT ³⁰ n=219	Moderate (Imprecise)
	Pulmonary physiology: airway hyper-responsiveness	Inconclusive: RCT found no difference between acaricide and placebo; non-RCT reported a statistically significant but not clinically significant improvement in PC ₂₀ following use of acaricide.	1 RCT ²⁵ 1 non-RCT ³⁰ n=93	Insufficient (Inconsistent, Imprecise) **Substantial imprecision
	Quality of Life	Inconclusive: Small RCT showed no between-group difference in quality of life; data shown graphically with no estimation of variability.	1 RCT ²⁹ n=62	Insufficient (Study limitations, Unknown consistency, Imprecise)
	Symptoms (secondary measure)	Inconclusive: Small RCT found improvements in both parent and physician ratings of child's asthma severity, but no differences in frequency of wheezing.	1 RCT ²⁴ n=35	Insufficient (Unknown consistency, Imprecise) **Substantial imprecision
Allergen levels: Environmental measures (secondary measure)	Inconclusive: Small RCT ²⁴ showed decreased levels of HDM allergens in both groups, with a greater decrease in the acaricide group. Another small RCT ²⁶ showed no difference between groups for allergens in carpet or mattress, but found a reduction of allergens in other areas of the house. The remaining studies found no differences between groups.	4 RCTs ^{24,26,27,29} 1 non-RCT ³⁰ n=228	Insufficient (Inconsistent, Imprecise)	
Acaricide vs. other mite-avoidance interventions	Asthma control	Not evaluable: Not reported in included studies.	NA	NA
	Exacerbations	Not evaluable: Not reported in included studies.	NA	NA
	Health care utilization	Not evaluable: Not reported in included studies.	NA	NA
	Pulmonary physiology	No effect: No reported differences between acaricide and other mite-avoidance interventions for FEV ₁ , PEFR, or FVC measures.	2 RCTs ^{28,29} 1 non-RCT ³⁰ n=147	Low (Study limitations, Imprecise)
	Quality of life	Not evaluable: Not reported in included studies.	NA	NA
	Symptoms (secondary measure)	Not evaluable: Not reported in included studies.	NA	NA
	Allergen levels (secondary measure)	Inconclusive: No studies showed between-group differences in allergen levels. Reported data did not allow assessment of precision.	2 RCTs ^{28,29} 1 non-RCT ³⁰ n=147	Insufficient (Study limitations, Imprecise) **Unable to determine effect from reported data

Environmental triggers and avoidance in the management of asthma

Journal of Asthma and Allergy 2017:10 47–56

Measure	Effect on allergen levels	Clinical effectiveness
House dust mite allergen avoidance		
Encasing mattresses, pillows, and quilts in impermeable covers	Ib	Ia – no effect in adults Ib – some effect in children
Washing bedding in the hot cycle (55°C–60°C)	IIb	IV
Replacing carpets with hard flooring	Ib	IV
Acaricides and/or tannic acid	III	IV
Minimizing dust accumulating objects in closed cupboards	IV	IV
Vacuum cleaners with integral HEPA filter and double thickness bags	IIb	IV
Removing and hot washing/freezing of soft toys	IV	IV



Dr. Saraçoğlu ile
Hayat ve Sağlık

Table 5. Air purification interventions summary and strength of evidence

Comparison	Outcome*	Conclusion	Study Design and Sample Size	Strength of Evidence (Rationale)**
Air filtration/air purifier vs. control	Asthma control	Inconclusive: 1 RCT with low risk of bias showed no differences in ACQ scores. 1 RCT with high risk of bias showed an improvement in combined asthma outcomes following use of air cleaners. 1 RCT ³⁵ did not report differences in asthma scores between interventions.	3 RCTs ^{35,37,40} n=169	Insufficient (Inconsistent, Imprecise) **Unable to determine effect from reported data
	Exacerbations	No effect: Measures of ED visits and use of rescue medications did not differ between treatment conditions.	3 RCTs ^{32,35,40} n=167	Low (Study limitations, Imprecise)
	Health care utilization	Not evaluable: Not reported in included studies.	NA	NA
	Pulmonary physiology	No effect: 5 RCTs showed no differences in spirometry measures. 1 other RCT ⁴⁰ showed improvements in evening peak flow, but in no other spirometry measures. 1 other RCT ³⁴ showed improvements in peak flow variation and airway hyper-responsiveness but not in FEV ₁ .	7 RCTs ^{32-35,37,38,40} n=263	Low (Inconsistent, Imprecise)

