

A Study on Comparision of Quality of Life of Asthma Patient with PFT and Mini AQLQ Scoring in SRMC

Dr. Sindhura Koganti¹, Dr. Inba Shyamala R^{2*}, Niveditha N³, Hariprita D.P⁴, Dr. Prof. C. Chandrasekar⁵

¹Assitant Professor, Department of Pulmonary Medicine, Sri Ramachandra Medical College, Chennai

²Postgraduate, Department of Pulmonary Medicine, Sri Ramachandra Medical College, Chennai

^{3,4} B.Sc, Allied Health Sciences(Respiratory), Sri Ramachandra Medical College, Chennai

⁵HOD, Department of Pulmonary Medicine, Sri Ramachandra Medical College, Chennai

DOI: [10.36348/sjmpps.2020.v06i01.017](https://doi.org/10.36348/sjmpps.2020.v06i01.017)

| Received: 03.01.2020 | Accepted: 19.01.2020 | Published: 30.01.2020

*Corresponding author: Dr. Inba Shyamala R

Abstract

Asthma is one of the chronic respiratory conditions. A large Number of patients still experience a high level of morbidity .Much of the morbidity from Asthma is believed to be due to factors such as a chronic condition, poor knowledge of the disease process and medication understanding on the use of and poor self-management. Patient education is becoming an essential area of service provision. In this study 30 Patients who were diagnosed as asthma with PFT and attending Pulmonology OPD at SRMC were included and were given a mini AQLQ questionnaire containing 15 questions regarding the level of asthma and limitations of activities, to test their knowledge about Asthma and quality of life, with particular reference to the knowledge about the disease and answers were analyzed to test the knowledge of the Patients about Asthma. It was done twice, first visit and after 3 weeks. These patients were prescribed with bronchodilators (SABA or LABA), Breathing exercises were explained and Inhaler technique was checked and proper technique is taught to the patient. Results showed Educating the patient about disease and teaching inhaler technique, breathing exercise resulted in more improvement in both PFT and quality of life of asthma patients with significant improvement in lung function.

Keywords: Asthma, Lung function test, breathing exercise, Quality of life, Morbidity, Inhaler technique, Bronchodilators.

Copyright @ 2020: This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

MATERIALS AND METHODS

30 Patients who were diagnosed as asthma with PFT and attending Pulmonology OPD at SRMC were included in the study.

All the Patients were given a mini AQLQ questionnaire containing 15 questions regarding the level of asthma and limitations of activities, to test their knowledge about Asthma and quality of life, with particular reference to the knowledge about the disease and answers were analyzed to test the knowledge of the Patients about Asthma.

During the first visit patients PFT was done to all the patients. These patients were prescribed with

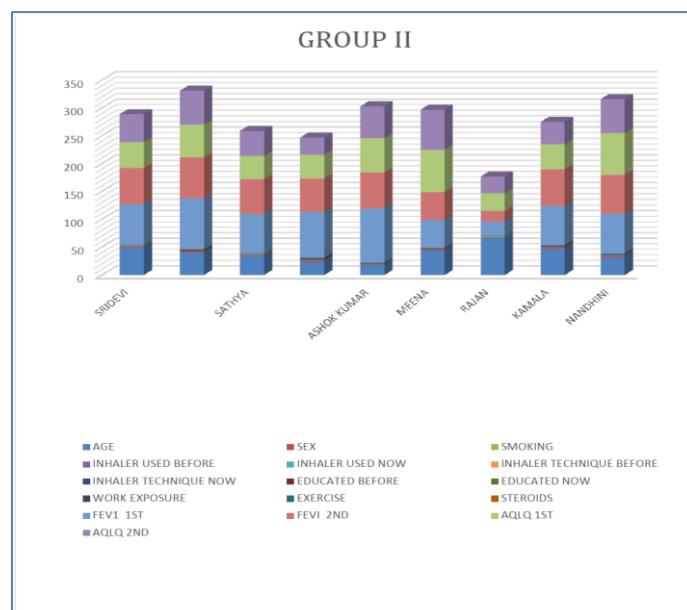
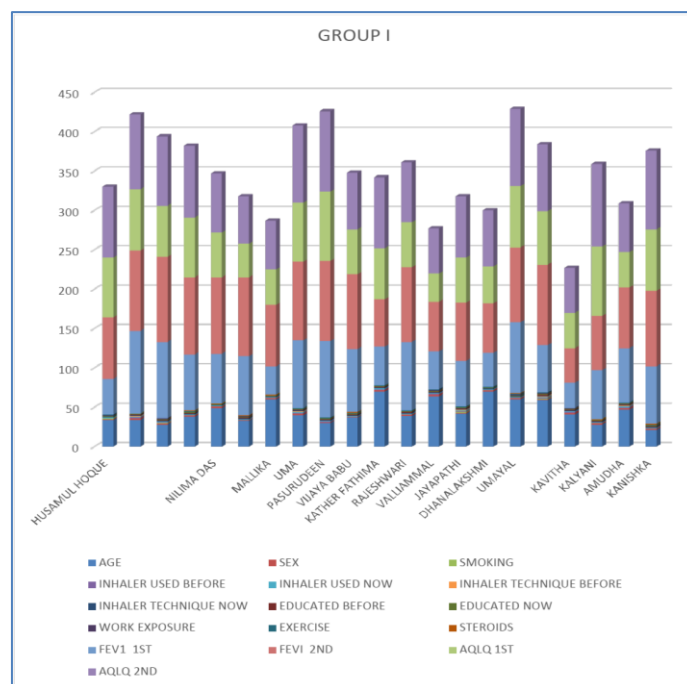
bronchodilators (SABA or LABA), Breathing exercises were explained and Inhaler technique was checked and proper technique is taught to the patient.

