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ORIGINAL ARTICLE

Comparison of doctor and patient's assessment of asthma control at a Paediatric Tertiary Care Setup of Karachi, Pakistan.

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ABSTRACT… Objective: To compare doctor and patient/caregiver assessment of asthma control in children attending a tertiary pediatric care center in Karachi, Pakistan. **Study Design:** Cross-sectional study. **Setting:** Department of Pediatric Medicine, National Institute of Child Health, Karachi, Pakistan. **Period:** January 2025 to June 2025. **Methods:** A total of 263 children aged 6–12 years with physician-diagnosed asthma were enrolled through consecutive sampling. Sociodemographic data and physician-documented asthma severity were recorded. Asthma control was assessed using the Childhood Asthma Control Test (C-ACT), Parent Proxy ACT (PP-ACT), and physician evaluation. Data were analyzed in SPSS 26.0 using Mann–Whitney U, Chi-square, Cohen's kappa (κ), and McNemar's test with significance set at $p<0.05$. **Results:** In 263 children, the median age was 8.0 years (IQR 7.0–10.0), 151 (57.4%) were males, and the median duration of asthma was 3.0 years (IQR 2.0–4.0). Physician assessment classified 148 (56.3%) as well controlled and 115 (43.7%) as uncontrolled, while C-ACT classified 134 (51.0%) and 129 (49.0%), and PP-ACT classified 113 (43.0%) and 150 (57.0%), respectively. Agreement was 72.2% for physician vs C-ACT (κ=0.41, p=0.214), 67.7% for physician vs PP-ACT (κ=0.34, p=0.012), and 75.3% for C-ACT vs PP-ACT (κ=0.53, $p<0.001$). Uncontrolled asthma was associated with higher age, longer duration, lower maternal education, and greater severity. **Conclusion:** The study demonstrates that discordance exists between physician assessment and both child and caregiver reported evaluations of asthma control. Physician assessments tended to classify higher levels of control compared with patient or caregiver measures.

Key words: Asthma, Caregiver, Children, Education, Physician.

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INTRODUCTION

Globally there are over 262 million people with asthma, which leads to significant morbidity, impaired quality of life, and healthcare utilization.[1,2] In the paediatric population asthma remains one of the leading causes of emergency department visits, school absenteeism, restrictions on physical activity, and hospitalizations.[3]

Effective management of childhood asthma aims not only to reduce symptoms, but also to prevent exacerbations and long-term lung damage.[4] In children, inadequate asthma control places a heavy burden on families and health systems, especially in low- and middle-income countries (LMICs) where resources for diagnosis, monitoring and education may be constrained.[5] The Global Initiative for Asthma (GINA) 2023 report provides a framework for assessment and management of asthma including in children and emphasizes two domains of asthma control including symptom control and future risk of adverse outcomes such as exacerbations or lung function decline.[6] These domains guide treatment decisions including regular review, monitoring of inhaled corticosteroid (ICS) use, avoidance of overreliance on short-acting β-agonists (SABA), and non-pharmacologic interventions. Studies from Pediatric population suggest suboptimal asthma control rates in majority of children.[7] A multi central study analyzing pediatric asthma found that 32% children from China, and 56% from Pakistan had uncontrolled asthma.[8]

A major challenge in asthma management is discrepancy between clinician assessment of asthma control versus the perception or report by patients or their caregivers. Physician assessment is often based on clinical findings, spirometry or functional testing, exacerbation history, and possibly guideline-driven symptom criteria, whereas patient

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or caregiver reporting relies on symptoms, activity limitations, frequency of rescue medication use, nighttime symptoms, and daily lived experience.[9,10] International studies have documented that patients often overestimate their level of control as they believe their asthma is well controlled even when, by guideline criteria, it is not.[11] This discordance may have real clinical implications as underestimation of uncontrolled asthma by patient/caregiver may delay needed escalation of therapy, and overestimation by physicians may lead to over-treatment or missed opportunities for addressing patient concerns, adherence issues, or environmental triggers. In Pakistan, there is relatively limited data comparing how doctors' assessments align or misalign with those of patients/caregivers in a paediatric setting, particularly in tertiary care. Given Karachi's large pediatric population and the environmental, socio-economic, and healthcare access challenges, such data would help in understanding gaps in perception, communication, and management. In light of the GINA guidelines' emphasis on both objective and subjective assessment of asthma control[6], and the evidence that discrepancies exist in many settings, this study aims to compare doctor and patient/caregiver assessment of asthma control in children attending a tertiary pediatric care center in Karachi, Pakistan.