Hava temizleyiciler

	Quality of life: mini-AQLQ	Improvement: 1 RCT ³⁴ found significant improvement in mini-AQLQ scores for active air cleaners compared with placebo (mean difference in change [SEM], active – placebo = 0.54 (0.28); p<0.05).	1 RCT ³⁴ n=28	Low (Study limitations, Unknown consistency)
	Quality of life: other measures	No effect: 2 RCTs showed no between-group differences in quality of life.	2 RCTs ^{33,40} n=155	Moderate (Imprecise)
	Symptoms (secondary measure)	Inconclusive: Following intervention, 1 small RCT ³⁵ reported improvements in self-report asthma symptoms but provided no summary statistics.	1 RCT ³⁶ n=18	Insufficient (Unknown consistency, Imprecise) **Substantial imprecision
	Allergen levels (secondary measure)	No effect: 4 RCTs ^{33,34,37,40} found no differences between treatment groups. 1 small RCT ³⁵ showed decreased levels of Der p during the active intervention compared with placebo.	5 RCTs ^{33-35,37,40} n=225	Low (Imprecise)
Air filtration/air purifier vs. other mite avoidance interventions	Asthma control	Not evaluable: Not reported in included studies.	NA	NA
	Exacerbations	Not evaluable: Not reported in included studies.	NA	NA
	Healthcare utilization	Not evaluable: Not reported in included studies.	NA	NA
	Pulmonary physiology	Inconclusive: 1 RCT showed no differences for FEV ₁ , vital capacity, histamine PC ₂₀ . Data were shown graphically for the 2 groups with no estimate of variability; analyses for between-group comparisons not reported.	1 RCT ³⁹ n=30	Insufficient (Unknown consistency, Imprecise) **Substantial imprecision
	Quality of life	Not evaluable: Not reported in included studies.	NA	NA
	Symptoms (secondary measure)	Not evaluable: Not reported in included studies.	NA	NA
	Allergen levels (secondary measure)	Inconclusive: Between-groups analyses not reported.	1 RCT ³⁹ n=30	Insufficient (Unknown consistency, Imprecise) **Unable to determine effect from reported data

Hava temizleyiciler

HEPA Temizleyiciler

Partikül miktarı %25-50 azalır.

Astım semptom ve atakları azalır.

HEPA Süpürgeler

Table 6. HEPA vacuum interventions summary and strength of evidence

Comparison	Outcome*	Conclusion	Study Design and Sample Size	Strength of Evidence (Rationale)**
HEPA vacuum vs. standard vacuum	Asthma control	Not evaluable: Not reported in included studies.	NA	NA
	Exacerbations	Not evaluable: Not reported in included studies.	NA	NA
	Health care utilization	Not evaluable: Not reported in included studies.	NA	NA
	Pulmonary physiology	Inconclusive: 1 RCT showed improvements in FEV ₁ and peak flow, but only p-values were reported for between-group comparisons.	1 RCT ⁴¹ n=60	Insufficient (Unknown consistency, Imprecise) *Substantial imprecision
	Quality of life	Not evaluable: Not reported in included studies.	NA	NA
	Symptoms (secondary measure)	Not evaluable: Not reported in included studies.	NA	NA
	Allergen levels (secondary measure)	Inconclusive: Between-group comparisons not reported. Use of HEPA vacuum reduced allergen levels compared with baseline for some areas and allergens.	1 RCT ⁴¹ n=60	Insufficient (Unknown consistency, Imprecise) **Unable to determine effect from reported data

Effectiveness of Indoor Allergen Reduction in Management of Asthma

AHRQ Publication No. 18-EHC002-EF
February 2018

Tek hedefe yönelik önlemler işe yaramıyor.
Çoklu önlemlerden HEPA filtreli süpürgeler
astım ataklarını azaltıp yaşam kalitesini
arttırıyor.

