Allergies in India- Management Outcomes- Allergist versus Non-Allergist

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ABSTRACT

BACKGROUND

Allergies are the commonest of diseases afflicting mankind. In India, there is a paucity of trained allergy specialists. Therefore, the majority of patients in India are managed by non-allergists. The authors noticed differences in the management of patients with allergic diseases when treated by an allergist versus a non-allergist. We wanted to study the management outcomes when allergies were treated by an allergist as compared with a non-allergist.

METHODS

1030 consecutive patients suffering from various allergic ailments were included in this study. Patients underwent extensive investigations in the allergy clinic, including serum IgE levels, allergy skin prick tests, pulmonary function tests and nasal flow rates. The visual analogue scale (VAS) scores for each patient were analysed prior to treatment in the allergy clinic and after 1 year of treatment by the allergist.

RESULTS

The results obtained from this study overwhelmingly suggest that the differences in VAS scores measured prior to management in the allergy clinic as compared to VAS scores after 1 year of treatment by the allergist were highly significant. Indeed, the VAS scores were significantly higher when allergies were treated by an allergist as compared to when treated by a non-allergist.

CONCLUSIONS

Outcome measures in the management of allergic diseases were significantly better when patients were treated by an allergist, as compared to when treated by a non-allergist. It is also imperative that medical colleges across India, conduct training programs in the specialty of "allergy".

KEY WORDS

Allergy, Angioedema, Asthma, Immunotherapy, Rhinitis, Urticaria

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BACKGROUND

Allergies (atopic diseases) are the commonest of diseases afflicting mankind. An estimated 36% of the population suffers from one or more allergic diseases in India,⁽¹⁾ whereas in other countries, the incidence is higher at 40%.^(2,3) Moreover allergies are known to be heredo-familial diseases, with father transmitting it to the son and mother to daughter in India.⁽⁴⁾ Investigations and management of allergic diseases require specialised training. The allergist needs to acquire special skills, particularly for allergy skin prick tests (SPT) and allergen immunotherapy, both of which are the cornerstone in allergy management. In view of the huge suffering population, it is imperative that "allergic diseases be treated by trained "allergy specialists", especially in view of the fact that these group of ailments are chronic in nature and invariably result in morbidity when not managed efficiently.

The scenario in India with regard to training and specialization in allergy is bleak and disappointing when compared with North America, Europe and Oceania. Surprisingly enough, "allergy" is not yet a recognized specialty in India. It is important therefore, that the specialty of allergy be given due recognition and that every medical college and other large hospitals create "teaching and training allergy departments".

Besides, the lack of trained specialists in "allergy" results in poor research output with regard to allergic diseases in India. Indeed, there is a serious lack of awareness of allergic diseases and their management not only amongst patients, but also amongst medical practitioners in the country.

It is regrettable that both undergraduate and postgraduate medical students in India are not exposed to teaching and training in "allergic diseases".

The list of allergic diseases is limited; asthma, rhinitis, conjunctivitis, urticaria/angioedema, atopic eczema and allergic contact dermatitis constitute allergic diseases seen in India.

In India, a serious misconception is that every individual suffers from one or more allergies. This is a myth in the general population and in particular doctors need to be aware that approximately 64%,⁽¹⁾ of the Indian population does not suffer from allergies at all. Another serious misconception is that "everything under the sun, including the sun itself can cause allergic reactions". Again, this myth needs to be corrected. Yes, the sun could certainly cause allergic reactions, but everything under the sun is not an allergen. Indeed, the number of causative allergens is limited. The common allergens in India are house dust mites, insects, dusts, foods, fungi (Moulds) and pollen (Tree and grass pollen).

An extremely regrettable misconception in India is with regards to the use of inhaled medication for asthma, particularly inhaled corticosteroids. Most people tend to believe that inhaled medication cause permanent damage to the lungs and also results in dependence on inhaled medication. This misconception needs to be clarified to every patient.

The authors noticed differences in management of patients with allergic diseases in their "allergy clinic" when compared with treatment given by their previous treating doctors. This study was therefore designed to examine the differences in management outcomes in allergic diseases

when the patient was managed by an allergist versus management by a non-allergist. An extensive review of literature revealed no such study in the past with regard to allergic diseases.

METHODS

This study was approved by the local ethics committee and was conducted in accordance with the Declaration of Helsinki and ICH Good Clinical Practice Guidelines. It was designed to be a non-randomized, interventional study.

1030 consecutive patients suffering from various allergic diseases from September 01, 2016 to February 28, 2018 were included in this study. Patients having asthma, rhinitis, allergic conjunctivitis, urticaria/angioedema and atopic eczema were included. Patients not suffering from allergic diseases were excluded. It must be emphasised here that there was no bias in the selection process for patients included in this study and in fact all 1030 patients were consecutive. Indeed, the age, sex, distribution and manifestations of patients in this study are all similar to a recent large study on "Allergies in India."⁽¹⁾ Past records of investigations and treatment (interventions) of each patient were carefully documented and analysed. On the first visit visual analogue scale (VAS)⁽⁵⁾ scores for each patient were carefully recorded regarding the benefits obtained from previous treatments. VAS was noted on a scale of "0 to 10" wherein "0" represented no benefit and "10" was considered as maximum benefit.

