TO ASSESS THE SOCIO-CULTURAL ASPECT OF ASTHMA PATIENTS VISITING ALLERGY CENTRE NIH, ISLAMABAD DURING THE YEAR 2010

Shakila Asif, Tahir Ahmad Khan, Adil Khan, Farida Ahmad

ABSTRACT

Background: Asthma is a chronic inflammatory airway disease, affecting adults and children of all ages.

Objective: Objective of this study was to assess the socio-cultural aspect of asthma patients visiting NIH allergy center Islamabad.

Methodology: A cross-sectional survey was conducted in NIH allergy center Islamabad from 1th March to 30th August 2010. It included 800 Patients. They were selected by convenience sampling techniques. Socio-cultural variables were recorded on a pre designed questionnaire performa.

Result: Out of 800 patient 47.5% were females and 53.5 were males. 72.2% were housewives, and 22.7% males belonging to office job group from both rural and urban areas. 67.5% patients mean income was Rs 5000/pm and 11.25% mean income Rs 15000/pm. 52.40% had some knowledge about asthma and 28.75% had no knowledge.77.5% had good understanding of asthma symptoms. 95% were doctor diagnosed cases. In 71.25% daily life activities were affected by asthma. 61.25% had problem with more than four environmental factors triggers. Dust, perfume, cigarette smoke, automobile smoke, weather change, thresher dust and pollen were the main factors in most patients. 61.25% had mean expenditure of Rs 500/ per month. 89.45% females had no problem in taking treatment from male doctor and in 65% patients had communication gap.

Conclusion: This study revealed that low socioeconomic status, educational level, presence of asthma triggering agents, less disease knowledge, and lack of effective communication between doctor and patient are some of the factors affecting the quality of life of asthma patients.

Key Words: Bronchial Asthma, socio-cultural aspect, health related quality of life, asthma triggering agents.

INTRODUCTION

Asthma is a chronic inflammatory airway disease affecting adults and children of all ages. In half of the cases the onset is before ten years of age1. If not adequately controlled asthma can cause considerable limitations on the physical, social and psychological aspects of the patients. In children reduce participation in family affairs and increase absentees from the school have been seen2. It is estimated that 300 million people around the world are suffering from asthma and the prevalence is increasing globally by about 15% every decade 2, 3, 4.

Asthma is the problem faced by both developed and developing countries. The main causes in increases cases are associated with urbanization and adaptation of westernized life style. In developing countries, factors like poverty, lack of education, limited recourses and unsatisfactory infrastructure can cause a significant barrier to asthma management. Some other factors like under diagnosis, under treatment by physician, poor patients compliance and communication gap between doctor and patient needs further evaluation 2,4.

In Pakistan too, the asthma is on the rise. In children between 13-14 years of age the prevalence is 5-10%. Atopy and environmental factors are the main causes3,5.e.g. in tannery workers in Karachi the prevalence is around 10.8%6. Additional factors like treating physicians do not follow the proper asthma guidelines either due to negligence or less knowledge or improper understanding of the path physiology of disease and the attitude and belief of patient's results in poor patient compliance.

A study was conducted at the Allergy Centre NIH Islamabad to assess the social and cultural aspect of asthma in patients of different sexes, ethnicity and areas with different social, cultural, educational and linguistic background.

MATERIAL AND METHODS

A cross sectional survey was performed from 1st March to 30th August 2010 at the Allergy Centre, NIH Islamabad. The sample size was 800 consisting of gender of both sexes with ages 10-60 years. Selection of the participants was based on non probability convenient sampling method.

Department of Community Medicine KGMC, Peshawar.

Address for correspondence:
Dr. Shakila Asif
Cell: 0323-9103751
E-mail: ashakila264@gmail.com

The inclusion criteria were all new cases of asthma, between ages 10 – 60 years, atopic with positive skin prick test. The exclusion criteria were patients suffering from other diseases, other forms of allergies and uncertain cases of asthma. A semi structured questionnaire was prepared and used for recording respondent's interviews. Informed consent was obtained after briefing them on the objectives of the study. The questionnaire contained questions regarding demographic and socio-cultural characteristics. Frequencies distribution and percentages were calculated from the relevant data.