Çoklu önlem

HEPA vacuum + other interventions vs. placebo or no intervention	Asthma control	Inconclusive: No difference in ACT or childhood ACT scores in RCT of 247 mixed- population subjects.	1 RCT ⁶⁴ n=247	Insufficient (Unknown consistency, Imprecise) **Substantial imprecision
	Exacerbations: composite measure based on level of care	Reduction: Significant improvement in composite measure of hospitalization, ED visits, and acute care clinic visits in 3 RCTs of children.	3 RCTs ⁶⁵⁻⁶⁷ n=1,509	Moderate (Study limitations)
Quality of life: PACQLQ		Improvement: PACQLQ score improved significantly in 2 RCTs.	2 RCTs ^{66,68} n=583	Moderate (Study limitations)
Quality of life: mini-AQLQ		Inconclusive: No difference in mini-AQLQ scores in RCT of mixed- population subjects.	1 RCT ⁶⁴ n=247	Insufficient (Unknown consistency, Imprecise) **Substantial imprecision
Quality of life: CHSA		Inconclusive: Significant improvement in CHSA scores in pre-post study of 170 mixed- population subjects.	1 pre-post ⁹¹ n=170	Insufficient (Unknown consistency, Imprecise) **Non-RCT
Symptoms: children (secondary measure)		Improved symptoms: Significant decrease in symptom days in 2 RCTs (n=1,235). No difference in symptom days in 1 RCT (n=274).	3 RCTs ⁶⁵⁻⁶⁷ n=1,509	Low (Study limitations, Inconsistent)
Symptoms: mixed populations (secondary measure)		No effect: No difference in 2 RCTs (n=287) in frequency of symptoms. Significant reduction in symptom days in 1 RCT (n=309).	3 RCTs ^{64,68,81} n=596	Moderate (Inconsistent)

Yastık kılıfları

Table 7. Mattress cover interventions summary and strength of evidence

Comparison	Outcome*	Conclusion	Study Design and Sample Size	Strength of Evidence (Rationale)**
Impermeable covers on mattress, pillow, and/or duvet vs. placebo covers or no intervention	Asthma control	No effect: No difference in ACQ scores in RCT of 126 adults and RCT of 284 mixed-population subjects.	2 RCTs ^{42,43} n=410	Moderate (Imprecise)
	Exacerbations	No effect: No difference in composite measure of hospitalization and/or rescue medication use in RCT of 1,122 adults. No difference in frequency of asthma attacks in RCT of 55 adults. Significant reduction in composite measure of hospitalization or ED visit in 1 RCT of 284 mixed-population subjects.	3 RCTs ^{42,47,48} n=1,461	Moderate (Inconsistent)
	Health care utilization: inhaled corticosteroid use	No effect: No difference for total dosage change in RCT of 126 adults. No difference for mean change in 28-day dose in RCT of 47 mixed-population subjects. Significantly greater reduction in mean daily dose in RCT of 60 mixed-population subjects.	3 RCTs ^{43,46,50} n=233	Low (Inconsistent, Imprecise)
	Health care utilization: rescue medication use	No effect: No difference in 2 RCTs of 1,154 adults and 2 RCTs of 91 mixed-population subjects for beta agonist use or dose. No difference in use of undefined "rescue medication" in RCT of 30 adults.	5 RCTs ^{44,40,45,49,51} n=1,275	High
	Health care utilization and costs: work absenteeism	Decreased workdays: Significant decrease in missed days of work in RCT of 1,122 adults, but difference may not be meaningful: Mean difference: -0.15 days per month (95% CI: -0.29 to -0.02).	1 RCT ⁴⁸ n=1,122	Low (Unknown consistency, Imprecise)
	Pulmonary physiology	No effect: No difference in morning or evening peak flow for 8 RCTs of 1,535 adults and 4 RCTs of 158 mixed-population subjects. Significant improvement reported in RCT of 25 adults.	13 RCTs ⁴³⁻⁵⁵ n=1,744	High
	Quality of life	No effect: No difference in 5 RCTs of 1,365 adults and 1 RCT of 284 mixed-population subjects; 2 used the Modified AQLQ-Marks; 1 used mini-AQLQ; 1 used St George's Respiratory Questionnaire; 1 used PACQLQ; 1 used Quality of Life for Respiratory Illness Questionnaire	6 RCTs ^{42-44,47-49} n=1,649	High
	Symptoms (secondary measure)	No effect: No difference in 7 RCTs (n=1,470; 4 in adults and 3 in mixed populations.) Significant improvement in RCT of 25 adults. Studies used similar but not identical sets of composite scores, ranging from 3 to 8 discrete items (e.g., cough, wheeze)	8 RCTs ^{43,44,46,48-52} n=1,473	High
	Allergen levels (secondary)	Allergen reduction: Significant reduction in Der p and/or Der f allergen in 6 RCTs of	11 RCTs ^{42-49,51,52,55} n=1,928	Moderate (Inconsistent)

