



Knowledge, Attitudes and Practices of Health Seeking Behaviours of Parents of Children with Allergic Rhinitis in Nigeria

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ABSTRACT

Background: Allergic rhinitis is increasingly prevalent among children in developing countries.

The objective of this study was to determine the knowledge, attitude and practice of parents of children with allergic rhinitis and identify how their knowledge and attitudes relate to practices.

Materials and methods: This was a cross-sectional survey of the knowledge, attitude and practice of parents of children with allergic rhinitis in our center. Data were obtained using pretested interviewers assisted questionnaire. All data were collated, categorized and analyzed using SPSS version 18.0.

Results: The response rate was 84.3%. Only 11.8% parents were aware of allergic rhinitis in children. There were 37 (20.7%) males with male to female ratio was 1:3.8.

There was family history of allergic rhinitis in 56.4% children and 73.7% could not identify the trigger allergens. The commonest identified allergen was 19.0% Inhalant. Common manifestations in this study were 69.3% allergic rhinitis, 34.6% other ENT allergy and 33.5% allergic conjunctivitis.

Ear, nose and throat specialist/other doctors were the commonest sources of knowledge on allergic rhinitis 59.8%. Parental knowledge on awareness of allergic rhinitis in Nigeria and worldwide were 45.3% and 42.5% respectively. Majority (48.6%) parents believed that allergic rhinitis was caused by spiritual attack. Only 39.7% knew allergic rhinitis could be heritable disorder.

Most parents knew allergic rhinitis could manifest with bout of sneezing, catarrh and nasal blockage in 63.1%, 55.3% and 40.8% respectively. A total of 32.4% of parents believed that allergic rhinitis was responsible for their children sleep disturbance.

Majority 79.3% of parents believed allergic rhinitis was curable. This may be achieved by 55.3% herbal medication, 59.2% over the counter drugs and 54.7% pharmacy drugs.

Conclusion: Parental Knowledge, Attitude and Practice on allergic rhinitis were poor. This is due to wide gap between expected and actual practice of the parents toward children allergic rhinitis. Better practices among parents of children with allergic rhinitis can be achieved by improving their knowledge and attitudes.

Keywords: Children; Allergic rhinitis; Knowledge; Attitude; Practice

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INTRODUCTION

Allergic rhinitis is a nasal disorder and an IgE-mediated with induced inflammation of the nasal mucosal membranes in response to allergen exposure [1,2]. It is a common public health problem, impact on patient's health quality and socio economy [3-5]. Despite these many patients do not seek timely and appropriate medical interventions from specialist [3,6]. It may be associated with allergy of the sinuses, larynx, pharynx, ear, eye, lungs and skin in various combinations.

Allergens are foreign protein that can induce allergic reactions. Allergens may either be outdoor or indoor allergens [7-10]. Outdoor allergens include pollens, fungal spores and dust particles. Indoor allergens include house dust mites, animal allergens, moulds, fungi, insect allergens and rodent allergens. Others were food intake, temperature change and humidity. Clinical manifestations of allergic rhinitis include sneezing, itching (nose, ears, palate, eye), catarrh, postnasal drip, nasal blockage, anosmia, headache, earache, hearing impairment, tearing, red eyes, fatigue and malaise.

In complicated allergic rhinitis, there may be associated sleep apnea, eustachian tube dysfunction, otitis media, palatal abnormalities and dental problems [11]. Diagnosis of allergic rhinitis was mainly based on the clinical history and physical examination in developing countries due to lack of sophisticated *in vitro* and *in vivo* tests equipment. This is to determine eosinophilia (serum or nasal) and total serum IgE [12,13]. There are various methods of management of allergic rhinitis which involves health education, assurance, allergen avoidance, pharmacotherapy (antihistamine, and steroid) and immunotherapy [14,15].

There is paucity of literature on knowledge, attitude and practice on allergic rhinitis in children in developing countries. To improve childhood allergic rhinitis management, an assessment of parent knowledge, attitude and practice is a significant requirement in its prevention, early diagnosis and management. The objective of this study was to determine the knowledge, attitude and practice of parents of children with allergic rhinitis and identify how knowledge and attitudes relate to practices.