RESULTS

The demographic variables for age, gender and location are given in Table 1 and 2. Majority of the males were between 31–40 years i.e. 38% with mean age 35 years. Majority of the females were in age range 10–20 years i.e. 31.5% with mean age 18 years.

Regarding severity of asthmatic attacks and the type of treatment taken, Out of 800 patients (240) 30% had mild episodic attacks; (130)16.2% had moderate attacks some time needing emergency treatment and (370)46.2% had severe attacks needing hospitalization on many occasion during the year while (60) 7.5% did not respond. With regard to treatment 200/800 or 25% preferred treatment at home taking drugs already prescribed and avoiding doctor and also taking home made remedies;(440) 55% preferred regular OPD visits for follow up as well as for any modification in treatment; (160)20% were those who gave history of either emergency room visit or hospitalization during the year.

When inquiring about expenditure incurred on asthma 490 /800 or 61.25% spend Rs 200 – 1000/ month mean Rs 500/ month; 110 or 13.75% Rs 1100 –1800/month, mean Rs 1500/ month; (130)16.25% Rs 1900 – 2700/month, mean Rs 2000/ month; (30) 3.75% Rs 2800 – 3600/month, mean Rs 3000/ month; 10 or 1.25% Rs 4500/month whereas (30) 3.75% preferred free treatment from government dispensary.

Assessing the patients' performance of routine work and days of absence from school/office/work place 280/800 or 35% had difficulty in performing routine work; 440 or 55% had no problem whereas 80 or 10% did not respond. Out of 280 patients who had difficulty in performing work, 60 or 21.4% remain absent for 1 –2 days/month; (30) 10.7% for 6 –7 days/month; 40 or 14.2% for 8 –12 days/month; 30 or 10.7% for 10 – 15 days/month; 60 (21.4) % were unable to work for more than two months in a year while 60 or 21.4% could not work at all.

Regarding cultural variables, problem faced by the female patients in obtaining treatment from male doctor, 340/380 (89.4%) female patients faced no problem whereas 40(10.5%) had issues of purdah in their area. 280/800(35%) had language problem in communication with doctor, whereas 520/800 (65%) faced no problem. Out of these 280 patients 140(50%) had to communicate with the doctor through their spouses, 70 (25%) had to take help from their relatives, 40(14.2%) from friends and 30 (10.7%) had to involve a staff member of allergy centre.

Table 1: Demographic characteristic (Gender and Age wise)

Gender	Freq (f)	%	Age Range									
			10-20		21-30		31-40		41-50		51-60	
			f	%	f	%	f	%	f	%	f	%
Male	420	52.5	60	14.2	120	28.5	160	38	60	14.2	20	4.7
Female	380	47.5	120	31.5	80	21	110	28.9	70	18.4	00	0
Total	800	100	180	22.5	200	25	270	33.75	130	16.25	20	2.5

Table 2: Demographic characteristic location wise

Gender	Freq (f)	%age	Punjab		Sindh		KPK		Balochistan		AJK		FATA	
			f	%	f	%	f	%	f	%	f	%	f	%
Male	420	52.5	190	45.2	20	4.7	50	11.9	—	—	10	2.3	10	2.3
Female	380	47.5	200	52.6	20	5.2	80	21	—	—	10	26	00	0
Total	800	10	390	48.75	40	5	130	16.25	—	—	20	2.5	10	1.25

Gender	Freq (f)	%age	Rawalpindi		Islamabad		Afghanistan	
			f	%	f	%	f	%
Male	420	52.5	50	11.9	50	11.9	30	7.1
Female	380	47.5	20	5.2	10	2.6	40	105
Total	800	100	70	8.75	60	7.5	70	8.75

Social variable:-

Table 3: Occupation of Asthma Patients

Gender	Freq (f)	%age	Teacher		Hiouse wives		Students		Drivers		Farmer	
			f	%	f	%	f	%	f	%	f	%
Male	440	55	20	4.5	—	—	60	13.6	30	6.8	60	13.6
Female	360	45	30	8.3	260	72.2	70	19.4	—	—	—	—
Total	800	100	50	6.25	260	32.5	130	16.25	30	3.75	60	7.5