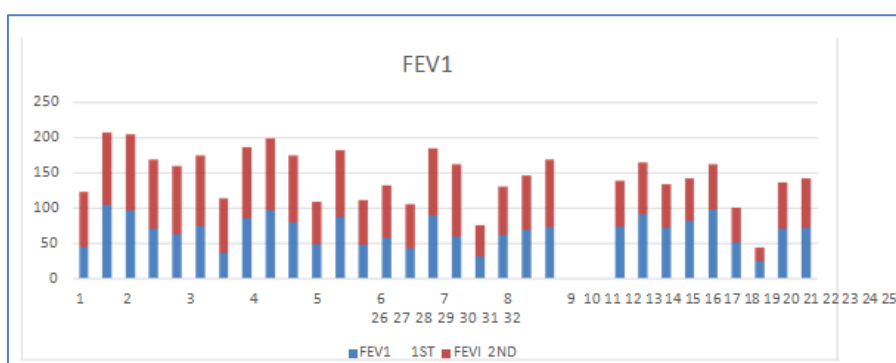
Efficacy was measured on the basis of PULMONARY FUNCTION TEST (PFT) and mini AQLQ questionnaire on the 1st visit and patients are instructed to visit on the 3rd week when the PFT and mini AQLQ questionnaire were taken again.

The data entry and analysis were done using MS excel -windows 10 software. The percentiles and 'p' values were also calculated. Wilcoxon signed ranks test and T-test were done to compare the pre and post mini AQLQ and FEV1 values.

RESULTS

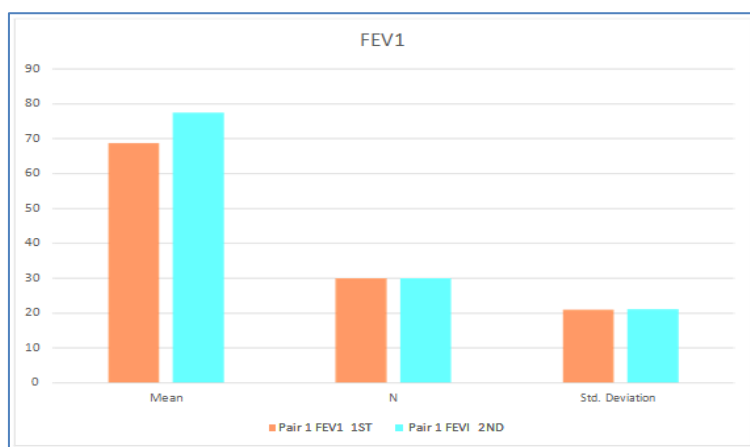
		N
AQLQrecoded2 - AQLQrecoded1	Negative Ranks	3 ^a
	Positive Ranks	21 ^b
	Ties	6 ^c
	Total	30