Hayvanı uzaklaştırma

Table 9. Pet removal interventions summary and strength of evidence

Comparison	Outcome*	Conclusion	Study Design and Sample Size	Strength of Evidence (Rationale)**
Pet removal vs. keeping pets	Asthma control	Not evaluable: Not reported in included study.	NA	NA
	Exacerbations/hospitalizations	Inconclusive: No patients in the removal group experienced exacerbations or hospitalizations. 2 patients who kept pets experienced either an exacerbation or hospitalization. No statistics presented in study.	1 non-RCT ⁶¹ n=20	Insufficient (Unknown consistency, Imprecise) **Non-RCT
	Health care utilization	Inconclusive: Both use of inhaled corticosteroids and followup visits to the medical office were statistically significantly reduced in the pet-removal group.	1 non-RCT ⁶¹ n=20	Insufficient (Unknown consistency) **Non-RCT
	Pulmonary physiology	Not evaluable: Not reported in included study.	NA	NA
	Quality of life	Not evaluable: Not reported in included study.	NA	NA
	Symptoms (secondary measure)	Not evaluable: Not reported in included study.	NA	NA
	Allergen levels (secondary measure)	Not evaluable: Not reported in included study.	NA	NA

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10.1542/peds.2016-2589

- Kedi- Köpek allerjisi %25-62
- Uzaklaştıktan aylar sonra bile var.
- «Hipoallerjenik köpek?»

Environmental triggers and avoidance in the management of asthma

Journal of Asthma and Allergy 2017:10 47–56

Measure	Effect on allergen levels	Clinical effectiveness
Pet allergen avoidance		
Removing cat/dog from the home	IIb	IV
Keeping the pet out of the main living areas and bedrooms	IIb	IV
HEPA filter air cleaners	Ib	Ia – no effect in pet allergy
Washing a pet	IIb	IV
Replace carpets with linoleum or wood flooring	IV	IV
Vacuum cleaners with integral HEPA filter and double thickness bags	IV	IV