Each patient underwent the following-

1. A detailed history followed by a thorough physical examination.
2. Estimation of total Serum IgE levels using the ELISA method (Normal values are 0-50 IU/ml)
3. Skin Prick Tests (SPT) using a battery of 90 common Indian allergens.
4. Patients having asthma underwent lung function tests using a computerised spirometer and those with rhinitis underwent "Peak Inspiratory Flow Rate" (PNIFR) using Youtlen's Peak Nasal Inspiratory Flow Meter. However, the results of spirometry and PNIFR have not been analysed in this study.

The following interventions were used in the treatment of patients in the "allergy clinic". Patients were advised regarding appropriate avoidance measures as per the results of their SPT. Patients having asthma were trained in the use of inhaled medication and those with rhinitis were trained in the use of nasal sprays. Eye drops were prescribed for patients having conjunctivitis and oral medications for those suffering from urticaria/angioedema. Patients having asthma/rhinitis/conjunctivitis were prescribed sublingual immunotherapy (SLIT), formulated using their SPT results. On arrival of their SLIT vaccines, patients were trained and instructed in the use of SLIT.

Patients were regularly followed up for one year following initiation of treatment. At the end of one-year treatment in the allergy clinic, VAS scores were obtained from each patient and compared with their VAS scores obtained one year back (Before initiation of treatment in the allergy clinic).

Statistical Analysis

Data was compiled using Microsoft Excel. Descriptive statistics such as mean, median and proportion were used to describe the data. Differences in the VAS scores before and after treatment in the allergy clinic were analysed using Wilcoxon signed rank test. Range and median VAS scores were used. The results were interpreted with an alpha error of 0.05 and at 95% confidence intervals. It was observed that the negative rank is -21, n=6 and the “p” values were found to be <0.001 in all the manifestations of allergies.

RESULTS

Age (in Years)	Male	Female	Total
6-10	73	25	98
11-20	82	64	146
21-30	147	97	244
31-40	145	102	247
41-50	96	64	160
51-60	64	37	101
61 and above	23	11	34
Total	630	400	1030

Table 1. Age and Sex Distribution

Manifestations	Male	Female	Total
1 Asthma	12	7	19
2 Asthma + Rhinitis ± Atopic Eczema	264	168	432
3 Asthma + Rhinitis ± Conjunctivitis	92	59	151
4 Rhinitis ± Conjunctivitis	209	133	342
5 Rhinitis + Urticaria	6	3	9
6 Urticaria ± Angioedema	47	30	77
Total	630	400	1030

Table 2. Distribution of Patients According to Manifestations

Investigations	Male	Female	Total	%
1 Total Serum IgE levels	186	124	310	30.09
2 Specific IgE Levels	46	35	81	7.86
3 Allergen Skin Prick Tests	40	6	46	4.47
4 Pulmonary Function Tests	192	58	250	24.27
5 Nasal Function Test (PNIFR)	0	0	0	0

Table 3. Number of Patients on whom Investigations were done by Non-Allergist

Treatment (Interventions)	Male	Female	Total	%
1 Nasal Sprays (out of 571 rhinitis patients)	107	43	150	26.26
2 Inhalers (out of 368 asthma patients)	103	77	180	48.91
3 Montelukast	571	381	952	92.43
4 Specific Immunotherapy Vaccines (subcutaneous immunotherapy)	3	1	4	0.39

Table 4. Treatment Modalities used by the Non-Allergist

Speciality	No. of Patients	%	Reference to Allergy Specialists	% of the Referrals
1 Chest Physician (Pulmonologist)	250	24.27	-	-
2 General Physician	210	20.39	35	16.66
3 Paediatrician	173	16.80	-	-
4 General Practitioner	137	13.30	63	45.99
5 ENT Surgeon	131	12.72	-	-
6 Dermatologist	96	9.32	-	-
7 General Surgeon	32	3.17	32	100
8 Gastroenterologist	1	0.10	-	-

Table 5. Distribution of Specialists who Treated Patients

Manifestations	VAS Scores(Range and Median)				p Values	Significance
	Before Treatment (Intervention) from the Allergist	After 1 Year Treatment (Intervention) by the Allergist				
1 Asthma	0-2	0.87	8-10	9.0	<0.001	Very highly significant
2 Asthma + Rhinitis ± Atopic Eczema	0-3	0.61	7-10	9.23	<0.001	
3 Asthma + Rhinitis ±	0-2	0.87	8-10	9.20	<0.001	

Conjunctivitis						
4	Rhinitis ± Conjunctivitis	0-3	0.65	7-10	9.41	<0.001
5	Rhinitis + Urticaria	0-1	0.78	9-10	9.44	<0.001
6	Urticaria ± Angioedema	0-1	0.13	9-10	9.63	<0.001

Table 6. Visual Analogue Scale Scores

DISCUSSION

Allergic diseases affect approximately 36% of the Indian population.⁽¹⁾ Unlike western countries, there is a severe paucity of trained allergy specialists and specialised allergy clinics in India. There is lack of “allergy” training programmes and teaching allergy departments in medical colleges across the country. Indeed, no “allergy specialist” had previously treated any of the 1030 patients in this study. Also, an analysis of referrals to our specialised allergy clinic showed that “surgeons” referred 100% of their patients, whereas general practitioners referred 45.99% and general physicians referred 16.66%. Other specialities did not refer their patients to the “allergy clinic” at all.