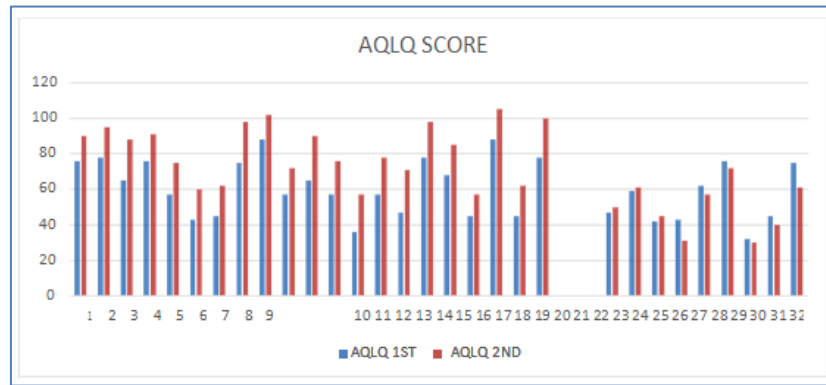
GROUP	FEV1 I	45	105	97	71	63	75	36	86	97	80	49	87	48	58	43	90	60	32	62	69	73
	FEV1 II	78	102	108	98	97	100	78	100	102	95	60	95	63	74	63	95	102	44	69	77	96

GROUP	FEV1 I	74	92	72	82	98	51	25	71	72
	FEV1 II	65	73	62	60	64	50	19	66	75



GROUP	FEV1 I	45	105	97	71	63	75	36	86	97	80	49	87	48	58	43	90	60	32	62	69	73
	FEV1 II	78	102	108	98	97	100	78	100	102	95	60	95	63	74	63	95	102	44	69	77	96

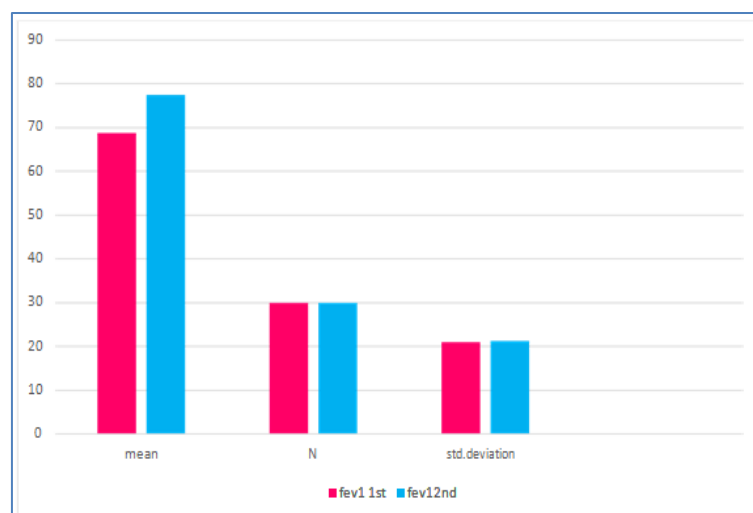
GROUP	FEV1 I	74	92	72	82	98	51	25	71	72
	FEV1 II	65	73	62	60	64	50	19	66	75



GROUP I	AQLQ I	76	78	65	76	57	43	45	75	88	57	65	57	36	57	47	78	68	45	88	45	78
	AQLQ II	90	95	88	91	75	60	62	98	102	72	90	76	57	78	71	98	85	57	105	62	100

GROUP II	AQLQ I	47	59	42	43	63	76	32	45	75
	AQLQ II	50	61	45	31	57	72	30	40	61

T- test		Mean	N	Std. Deviation
Pair 1	FEV1 1ST	68.77	30	20.99
	FEV1 2ND	77.5	30	21.182



		Mean	N	Std. Deviation
Pair 1	FEV1 1 ST	68.77	30	20.990
	FEV1 2 ND	77.50	30	21.182

There was a significant improvement in PFT (increase in FEV1, FEV1/FVC) and the mini AQLQ scoring if the patient has followed the prescribed inhaler with proper inhaler technique and therapeutic breathing exercises.

DISCUSSION

In this study Inhaler technique and exercises was taught to the 30 patients in which 21 patients were females and 9 were males who were diagnosed with bronchial asthma are included

In these 30 patients with bronchial asthma 5 patients are smokers, 13 patients were using their prescribed inhalers, out of which 5 patients were using it in correct technique and 8 were not using it correctly.

On the first day of visit PFT was done to all the patients in sitting position, FEV1 values are noted. History of allergy, occupation, medication used is also obtained from the patient. Mini AQLQ questionnaire containing 15 questions regarding the level of asthma and limitations of daily activity is provided to the patient and severity scoring is calculated. Proper inhaler technique and breathing exercises was taught to the patient.

On comparing the mini AQLQ and the FEV1 values of first day

9 patients were severely impaired
7 patients were moderately impaired,
6 patients were mild impaired
8 patients were very mild impaired.

He patients were instructed to revisit on the 3rd week, PFT was done and mini AQLQ questionnaire was given to the patient to verify the improvement. 27 patients were using the proper inhaler technique at the end of 3rd week. On comparing mini AQLQ and the FEV1 values

1 patient was very severely impaired
3 patients were severely impaired
5 patients were moderately impaired
8 patients were mild impaired
6 patients were very mild impaired
7 patients were not at all impaired

At the end of the third week 21 patients had improved and 9 patients had not improved.