MATERIALS AND METHODS

This was a cross-sectional survey of the knowledge, attitude and practice of parents of children with allergic rhinitis. This was conducted in ear, nose and throat department of Ekiti state university teaching hospital Ado Ekiti, Nigeria. The study was carried out over a period 6 months between November 2018 and April 2019. Eligible children were aged 0-18 years.

Data were obtained using pretested interviewers assisted questionnaire.

Obtained data included personal characteristics, questions related to knowledge, attitude, practice, beliefs and expectations, triggering factors, symptoms, sources of information on allergic rhinitis. Some of the questions contain multiple-response and more than one answer may be chosen.

All data were collated, categorized and analyzed using SPSS version 18.0. Quantitative variables were described by frequency distributions table, percentages, bar chart and pie chart.

The ethical clearance was obtained from Medical Ethics Committee of the institution that approved the study and informed consent was obtained from each parent.

RESULTS

Out of 1,800 questionnaires that were distributed 1517 were returned and completely filled. The overall response rate was 84.3%. Out of the 1517 only 179 (11.8%) parents were aware of allergic rhinitis in children. Out of 1517 children, 124 (8.2%) had allergic rhinitis.

In this study, all the studied age group was involved with peak age group of 1-5 years representing 34.6% of the patients. There are 37 (20.7%) fathers (males) and 142 (79.3%) mothers (females). Male to female ratio was 1:3.8. Urban dwellers in 118 (65.9%) were commoner than rural dwellers in 61 (34.1%). 156 (87.2%) of the parents were Christian while 23 (12.8%) were Muslim. The parent's education level was post-secondary, secondary and primary in 58 (32.4%), 55 (30.7%) and 37 (20.7%) respectively. The occupation of the parents was 53 (29.6%) civil servants followed by 51 (28.5%) business and 32 (17.9%) artisans. This is illustrated in Table 1.

Table 1: Sociodemographic features of the patients.

Sociodemographic features	Number	Percentage (%)
Age		
1-5	62	34.6
6-10	51	28.5
11-15	42	23.5
16-18	24	13.4
Sex		
Male	37	20.7
Female	142	79.3
Dwelling		
Rural	61	34.1
Urban	118	65.9
Religion		
Christian	156	87.2
Muslim	23	12.8
Parent education level		
Nil	29	16.2
Primary	37	20.7
Secondary	55	30.7
Post secondary	58	32.4
Parent occupation		
Business	51	28.5
Artisan	32	17.9
Student/Apprentice	25	14
Civil servant	53	29.6
Farming	18	10

There was family history of allergic rhinitis in 101 (56.4%) children. Majority of the parents 132 (73.7%) could not identify the trigger allergens. Identified allergens during the study were inhalant in 34 (19.0%) of the patients and ingestant in 13 (7.3%). Identified Inhalant allergens were 21 (11.7%) dust, 18 (10.1%) smoke, 16 (8.9%) perfume, 13 (7.3%) cold weather and 2 (1.1%) pollen grains. Common manifestations in this study were 124 (69.3%) allergic rhinitis and 62 (34.6%) other ENT allergy. Others were allergic conjunctivitis and asthma in 60 (33.5%) and 41 (22.9%) respectively. This is demonstrated in Table 2.

Table 2: Characteristics of allergic rhinitis in patients and family.

Pattern of allergic rhinitis	Number	Percentage (%)
Allergic rhinitis in family		
Yes	101	56.4
No	78	43.6
Allergens in children		
Inhalant	34	19
Ingestant	13	7.3
Contactant	2	1.1
Not known	132	73.7
Types of allergy		
Allergic rhinitis	124	69.3
Other ENT allergy	62	34.6
Allergic conjunctivitis	60	33.5
Allergic dermatitis	14	7.8
Asthma	41	22.9

Ear, nose and throat specialist/other doctors were the commonest sources of knowledge on allergic rhinitis in 107 (59.8%). These were ear, nose and throat surgeon in 61 (34.1%) and other doctors 46 (25.7%). Other sources included friends/relatives in 136 (28.5%). Knowledge and awareness of allergic rhinitis in worldwide, Nigeria and hospital among the patients were 76 (42.5%), 81 (45.3%) and 105 (58.7%) respectively. This is showed in Table 3.

Table 3: Parents knowledge of allergic rhinitis on distribution.