Allergy skin tests were done by the earlier treating doctors in 46 out of 1030 patients (4.47%). Of these 35 were scratch tests and 11 were skin prick tests. An analysis of the skin tests revealed that 32 tests were performed by Chest physicians (Pulmonologists) in patients suffering from asthma and 14 were done by ENT surgeons in patients having allergic rhinitis.

Specific IgE levels were done by the treating doctors in 81 patients (7.86%). In India, specific IgE levels are being done with allergens manufactured abroad and several of these allergens (Inhalants and Ingestants) have no relevance to Indian patients.

It is significant to note that more than 92% of patients had received “Montelukast” prescribed by their previous doctor. However, none of the 1030 patients in this study were prescribed Montelukast in our clinic; yet, the VAS scores were significantly better without montelukast.

We were intrigued that only 26.26% of 571 patients having “allergic rhinitis” were treated earlier with nasal sprays. The mainstay of pharmacological management of allergic rhinitis should have been a combination of more than one nasal spray. Besides, only 48.91% of patients suffering from “asthma” were prescribed inhaled medication. More than half of asthmatic patients were not given inhalers and were prescribed oral medications. Again, inhaled medication (Indeed, a combination of more than one inhaled medication) should have been the mainstay of treatment in patients with asthma.

Specific immunotherapy (SIT), formulated following SPT and administered for a period of not less than 3 years (or longer) is a cornerstone in the management of nasobronchial allergies. SIT has been shown to result in prolonged relief when compared with inhaled corticosteroids⁽⁶⁾; in fact the beneficial effects of SIT have been projected to last up to 27 years in one study,⁽⁷⁾ when administered for up to 5 years. Besides, SIT, both subcutaneous (SCIT) and sublingual (SLIT) have been found to be safe during pregnancy.^(8,9) Yet, only 4 out of 1030 patients (0.39%) were prescribed SIT by their treating doctors. All 4 were patients suffering from asthma and they were all prescribed SCIT and not SLIT. Interestingly, enough, all 4 patients were asked to discontinue their SIT in a period ranging from 3 to 6 months.

The results of this study overwhelmingly reveal that outcome measures are significantly better when patients were treated in a specialised allergy clinic by a trained allergist. The difference in VAS scores measured prior to initiation of investigations and treatment in the allergy clinic as compared to the VAS scores after 1 year of treatment by the allergist were very highly significant for all allergy manifestations.

CONCLUSIONS

Outcome measures in the management of allergic diseases were significantly better when patients were treated by an allergist, as compared to when treated by a non-allergist. It is also imperative that medical colleges across India, conduct training programs in the specialty of "allergy".

REFERENCES

- [1] Shaikh WA, Shaikh SW. Allergies in India: a study of 6270 patients. *J Evol Med Dent Sci* 2019;8(10):657-61.
- [2] Cockcroft DW. Allergens. In: Barnes PJ, Drazen J, Rennard S, et al. eds. *Asthma and COPD*. 2nd edn. Elsevier 2014: p. 443-5.
- [3] Supakthanasiri P, Klaewsongkram J, Chantaphakul H. Reactivity of allergy skin test in healthy volunteers. *Singapore Med J* 2014;55(1):34-6.
- [4] Shaikh WA, Shaikh SW. Heredo-familial transmission of allergies in India – son inherits the disease from the father and daughter from the mother. *Int J Med Sc Innov Res* 2018;3(6):234-8.
- [5] Woodforde JM, Merskey H. Some relationships between subjective measures of pain. *J Psychosomatic Res* 1972;16(3):173-8.
- [6] Shaikh WA. Immunotherapy versus inhaled budesonide in bronchial asthma- an open parallel, comparative trial. *Clin Exp Allergy* 1997;27(11):1279-84.
- [7] Shaikh WA. Long term efficacy of house dust mite immunotherapy in bronchial asthma a 15 year follow up study. *Allergology Int* 2005;54(3):443-9.
- [8] Shaikh WA. A retrospective study on the safety of immunotherapy in pregnancy. *Clin Exp Allergy* 1993;23(10):857-60.
- [9] Shaikh WA, Shaikh SW. A prospective study on the safety of sublingual immunotherapy in pregnancy. *Allergy* 2012;67(6):741-3.