METHODS

This cross-sectional study was conducted at the department of Pediatric Medicine, National Institute of Child Health (NICH), Karachi, Pakistan during January 2025 to June 2025, following approval from the Institutional Ethical Review Board (letter number: IERB-25/2021, dated: 14-12-2021). Written informed consent was obtained from parents or guardians of all participating children, with assurance of confidentiality and voluntary participation. A sample size of 263 was calculated taking the expected proportion of uncontrolled of asthma in children as 56%[8], with 95% confidence level and 6% margin of error. Non-probability, consecutive sampling technique was employed. Children aged between 6 and 12 years with a clinical diagnosis of asthma were included. Children with any additional pulmonary disorder, such as cystic fibrosis, bronchiectasis, or chronic lung disease, were excluded.

Sociodemographic characteristics including child's age, gender, and age at diagnosis of asthma, as well as parent's age and education level were noted. Asthma severity was classified according to physician documentation in the medical record, based on the National Asthma Education and Prevention Program (NAEPP) Expert Panel Report 3 (EPR-3) guidelines and the Global Initiative for Asthma (GINA 2023 update).[6] The Childhood Asthma Control Test (C-ACT) and the Parent Proxy Asthma Control Test (PP-ACT) were used as study instruments.[12,13] Both tools are derived from the validated Asthma Control Test (ACT). The ACT consists of five items, each scored on a 5-point Likert scale, assessing daytime and nocturnal symptoms, use of rescue medications, perceived asthma control, and the impact of asthma on daily functioning in the preceding four weeks. Total scores range from 5 to 25, with a score ≤19 indicating uncontrolled asthma and >19 indicating well-controlled asthma.[14] The C-ACT contains seven questions. Four questions were answered by the child, focusing on current symptoms, activity limitations, and nocturnal symptoms, while three questions were answered by parents regarding their child's daytime and nocturnal symptoms and wheezing. Classification of control is based on the same cut-off threshold (≤19 uncontrolled, >19 controlled). The PP-ACT contains the same five items as the ACT, but the wording is adapted for parent-proxy reporting. As with the original ACT, a score ≤19 is classified as uncontrolled asthma.[12] For the PP-ACT, parents reported on their perception of their child's asthma control during the preceding four weeks. For the C-ACT, children independently answered four child-specific items, and parents answered the remaining three parent-specific items.

Data were entered and analyzed using IBM-SPSS Statistics, version 26.0. Continuous variables such as age and duration of asthma, which were not normally distributed, were summarized as median with interquartile range (IQR) and compared between controlled and uncontrolled groups using the Mann–Whitney U test. Categorical variables, including gender, parental education, and asthma severity, were presented as frequencies and percentages. Associations between categorical variables and asthma control status were assessed using the Chi-square test or Fisher's exact test where appropriate.

Asthma control status as determined by physicians C-ACT, and the PP-ACT was compared. Agreement between these assessment tools was evaluated using Cohen's kappa statistic (κ), with strength of agreement interpreted as slight (<0.20), fair (0.21–0.40), moderate (0.41–0.60), substantial (0.61–0.80), or almost perfect (>0.80). McNemar's test was applied for pairwise comparison of proportions of controlled versus uncontrolled asthma between physician, child, and parent assessments. The level of statistical significance was set at $p < 0.05$.

RESULTS

In a total of 263 children, the median age was 8.0 years (IQR 7.0–10.0) with a range of 6 to 12 years. Of these 263 children, 151 (57.4%) were males, and 112 (42.6%) were females. The median duration of asthma symptoms was 3.0 years (IQR 2.0–4.0). Mothers were the primary respondents for 195 (74.1%) children, while 38 (14.4%) responses were obtained from fathers, and 30 (11.4%) from other caregivers. With respect to maternal education, 52 (19.8%) mothers were illiterate, 94 (35.7%) had education up to primary or secondary level, and 117 (44.5%) had matriculation or higher qualifications. A total of 184 (70.0%) children resided in urban areas, and 79 (30.0%) in rural areas. Physician-documented asthma severity was classified as mild intermittent in 101 (38.4%) children, mild persistent in 72 (27.4%), moderate persistent in 62 (23.6%), and severe persistent in 28 (10.6%) (Table-I).