Parameters	Number	Percentage (%)
Sources of allergic rhinitis information		
Media/Internet	29	16.2
Friends/relatives	43	24
Ear, nose and throat/ other doctor	107	59.8
Is allergic rhinitis common worldwide		
Yes	76	42.5
No	103	57.5
Allergic rhinitis common in Nigeria?		
True	81	45.3
False	98	54.7
Is allergic rhinitis commonly seen in hospital		
Yes	105	58.7
No	74	41.3

Many parents 87 (48.6%) believed allergic rhinitis was caused by spiritual attack while other believed it was due to microorganisms and allergens in 64 (35.8%) and 28 (15.6%) respectively. Only 71 (39.7%) knew allergic rhinitis could be heritable disorder. Almost one thirds 55 (30.7%) allergic rhinitis is not a communicable disease. Few parents 61 (34.1%) believed allergic rhinitis was seasonal disorder while majority believed it was perennial disorder and chronic diseases in 134 (74.9%) and 143 (79.9%) respectively. This is illustrated in Table 4.

Table 4: Parents knowledge on aetiology of allergic rhinitis.

Parameter	Number	Percentage (%)
Causes of allergic rhinitis is?		
Microorganisms	64	35.8

Harmless foreign substance (allergens)	28	15.6
Spiritual attack	87	48.6
Is allergic rhinitis from parent's gene?		
True	71	39.7
False	108	60.3
Is allergic rhinitis from person to person?		
True	124	69.3
False	55	30.7
Is allergic rhinitis occurred during season?		
Yes	61	34.1
No	118	65.9
Is allergic rhinitis occurred round the year?		
Yes	134	74.9
No	45	25.1
Is allergic rhinitis long standing diseases?		
Yes	143	79.9
No	36	20.1

In this study, most parents knew allergic rhinitis could manifest with nasal symptoms such as bout of sneezing, catarrh and nasal blockage in 113 (63.1%), 99 (55.3%) and 73 (40.8%) respectively. Majority 131 (73.2%) of the parents knew allergic rhinitis could be responsible for itching ear, throat and eye. About half 87 (48.6%) of the parents associated headache as one of the manifestations of allergic rhinitis in this study as showed in Table 5.

Table 5: Parents knowledge of allergic rhinitis and its manifestations.

Parameter	Number	Percentage (%)
Bouts of sneezing		
True	113	63.1
False	66	36.9
Catarrh		
True	99	55.3
False	80	44.7
Nasal blockage		
True	73	40.8
False	106	59.2
Cause itching ear, throat and eye		
True	131	73.2
False	48	26.8
Nasal foreign body (crawling) sensation		
True	98	54.7
False	81	45.3
Headache		
True	87	48.6
False	92	51.4

A total of 58 (32.4%) of parents believed that allergic rhinitis was responsible for their children sleep disturbance. Some 62 (34.6%) parents associated allergic rhinitis to have impaired their concentration. Allergic rhinitis was reported to have led to isolation in 83 (46.4%) and poor school attendance in 78 (43.6%). Most 79 (44.1%) parents believed that their child could participate in home work and errand if their allergic rhinitis was under control as shown in Table 6.

Table 6: Parents knowledge of allergic rhinitis on quality of life.

Parameter	Number	Percentage (%)
Reduces sleep quality		
True	58	32.4
False	121	67.6
Impairing concentration		
True	62	34.6
False	117	65.4
Absent from functions (isolation)		
True	83	46.4
False	96	53.6
Poor school attendance		
True	78	43.6
False	101	56.4
Poor work performance		
True	79	44.1
False	100	55.9

All 179 (100.0%) of children had not undergone any allergen tests. Regarding avoidance of allergens, 88 (49.2%) of parents of children controlled suspected allergens regularly if known. Most parents prevent their child being exposed to allergens, 21 (11.7%) dust, 18 (10.1%) smoke and 16 (8.9%) perfume. Majority 142 (79.3%) of the parents believed allergic rhinitis could be cured. This may be achieved by 99 (55.3%) herbal medication, 106 (59.2%) over the counter drugs and 98 (54.7%) pharmacy drugs. Many 148 (82.7%) parents of children insisted on their child shall adhere to their ear, nose and throat specialist care/surgical intervention. This is demonstrated in Table 7.