Occupation of asthma patient continue

Gender	Freq (f)	%age	Businessmen		Office Job		Job less	
			f	%	f	%	f	%
Male	440	55	100	22.7	100	22.7	70	15.9
Female	360	45	—	—	—	—	—	—
Total	800	100	100	10	100	70	70	8.75

Table 4: Area specific residence of Asthma Patient

Gender	F	%	City		Town		Village		Sea Side		Industrial Area	
			f	%	f	%	f	%	f	%	f	%
Male	430	53.75	180	41.8	20	4.6	210	48.8	20	4.6	00	—
Female	370	46.25	170	45.9	—	—	190	51.3	—	—	10	2.7
Total	800	100	350	43.75	20	2.5	400	50	20	2.5	10	1.25

Table 5: Educational level of asthma patient

Level of education	Frequency (f)	%age
No school	140	17.5
Primary	110	13.75
Middle	140	17.5
High school	140	17.5
College	140	17.5
University	50	6.25
Religious	80	10
Total	800	100

Table 6: Monthly house hold income

Monthly income range	Frequency (f)	%age
No source of income	60	7.5
1000-10000	540	67.5
11000-20000	90	11.25
21000-30000	60	7.5
31000-40000	40	5
41000-50000	10	1.25
Total	800	100

Table 7: Knowledge of Asthma patient

Knowledge	Frequency	%age
No knowledge	230	28.75
Little bit	380	47.5
Full knowledge	190	23.75
Total	800	100

Table 8: Patient understanding about Asthma

Understanding	Frequency	%age
Yes	620	77.5
No	160	20
No response	20	2.5
Total	800	100

Table 9: How did the patient know about his disease?

Diagnosis of asthma	Frequency	% age
Doctor	760	95
Self assessment	30	3.75
No response	10	1.25
Total	800	100

Table 10: Asthma Affecting on Daily life activities

Diagnosis of asthma	Frequency	% age
Yes	570	71.25
No	230	28.75
Total	800	100

Table 11: Asthma affect on type of physical activities and its limitation

Type of activity	Frequency	% age
Affects during exercise	340	42.5
Sports	100	12.5
Walking Upstairs	30	3.75
Strenuous work	300	37.5
Normal Daily activity	30	3.75
Total	800	100

Table 12: Environmental factor

Factors	Frequency (f)	%age
Pollen	340	8.5
Dust	660	16.5
Perfume	490	12.3
Cigarette	490	12.3
Automobile	440	11
Gas stove	170	4.2
Wood fuel	150	3.7
Dung fuel	60	1.5
Cotton	200	5
Humidity	170	4.2
Thresher	320	8
Animal dander	40	1
Environmental change	360	9
Fumes	90	2.26
Total	3980	100

Total 3980 responses
310/800 (38.7%)- < 4 factors
490/800 (61.25%) 7 4 factors

DISCUSSION

This cross sectional prevalence survey describes the demographic and socio-cultural aspect of asthma in a sample of Pakistani population. 52.5% of respondents were males and 47.5% were females, results are similar to a study conducted by Murthy1. The main attributable reasons were increase exposure of males to pollutants/ allergens such as vehicle emission, urban lifestyle and atopic background as compared to females who mostly limit themselves to home environment. This aspect is also supported by a study conducted by G.D. Amato et al 7.

In this study majority of male patients fall in the age group 31 – 40 years, while in females it was 10-20 years indicating an early start of asthma. In a study conducted by Andrea, J. Apter, Susan.T.Reisine et al the patient's age range from 20-81 years 8.

In our study it was noted that female representation from tribal areas was nil while for males it was only 2.3%. This low turnover could be mainly because of remoteness of area and also due to ongoing war on terror in the region. From Baluchistan there was no representation and most probably it was due to same reasons. The other factors like cultural restrictions for female patients and language problem could not be ignored. A study undertaken by G.D. Amato et al says that low incidence of asthma is seen in patients living in mountainous areas because high altitude decreases dust mite exposure and decreases asthma 7. In our study there was a low turnout of patients for AJK which coincides with the results of above study.