According to physician assessment, 148 (56.3%) children had well-controlled asthma while 115 (43.7%) were uncontrolled. Using the child-reported C-ACT, 134 (51.0%) were classified as well controlled and 129 (49.0%) as uncontrolled. The parent-proxy PP-ACT identified 113 (43.0%) as well controlled and 150 (57.0%) as uncontrolled (Table-II).

Agreement analysis demonstrated that physician assessment and C-ACT were concordant in 72.2% of cases with a kappa coefficient of 0.41 indicating moderate agreement, which was not statistically significant (p=0.214). Physician and PP-ACT assessments were concordant in 67.7% of cases with a kappa coefficient of 0.34 indicating fair agreement, which was statistically significant (p=0.012). Agreement between C-ACT and PP-ACT was 75.3% with a kappa coefficient of 0.53 representing moderate agreement, which was statistically significant (p<0.001) (Table-III).

TABLE-I

Characteristics of patients (N=263)

Characteristics		Number (%)
Gender	Male	151 (57.4%)
	Female	112 (42.6%)
Parent respondent	Mother	195 (74.1%)
	Father	38 (14.4%)
	Others	30 (11.4%)
Maternal education status	Illiterate	52 (19.8%)
	Primary to secondary	94 (35.7%)
	Matriculation or above	117 (44.5%)
Residence	Urban	184 (70.0%)
	Rural	79 (30.0%)
Asthma severity	Mild intermittent	101 (38.4%)
	Mild persistent	72 (27.4%)
	Moderate presistent	62 (23.67%)
	Severe persistent	28 (10.6%)

TABLE-II

Comparison of asthma control status with respect to assessment tools (N=263)

Assessment	Well-controlled	Uncontrolled
Physician assessment	148 (56.3%)	115 (43.7%)
C-ACT (child reported)	134 (51.0%)	129 (49.0%)
PP-ACT (parent reported)	113 (43.0%)	150 (57.0%)

TABLE-III

Agreement of asthma control status with respect to assessment tools (N=263)

Assessment	Agreement	Kappa (k)	P-Value
Physican vs C-ACT	72.2%	0.41	0.214
Physician vs PP-ACT	67.7%	0.34	0.012
C-ACT vs PP-ACT	75.3	0.53	<0.001

McNemar's test applied

When patient characteristics were compared with asthma control status as per physician assessment (Table-IV), the median age of children with uncontrolled asthma was higher at 9.0 years (IQR 7.0–11.0) compared with 8.0 years (IQR 7.0–10.0) in those with controlled asthma (p=0.041). The median duration of asthma was significantly

longer in the uncontrolled group at 3.0 years (IQR 2.0–4.0) compared with 2.0 years (IQR 2.0–3.0) in the controlled group (p=0.032). Gender distribution did not differ significantly with respect to control of asthma status (p=0.992). Among children with controlled asthma, 79 (53.4%) had mothers with matriculation or above, compared with 38 (33.0%) in the uncontrolled group, whereas, 20 (13.5%) children with controlled asthma had illiterate mothers compared with 32 (27.8%) in the uncontrolled group (p=0.006). Place of residence did not show a significant association, with 108 (73.0%) controlled and 76 (66.1%) uncontrolled children living in urban areas (p=0.243). Of the children classified as controlled, 75 (50.7%) had mild intermittent asthma and 42 (28.4%) had mild persistent asthma. In comparison, among the uncontrolled group, 38 (33.0%) had moderate persistent asthma and 21 (18.3%) had severe persistent asthma, and the differences were statistically significant (p<0.001).