Table 7: Parent attitude and practice of management of allergic rhinitis.

Parameter	Number	Percentage (%)
Allergic tests		
Yes	0	0
No	179	100
Avoidance of allergens		
True	88	49.2
False	91	50.8
Curable		
True	142	79.3
False	37	20.7
Prayer/spiritual intervention		
True	135	75.4
False	44	24.6
Herbs		
True	99	55.3
False	80	44.7
Over the counter drugs		
True	106	59.2
False	73	40.8
Pharmacy drugs		
True	98	54.7
False	81	45.3
Specialist care/Surgery		
True	148	82.7
False	31	17.3

DISCUSSION

There is high response rate in the questionnaire distributed to the parents. In our analysis of the Knowledge Attitude and Practice of parents of children with allergic rhinitis there was a wide gap between the expected and actual practices of the disorder. Attitude towards allergic rhinitis were also deficient in the care process of the parents. It is worthy of note that sociodemographic features of parents of the children with allergic rhinitis were not significantly related to the level of knowledge about childhood allergic rhinitis [16,17].

Majority of parents were mother with few fathers which may be the reasons for deficient response. Both parental participations could improve attitude and practice in our community. Majority of the patients and parents were urban dwellers while rural dwellers are poorly represented. This implies that there is poor knowledge, attitude and practice among rural dwellers. There is high knowledge on family history of allergic rhinitis and types of allergies but poor knowledge on trigger allergens [18]. There is need for parent education so that they can identify trigger allergens in order to improve their allergic rhinitis management practices.

Parental allergic rhinitis related knowledge is low with a lack of awareness of allergic rhinitis both local and international distributions [19]. These findings may be related to low level of health education and general lower exposure among parents in developing countries compare with advanced countries.

The level of knowledge among parents in the present study on aetiology, acquired as well as pathogenesis and nature of the allergic rhinitis in their children was found to be lower. Severe deficit of knowledge was observed particularly in questions related to the causes. This may be due to nature of health talk given to parents and their children in the clinic [20,21]. This health education was mainly on symptoms recognition, avoidance of allergens and presentation to the expert for prompt care. Parents in this demonstrated high skill in the level of knowledge and awareness of the symptom's recognition in their children.

This study has been able to highlight the level of knowledge of parents about childhood allergic rhinitis and quality of life. In this survey, few parents would not allow their children to participate in various childhood play and activities, even if their allergic rhinitis was well controlled. There is a high level of awareness and knowledge on allergic rhinitis and restrictions on daily activities of their children [22]. The limitation in this study is that instruments for obtaining quality of life were not used in this study.

Allergic test was not carried out in this study due to its faulty and the scarcity of allergic kit in our centre as in some centres in developing countries. Parents in this study displayed some deficit in the management of allergic rhinitis in children [23,24]. Childhood allergic rhinitis management requires multiple complex tasks. Parents need to understand the diverse triggers and basic mechanisms of an allergic rhinitis attack, and to understand the necessity of avoidance of allergens and compliance to medication. Appropriate provision of education on allergic rhinitis shall improve healthy home-knowledge and parents to make changes in their households [24].

Parents of children with allergic rhinitis need to be informed that antibiotics should only be administered if symptoms are associated with infection and confirmed with laboratory tests. There is need to improving the quality of parent care of children with allergic

rhinitis. Detailed and accurate allergen identification is essential for the proper diagnosis of allergic rhinitis and its successful treatment. Parent education and clinical advice about allergen avoidance should be provided. Referral of the patients to specialist for more extensive investigations and management is the backbone of successful outcome [25].

Dissemination of specialist information to improve allergic rhinitis knowledge from the perspective of many parents and good communicative relationships with health care professionals is vital for encouraging progress in allergic rhinitis management.

CONCLUSION

In this survey, mothers are the main care giver to children with allergic rhinitis in the family. There are poor parental knowledge about children allergic rhinitis on aetiology, manifestation, pathogenesis and nature of the disorder. This implies that improved parental allergic rhinitis knowledge and attitudes will improve parents to properly adhere to allergens avoidance and manage medication regimen. Further research work is required to develop allergic rhinitis related education programs to sensitize the patients, parents and community at large.

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