CONCLUSION

Bronchial asthma is a very common disease. It is diagnosed based on the clinical and spirometric data. But these are not sufficient to assess the severity of the disease, mini AQLQ questionnaire is used to assess the quality of life of patients diagnosed with bronchial asthma. Educating the patient about disease and teaching inhaler technique, breathing exercise resulted in more improvement in both PFT and quality of life of asthma patients with significant improvement in lung function.

REFERENCE

1. Juniper, E. F., Guyatt, G. H., Epstein, R. S., Ferrie, P. J., Jaeschke, R., & Hiller, T. K. (1992). Evaluation of impairment of health related quality of life in asthma: development of a questionnaire for use in clinical trials. *Thorax*, 47(2), 76-83.
2. Juniper, E. F., Guyatt, G. H., Ferrie, P. J., & Griffith, L. E. (1993). Measuring quality of life in asthma. *American Review of Respiratory Disease*, 147, 832-832.
3. Rutten-van Molken, M. P., Custers, F., Van Doorslaer, E. K., Jansen, C. C., Heurman, L., Maesen, F. P., & Raaijmakers, J. A. (1995). Comparison of performance of four instruments in evaluating the effects of salmeterol on asthma quality of life. *European Respiratory Journal*, 8(6), 888-898.
4. Rowe, B. H., & Oxman, A. D. (1993). Performance of an asthma quality of life questionnaire in an outpatient setting. *American Review of Respiratory Disease*, 148, 675-675.
5. Leidy NK, Coughlin C. Psychometric performance of the Asthma Quality of Life Questionnaire in a US sample. *Qual Life Res* 1998; 7: 127±134.
6. Sanjuas, C., Alonso, J., Sanchis, J., Casan, P., Broquetas, J. M., Ferrie, P. J., ... & Anto, J. M. (1995). The quality-of-life questionnaire with asthma patients: the Spanish version of the Asthma Quality of Life Questionnaire. *Archivos de bronconeumologia*, 31(5), 219-226.
7. Coste, J., Guillemin, F., Pouchot, J., & Fermanian, J. (1997). Methodological approaches to shortening

- composite measurement scales. *Journal of clinical epidemiology*, 50(3), 247-252.
8. Juniper, E. F., Johnston, P. R., Borkhoff, C. M., Guyatt, G. H., Boulet, L. P., & Haukioja, A. (1995). Quality of life in asthma clinical trials: comparison of salmeterol and salbutamol. *American journal of respiratory and critical care medicine*, 151(1), 66-70.
 9. Juniper, E. F., Buist, A. S., Cox, F. M., Ferrie, P. J., & King, D. R. (1999). Validation of a standardized version of the Asthma Quality of Life Questionnaire. *Chest*, 115(5), 1265-1270.
 10. Juniper, E. F., Guyatt, G. H., Streiner, D. L., & King, D. R. (1997). Clinical impact versus factor analysis for quality of life questionnaire construction. *Journal of clinical epidemiology*, 50(3), 233-238.
 11. Juniper, E. F., O' byrne, P. M., Guyatt, G. H., Ferrie, P. J., & King, D. R. (1999). Development and validation of a questionnaire to measure asthma control. *European respiratory journal*, 14(4), 902-907.
 12. Stewart, A. L., Hays, R. D., & Ware, J. E. (1988). The MOS short-form general health survey: reliability and validity in a patient population. *Medical care*, 26(7), 724-735.
 13. Bousquet, J., Knani, J., Dhivert, H., Richard, A. L. A. I. N., Chicoye, A. N. N. I. E., Ware Jr, J. E., & Michel, F. B. (1994). Quality of life in asthma. I. Internal consistency and validity of the SF-36 questionnaire. *American journal of respiratory and critical care medicine*, 149(2), 371-375.
 14. Guyatt, G., Walter, S., & Norman, G. (1987). Measuring change over time: assessing the usefulness of evaluative instruments. *Journal of Clinical Epidemiology*, 40(2), 171-178.
 15. Juniper, E. F., Guyatt, G. H., Willan, A., & Griffith, L. E. (1994). Determining a minimal important change in a disease-specific quality of life questionnaire. *Journal of clinical epidemiology*, 47(1), 81-87.
 16. Fayers, P. M., & Hand, D. J. (1997). Factor analysis, causal indicators and quality of life. *Quality of Life Research*, 6(2), 0-0.