DISCUSSION

The first key observation in this study was that physician assessment classified 56.3% of children as having well controlled asthma, while C-ACT identified 51.0% and PP-ACT identified only 43.0% as well controlled. This discrepancy between physician and patient or caregiver reported measures aligns with the report by Greenblatt and colleagues from South Africa. In that study, physicians classified only 33% of patients as uncontrolled whereas nearly half of the patients rated themselves as uncontrolled.[15] These findings showing tendency of physicians to estimate higher levels of control compared with patient generated measures. At the same time, differences in magnitude exist, as in the South African cohort only 7% of patients disagreed with the physician in the uncontrolled category, but 29% disagreed when physicians considered them controlled.[15] In contrast, the present study revealed significant discordance particularly with parent reported PP-ACT, with only 43.0% classified as controlled compared with 56.3% by physicians. This suggests that caregivers in Pakistan may be more sensitive to ongoing symptoms or daily limitations than physicians, which reflects cultural and health system influences. The agreement statistics in this study further reinforced the discordance as agreement between physicians and C-ACT was 72.2% with a kappa of 0.41, indicating moderate agreement, while concordance between physicians and PP-ACT was only 67.7% with a kappa of 0.34,

TABLE-IV

Characteristics of study participants with respect to asthma control status as per physician assessment (N=263)

Characteristics		Controlled	Uncontrolled	P-Value
Gender	Male	85 (57.4%)	66 (57.4%)	0.992*
	Female	63 (42.6%)	49 (42.6%)	
Age in years, median (IQR)		8.0 (7.0-10.0)	9.0 (7.0-11.0)	0.041^
Parent respondent	Mother	114 (77.0%)	81 (70.4%)	0.218*
	Father	18 (12.2%)	20 (17.4%)	
	Others	16 (10.8%)	14 (12.2%)	
Maternal education status	Illiterate	20 (13.5%)	32 (27.8%)	0.006*
	Primary to secondary	49 (33.1%)	45 (39.1%)	
	Matriculation or above	79 (53.4%)	38 (33.0%)	
Residence	Urban	108 (73.0%)	76 (66.1%)	0.243*
	Rural	40 (27.0%)	39 (33.9%)	
Duration of asthma symptoms in years, median (IQR)		2.0 (2.0-3.0)	3.0 (2.0-4.0)	0.032^
Asthma severity	Mild intermittent	75 (50.7%)	26 (22.6%)	<0.001*
	Mild persistent	42 (28.4%)	30 (26.1%)	
	Moderate persistent	24 (16.2%)	38 (33.0%)	
	Severe persistent	7 (4.7%)	21 (18.3%)	

*Chi-square test applied; ^Mann-Whitney U test applied

indicating fair agreement. Shefer and colleagues also demonstrated moderate validity of C-ACT with physician assessments, reporting a kappa of 0.529.[16] Their data revealed that more than half of children who classified themselves as uncontrolled had parents and physicians who disagreed. This pattern echoes the finding that children may provide more accurate reflections of their symptoms than caregivers or clinicians, reinforcing the value of incorporating C-ACT directly into clinical encounters. The gap between physician evaluation and parent perception underlining the importance of directly eliciting the child's own account of asthma symptoms. A French study by Deschildre and colleagues adds another dimension as they assessed asthma control using GINA and NAEPP criteria alongside physician and C-ACT evaluation.[17] Physicians considered only 34% of children as uncontrolled, while guideline based assessments identified between 40% and 76.5% as uncontrolled depending on the definition used. The current findings fall between these extremes, with physicians identifying 43.7% as uncontrolled and C-ACT indicating 49.0%. This suggests that while physician perception in Pakistan may underestimate uncontrolled asthma, the magnitude of underestimation is less than in European settings.[17] Differences could be due to variations in physician reliance on clinical judgment rather than guideline based criteria, and the limited use of spirometry in routine outpatient settings in Pakistan.

The agreement between child and caregiver assessments also deserves emphasis as concordance between C-ACT and PP-ACT was 75.3% with a kappa of 0.53, indicating moderate agreement. Shefer and colleagues described even lower agreement between children and parents with a kappa of 0.245, suggesting parents underestimated children's symptoms in nearly half of cases.[16] Labyad and colleagues in Morocco also identified low parental education and rural residence as predictors of uncontrolled asthma.[18] In the present study similar associations were observed, with children of illiterate mothers more often classified as uncontrolled (27.8%) compared with 13.5% in the controlled children. This supports the argument that education level influences caregiver awareness and perception of asthma symptoms. Asthma severity was strongly associated with control status in this study. These results are consistent with previously published findings where greater severity and frequent exacerbations were associated with lower C-ACT scores and discordant perceptions.[16,17] The implication is that both patient reported tools and physician assessment should be interpreted in the context of underlying severity, since more severe asthma is inherently more difficult to control despite treatment.

