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

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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.

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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

<table>
<thead>
<tr>
<th>AQLQrecoded2 - AQLQrecoded1</th>
<th>N</th>
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</thead>
<tbody>
<tr>
<td>Negative Ranks</td>
<td>3&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Positive Ranks</td>
<td>21&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Ties</td>
<td>6&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>

![Graph showing comparison between Group I and Group II](image-url)
### Table 1

<table>
<thead>
<tr>
<th>Group</th>
<th>FEV1 I</th>
<th>74</th>
<th>92</th>
<th>72</th>
<th>82</th>
<th>98</th>
<th>51</th>
<th>25</th>
<th>71</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FEV1 II</td>
<td>65</td>
<td>73</td>
<td>62</td>
<td>60</td>
<td>64</td>
<td>50</td>
<td>19</td>
<td>66</td>
<td>75</td>
</tr>
</tbody>
</table>

### Table 2

| Group | FEV1 I | 45 | 105 | 97 | 71 | 63 | 75 | 36 | 86 | 97 | 80 | 49 | 87 | 48 | 58 | 43 | 90 | 60 |
|-------|--------|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|       | FEV1 II| 78 | 102 | 108 | 98 | 97 | 100 | 78 | 100 | 102 | 95 | 60 | 95 | 63 | 74 | 63 | 95 | 102 | 44 |

### Table 3

<table>
<thead>
<tr>
<th>Group</th>
<th>FEV1 I</th>
<th>74</th>
<th>92</th>
<th>72</th>
<th>82</th>
<th>98</th>
<th>51</th>
<th>25</th>
<th>71</th>
<th>72</th>
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<tbody>
<tr>
<td></td>
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<td>62</td>
<td>60</td>
<td>64</td>
<td>50</td>
<td>19</td>
<td>66</td>
<td>75</td>
</tr>
</tbody>
</table>
GROUP I

<table>
<thead>
<tr>
<th>AQLQ 1</th>
<th>76</th>
<th>78</th>
<th>65</th>
<th>67</th>
<th>57</th>
<th>43</th>
<th>57</th>
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<td>AQLQ II</td>
<td>90</td>
<td>95</td>
<td>88</td>
<td>89</td>
<td>75</td>
<td>60</td>
<td>62</td>
<td>28</td>
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</table>

GROUP II

<table>
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<tr>
<th>AQLQ 1</th>
<th>47</th>
<th>59</th>
<th>42</th>
<th>43</th>
<th>63</th>
<th>76</th>
<th>32</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQLQ II</td>
<td>50</td>
<td>61</td>
<td>45</td>
<td>31</td>
<td>57</td>
<td>72</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

T-test

<table>
<thead>
<tr>
<th>Pair</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEV1 1ST</td>
<td>68.77</td>
<td>30</td>
<td>20.99</td>
</tr>
<tr>
<td>FEV1 2ND</td>
<td>77.5</td>
<td>30</td>
<td>21.182</td>
</tr>
</tbody>
</table>
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**