Profession/occupation is seen as another factor causing asthma, especially in males. The atopic males due to their outdoor exposures are more at risk to develop sensitization to various pollutants/allergens. This has been highlighted by some studies supporting atopy as the leading cause for sensitization to various factors like chemicals, indoor/ outdoor allergens beside low living standards, low socioeconomic conditions, viral infections and stresses 3, 6, 7. In females factors like stress, weak health and low socio economic status and exposure to fumes of different types of fuels during cooking and on job may act as a precipitating factor and cannot be ignored1. Stress operates as a pathway linking socioeconomic factors with immune deregulation which in turn contributes to asthma morbidity 8.

Area specific percentage was high for both genders coming from rural areas. The findings are to some extent comparable with the study by K.J.R Murthy, J. G.Sastry1. Which shows rural dominance but for males, while in our study more female dominance was seen.

Most of the respondents, irrespective of gender have some degree of awareness about asthma while they had good understanding about breathing problem and relate it with allergy. This was one of the reasons that patients were willing to try new treatment e.g. allergy shots at the center. The results were different to the study done by Christopher where only 23.2% population indicated inflammation as a cause of asthma 9.

Majority of patients belong to low income group i.e. 67.5% patients have mean income of Rs 5000 per month; 11.25% have mean income of Rs15000 per month; 7.5% have no regular source of income whereas only 13.7% patients have income greater than Rs 20000 per month. The results coincide with the studies done by Andrea. J. Apter, Susan.T.Reisine et al and Finn Rasussen 8, 10.

Regarding the diagnosis of disease our study indicated that in 95% cases it was diagnosed by doctor and in only 3.7% cases the patient came to the centre

on self assessment/reported basis. This was opposite to a study in which the self reported cases during two surveys were on rise 11.

In 71.5% patients, asthma was affecting the daily life of patients when they resorted to strenuous activity of any kind. The same results were depicted in a study conducted by Christopher 9.

The environmental factors like dust, perfume vapors, cigarette smoke, automobile smoke played significant role in asthma, while pollen, thresher dust, fuels, humidity, weather change and cotton to lesser extent.(9,13,14) Problem relating to animal dander was only 1% as compared to west where people are mostly exposed to pet animals. Our study shows that 61.2% patients have more than four factors as causative agents. This indicates that after initial sensitization, especially in atopic individuals, the trend was towards development of multiple allergies 6,7,14,15,16,17. Two other studies indicate that pollution is not a major risk for the development of asthma as it was observed that some areas having high pollutions have low percentage of asthma 5, 18.

In 62.5% patients there was moderate to severe disease. Despite severity 25% confined themselves to old prescriptions and home remedies; 55% preferred to visit OPD for regular treatment/follow-up and only 20% gave history of hospitalization for control of attacks during a year. The results were comparable to other studies9, 19. In a study the marker of severity increases hyper responsiveness of bronchi, atopy, low function of lungs and respiratory infections 20. These factors were also seen in the patients of our study.

With regard to performance of daily life routine most of our patients had problem in its performance, indicating that as asthma worsens, the patient's quality of life is also affected. The findings tally with the results of the study by Christopher K W Lai, Teresita et a l 9.

CONCLUSION

Asthma not only affects the quality of life of patient but also brings socio-cultural impact on the patient and his family. Further it causes continuous financial burden on the family resources. This study revealed that low socioeconomic status, educational level, presence of asthma triggering agents, less disease knowledge, and lack of effective communication between doctor and patient are some of the factors affecting the quality of life of asthma patients. However, the same could be over come through educative, preventive and curative programs on governmental level for patients and treating physicians.