Another important aspect noted in this study was the association of longer duration of disease with poorer control. These findings are in line with data from Crespon-Lessmann and colleagues who reported higher discordance between patients and physicians in cases with prolonged disease, and that underestimation by physicians was associated with worse outcomes including higher emergency visits and hospital admissions.[19] These parallels emphasise the need for regular reassessment of asthma control in long standing cases to avoid complacency by physicians or adaptation by families to suboptimal symptom burden.

Gender did not show a significant association with control in this study. In contrast, Greenblatt and colleagues described a significant difference in ACT scores with respect to gender as worse control was reported in female patients.[15] Kee and colleagues also observed that male and female children reported different quality of life scores in relation to asthma control.[20] The absence of gender differences in this study may be due to the narrower age range of 6 to 12 years, where pubertal and psychosocial differences are less pronounced compared with older adolescents.

Urban and rural residence did not influence control status in the present analysis. Labyad and colleagues observed a clear association of rural residence with poorer control in Morocco.[18] The difference could be due to better access to tertiary care services in the current study population, where all participants were attending a specialised centre in Karachi. This suggests that residence alone may not be a predictor when access to tertiary services is ensured, but would be relevant in population based community samples.

Clinical implications of the present study are substantial. The observed discordance indicates that physician judgement alone is insufficient to capture the full picture of asthma control in children.[21,22] Direct incorporation of C-ACT into routine visits can improve accuracy and provide a structured approach to evaluating symptoms from the child's perspective.[23,24] Caregiver reported PP-ACT may underestimate control in some cases but highlights parental concerns that can influence adherence to therapy and healthcare utilisation.[25]

This study had several limitations. It was conducted at a single tertiary centre in Karachi and may not represent community level or primary care settings where resources and physician expertise differ. The cross sectional design precludes assessment of longitudinal outcomes such as exacerbation rates or hospital admissions in relation to discordant assessments. Non probability sampling may have introduced selection bias, as families attending tertiary care may have different health seeking behaviours compared with the general population.

CONCLUSION

The study demonstrates that discordance exists between physician assessment and both child and caregiver reported evaluations of asthma control. Physician assessments tended to classify higher levels of control compared with patient or caregiver measures. Agreement was stronger between physicians and children than between physicians and caregivers, highlighting the value of directly engaging the child in control assessment. Poorer control was associated with higher age, longer disease duration, lower maternal education, and greater asthma severity.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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REFERENCES

1. Qaid, EYA, Long I. **Asthma unravelled: A comprehensive review of epidemiology, phenotypes, pathophysiology, and emerging therapies.** Egypt J Bronchol. 2025; 19:82.
2. Kapri A, Pant S, Gupta N, Paliwal S, Nain S. **Asthma history, current situation, an overview of its control history, challenges, and ongoing management programs: An updated review.** Proc Natl Acad Sci India Sect B Biol Sci. 2022:93:539-51.
3. Haji T, Lyzwinski L, Dhaliwal C, Leung G, Giangioppo S, Radhakrishnan D. **A real-world evaluation of the effectiveness and sufficiency of current emergency department preventative strategies for reducing emergency department revisits in a Canadian children's hospital: A retrospective cohort study.** Allergy Asthma Clin Immunol. 2024; 20(1):37.
4. Martin J, Townshend J, Brodlie M. **Diagnosis and management of asthma in children.** BMJ Paediatr Open. 2022; 6(1):e001277.
5. Barne M. **Gaps in asthma diagnosis and treatment in low- and middle-income countries.** Front Allergy. 2023; 4:1240259.
6. Venkatesan P. **2023 GINA report for asthma.** Lancet Respir Med. 2023; 11(7):589.
7. Bilgin N, Ozdogan S, Kaya A, Yildirmak Y. **Sleep-related breathing disorders in children with asthma: Impact on asthma control.** J Coll Physicians Surg Pak. 2022; 32(4):473-77.
8. Arif MI, Ru L, Wang Y. **A comparative analysis of factors affecting uncontrolled asthma among paediatric population in Urumqi vs Islamabad: Factors affecting uncontrolled asthma among paediatric population.** Pak J Health Sci. 2023; 4(7):7-12.
9. Kaplan A, Stanbrook M. **Must family physicians use spirometry in managing asthma patients?: YES.** Can Fam Physician. 2010; 56(2):126-28.
10. Gallucci M, Carbonara P, Pacilli AMG, di Palmo E, Ricci G, Nava S. **Use of symptoms scores, spirometry, and other pulmonary function testing for asthma monitoring.** Front Pediatr. 2019; 7:54.
11. Kritikos V, Price D, Papi A, Infantino A, Ställberg B, Ryan D, et al. **A multinational observational study identifying primary care patients at risk of overestimation of asthma control.** NPJ Prim Care Respir Med. 2019; 29(1):43.
12. Shepperd JA, Webster GD, Pogge GC, Fedele D, Prabhakaran S, Hunleth J, et al. **Psychometric properties and predictive validity of the PP-ACT.** J Asthma. 2023; 60(1):174-84.
13. Cui X, Zhou X, Li Z, Teng Y, Lin L, Wang Q. **Association between Childhood Asthma Control Test scores and lung pathophysiologic indicators in longitudinal measurements.** J Thorac Dis. 2023; 15(8):4207-15.
14. Al Moamary MS, Al-Kordi AG, Al Ghobain MO, Tamim HM. **Utilization and responsiveness of the asthma control test (ACT) at the initiation of therapy for patients with asthma: A randomized controlled trial.** BMC Pulm Med. 2012; 12:14.