Hamamböceđi

Rabito FA, JACI 2017 Ağustos

5-17 yaş

120 çocuk, 1 yıl

İnsektisit

Hamamböceđi sayısı azalmıř

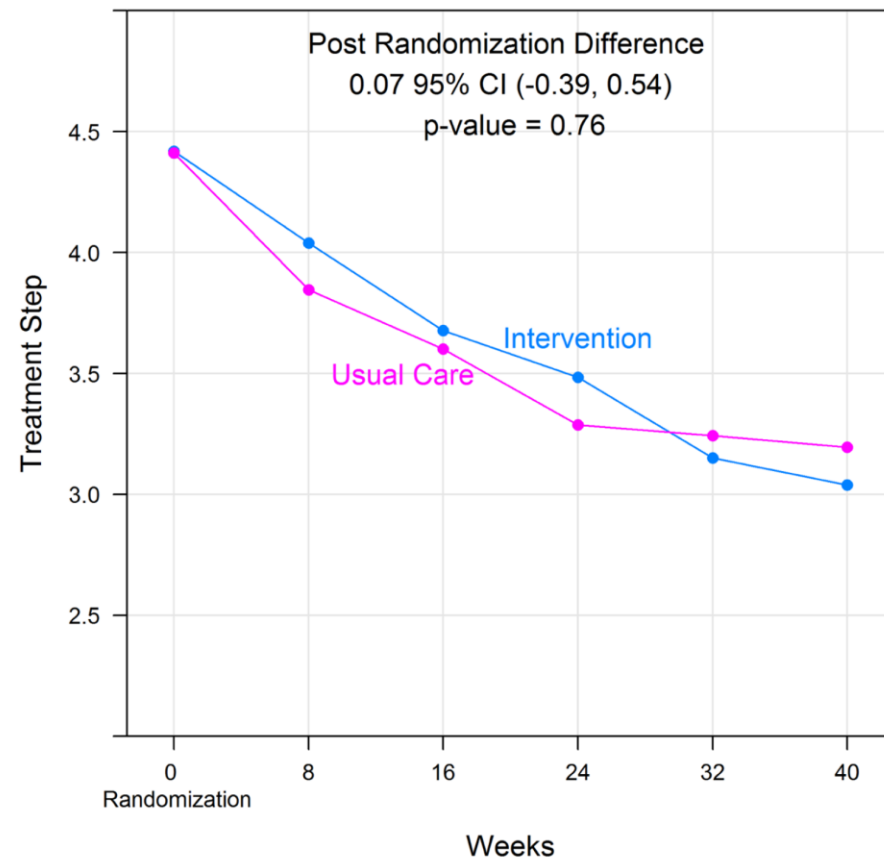
Astım semptomları daha iyi

FEV1 deđerleri daha iyi

Individualized household allergen intervention lowers allergen level but not asthma medication use: a randomized controlled trial

Emily DiMango, MD^{1,*}, Denise Serebrisky, MD², Surinder Narula, BS¹, Chang Shim, MD², Claire Keating, MD¹, Beverly Sheares, MD¹, Matthew Perzanowski, PhD³, Rachel Miller, MD¹, Angela DiMango, MD¹, Howard Andrews, PhD⁴, David Merle, BS⁴, Xinhua Liu, PhD⁴, Agustin Calatroni, MA, MS⁵, and Meyer Kattan, MD¹

J Allergy Clin Immunol Pract. 2016 ; 4(4): 671–679.e4.



GINA 2018

1. Ev içi allerjenlerin önlenmesi astımda genel bir strateji olarak önerilmez.
2. Duyarlı hastalarda, tekli önlem çalışmaları stratejisinin astımda klinik yararı konusunda kısıtlı kanıt var.
3. Allerjen önleme stratejileri komplike ve pahalı, kimin fayda göstereceğini saptamak için geçerli yöntem yok.



2. İnhalan Allerjenlerden Korunmaya Yönelik Uygulamalar

Ev tozu akarlarından korunmaya yönelik önlemlerin akar duyarlılığı ve allerjik hastalık gelişimini önleyici etki bakımından yeterli olmadıkları gösterilmiştir [16-19]. Randomize kontrollü çalışmalarda besinsel allerjenlere yönelik önlemlerle inhalan allerjenlere yönelik önlemlerin birlikte uygulanması (çoklu yaklaşım) ile erken çocukluk döneminde hırıltı-hışıltı, atopik dermatit ve astım riskinde azalma gözlenmiştir [20-22]. Bunun yanı sıra çocuklarda yapılan bir araştırmada akar geçirmeyen yatak kılıfının bronş aşırı duyarlılığında azalmaya neden olduğu gösterilmiştir [23]. Primer korunma için çoklu yaklaşımlar ile ilgili olumlu klinik sonuçlar bildirilen araştırmalar da bulunmaktadır [24,25].



Turkish Thoracic Journal

Official Journal of the Turkish Thoracic Society

SUPPLEMENT 1 OCTOBER 2016 VOLUME

TÜRK TORAKS DERNEĞİ ASTİM TANI VE TEDAVİ REHBERİ 2016 Güncellemesi

17

İnhalan allerjenlerden korunmaya yönelik uygulamalar

Ev tozu akarından korunmanın astımdan korunmaya yönelik etkisi üzerine çelişkili sonuçlar bulunması nedeni ile tek başına olmaktan ziyade besin allerjenleri ile birlikte korunma yöntemlerinin uygulanması ve hasta başına bireysel ele alınması

Riskli bebeği olan ailelere erken çocukluk döneminde evde evcil hayvan beslenmesi ya da beslenmemesine dair öneride bulunmak için yeterli kanıt yoktur.

Hamam böceği varsa eliminasyona yönelik öneriler ve uygulamalar yapılmalıdır.

Sonuç

40 yıllık, 4 kıtada, 7000 hastanın olduđu çalışmalara rağmen;
Kesin karar verdirici deđil.

Yenilikler

Mikrobiyom?