REFERENCES

1. K.J.R Murthy, J. G. Sastry "ncmh background papers: burden of diseases in India; economic burden of asthma. 20 September 2005; 251-257.
2. S. S. Braman, "The global burden of asthma," Chest, vol. 130, no. 1, supplement, pp. 4S-12S, 2006.
3. Masoli, M. Fabian, Holts" Global initiative for asthma (GINA) program; The global burden of asthma. Exclusive summery at the GINA dissemination committee report, Allergy, 2004; 59P: 469-478.
4. Mark. Humbert "The right tools at the right time "Chest 2006; 130: 29S-40S.
5. ISAAC Study "Worldwide variation in prevalence of symptoms of asthma, allergic rhinoconjunctivits and atopic eczema: ISAAC" The Lancet. Vol 351, April 25, 1998.
6. Khuram Shehzad, Saeed Akhter et al "Prevalence and determinant of asthma in adult male tannery worker in Karachi,Pak BMC" Public health, 5 Dec; 6: 292.
7. G. D. Amato, G. Liccardi, M. D9Amato, M. Cazzola "Outdoor air pollution, climatic changes and allergic bronchial asthma" Eur Respir J 2002; 20: 763-776.
8. Andrea. J. Apter, Susan. T. Reisine et al "The Influence of demographic and socioeconomic factors on health related quality of life in asthma" J. Allergy. clin.immunol 1999; 103: 7-8.
9. Christopher K W Lai, Teresita et al "Asthma control in Asia Pacific Region: The asthma insights and reality in Asia Pacific Study" Allergy. Clin. Immunol, Jan 2003 Vol. 111 No 2, 263-268.
10. Finn Rasussen "Risk factor to young adulthood asthma" A longitudinal population studies" J. Allergy. Clin. Immunol, 2002, Vol 110 No 2 220-7.
11. Hansen EF "Increase prevalence and severity of asthma in young adults in Copenhagen". Thorax 2000, Oct 55 (10) 833-836.
12. G. D. Amato, G. Liccardi, M. D9Amato, M. Cazzola "Outdoor air pollution, climatic changes and allergic bronchial asthma" Eur Respir J 2002; 20: 763-776.
13. Elico. O. Vianna, Luiz C., Boaventura et al "Morning to evening variation in exercises induced Bronchospasm" J. Aller. Clin. Immunol, 2002: 110: 236-40.
14. Bethesda MB, Expert panel report, vol. 1 "Guideline for the diagnosis and management of asthma" US dept. of health and human services, NIH pub National Heart Lung and Blood Institute,1997.
15. Azra. Parveen. Azad, M.H. Arsalan "Societal attitude towards tobacco smoking in a cosmopolitan city of a developing country 'Pak geographical review Vol. 60 No 2 – Dec 2005; 54-64.
16. Vera E. V. Pullo "Day care centers and 26 schools as source of exposure to mite,cockroach and endotoxin in city of Sao Paulo Brazil " J. Clin. Immunol, vol 110 – No 4 – 582-8.
17. Karen Huss, RN, DNSc, a N. Franklin Adkinson, Jr, MD,a Peyton A. Eggleston, MD, et al "House dust mite and cockroach exposure are strong risk factors for positive allergy skin test responses in the Childhood Asthma Management Program" J. Allergy clin immunol volume 107, number 1.
18. Arnaud Bourdin a, Adam Doble b, Philippe Godard a, "The asthma insights and reality in the maghreb (AIRMAG) study: perspectives and lessons" Respiratory medicine 103, S2 (2009) S38 S48.

19. K.F. Rabe, P.A. Vermeire, J.B. Soriano, W.C. Maier "Clinical management of asthma in 1999: the Asthma Insights and Reality in Europe (AIRE) study" Eur Respir J 2000; 16: 802-807.

20. Finn Rasussen "Risk factor to young adulthood asthma" A longitudinal population study" J . Allergy. Clin. Immunol, 2002, Vol 110 No 2 – 220-7.

21. E. Van Gansea, L. Antonicellib, Q. Zhangc, L. Laforesta, D.D. Yin, G. Nocead, V. Sazonov Kocevarc "Asthma-related resource use and cost by GINA classification of severity in three European countries" Respiratory Medicine (2006) 100, 140-147.