15. Greenblatt M, Galpin JS, Hill C, Feldman C, Green RJ. **Comparison of doctor and patient assessments of asthma control.** Respir Med. 2010; 104(3):356-61.
16. Shefer G, Donchin M, Manor O, Levy-Hevroni R, Schechter A, Cohen R, et al. **Disparities in assessments of asthma control between children, parents, and physicians.** Pediatr Pulmonol. 2014; 49(10):943-51.
17. Deschildre A, Pin I, El Abd K, Belmin-Larrar S, El Mourad S, Thumerelle C, et al. **Asthma control assessment in a pediatric population: Comparison between GINA/NAEPP guidelines, Childhood Asthma Control Test (C-ACT), and physician's rating.** Allergy. 2014; 69(6):784-90.
18. Labyad M, Draiss G, El Fakiri K, Ouzennou N, Bouskraoui M. **Control of asthma and its influencing factors in children followed in pneumo-pediatrics consultation at the mother-child Hospital in the City of Marrakech, Morocco.** Open Respir Med J. 2025; 19:e18743064340759.
19. Crespo-Lessmann A, Plaza V, González-Barcala F, Fernández-Sánchez T, Sastre J. **Concordance of opinions between patients and physicians and their relationship with symptomatic control and future risk in patients with moderate–severe asthma.** BMJ Open Resp Res. 2017; 4:e000189.
20. Kee AR, Huang X, Xiang GY, Allen Jr JC, Tan SY, Chiang SX, et al. **Concordance between physician's assessment of asthma control and quality of life in children.** Eur Resp J. 2015; 46(suppl 59):PA1289.
21. Gijsen CEW, van Rossem C, Muris JWM, van Horck MWP, Dompeling E. **Improving asthma care in children: Revealing needs and bottlenecks through in-depth interviews.** NPJ Prim Care Respir Med. 2024; 34(1):42.
22. Crimi C, Campisi R, Noto A, Genco S, Cacopardo G, Nolasco S, et al. **Comparability of asthma control test scores between self and physician-administered test.** Respir Med. 2020; 170:106015.
23. Alsafwani ES, Alenazi AM, Alqwaiee MM, BaQais KA, Alharbi AS, Al-Shamrani AS. **Assessment of asthma control levels in a tertiary hospital: A cross-sectional study.** Saudi Med J. 2025; 46(5):552-559.
24. Labyad M, Draiss G, El Fakiri K, Ouzennou N, Bouskraoui M. **Control of asthma and its influencing factors in children followed in pneumo-pediatrics consultation at the mother-child Hospital in the City of Marrakech, Morocco.** Open Respir Med J. 2025; 19:e18743064340759.
25. Trojanowska A, Emeryk A, Zarzycka D. **Adherence to therapy regimen by children with asthma and their parents.** Postepy Dermatol Alergol. 2022; 39(2):258-64.

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2	**Hina Rajani:** Literature review.
3	**Khatidja Ally:** Data collection.
4	**Hira Waseem:** Critical revision.
5	**Muhammad Ashfaq:** Conception and design, Critical revision.
6	**Sandeep Kumar Jung:** Data collection.