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ACTIVITY RELATED QUALITY OF LIFE IN ADULT ASTHMATICS

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Abstract:

Background: *Chronic inflammation accompanied by narrowed airways and exaggerated response to various stimuli like dust, harmful gases, cigarette smoke or other allergens result in bronchoconstriction which in turn results in cough, chest tightness, wheezing and dyspnea. The prevalence of asthma is rising alarmingly because of current environmental situation and presence of various triggering factors.*

Objective: *To describe the activity related quality of life in asthma.*

Materials and methods: *This descriptive cross-sectional survey comprised of 115 adult asthmatics. Mini-AQLQ was used to assess the various factors and their effect on quality of life in an asthmatic. Data was analyzed by using SPSSv20. Mean±SD was calculated for numeric variables e.g. age. Frequency and percentage were used for categorical variables e.g. gender, socioeconomic status etc.*

Results: *Strenuous and moderate activities were moderately limited. Social activities were also shown to be limited to some extent.*

Conclusion: *The findings of this thesis indicate that patients avoid outdoor activities because of polluted environment. Activity related quality of life is affected moderately while doing strenuous and moderate and social tasks.*

Key words: *Asthma, Quality of Life*

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INTRODUCTION:

Overview

Chronic inflammation is accomplished by narrowing of airways and increased response of airways which occurs as a result of different stimuli, such as allergens and exercise. [1]. Asthma exacerbation is a result of several factors present in the air like strong odor, chemical fumes, smoke and some weather conditions like cold air or extremely dry weather. Chronic inflammation of lower airways results in bronchial asthma. Repeated occur mainly at night are the result of airway hyper-responsiveness. These attacks subside either by proper treatment or spontaneously.[2]. Since 2009, asthma has been diagnosed in 300 million people in the world. Approximately 250,000 deaths has occurred globally due to asthma.[3]

Prevalence of symptoms of asthma is found to be more in middle and low income countries, environmental factors have a strong association with this prevalence. [4]. The influence of asthma in moderate and severe condition on patient's Health have been affected by the evidence of their ability to capture the impact of exacerbation. The patients having asthma exacerbation had worse mAQLQ, EQ-5D and ASUI as compared to those without.[5]

Children suffer from asthma more as compared to adults but the death due to asthma occurs more in adults. Asthma is causing early physical deterioration and even death among the elderly patients.[6]

Asthmatics have difficulty performing their activity of daily living during the period of exacerbation.[7] This study will help determine the activities that are affected and how the subjects cope with it, so the rehabilitation protocol can be focused on improving the patients respective Activity of Daily Living (ADLs). The study focus on the activity related quality of life in asthma.

MATERIAL AND METHODOLOGY:

Descriptive cross sectional study. Data was collected from department of Asthma at Gulab Devi chest hospital Lahore. 115 patients of asthma were enrolled in the study by Convenience sampling technique. Inclusion Criteria was the Subjects with age 20-48 of either gender and Clinically diagnosed cases of asthma. The Exclusion criteria was the Patients of asthma with other pulmonary diseases such as emphysema, bronchiectasis, lung cancer. Patients of asthma with cardiac diseases, Infants and pediatrics, Pregnant females, Patients with congenital & acquired disabilities i.e. talipes equinovarus, cerebral palsy.

Informed consent was taken from patients. mAQLQ was used to collect data. Information was taken on the basis of history that contained information about address, socioeconomic status, gender and mAQLQ.

STATISTICAL ANAYLSIS:

The data was entered and analyzed using SPSS 20 (statistical package for social sciences 20). Quantitative variables are expressed as percentages and frequencies.

RESULTS:

Table 1: Mean Age of the Respondents

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	115	14.00	48.00	32.0609	7.12949
Valid N (listwise)	115				

A total of 115 participants participated in this study. The mean of the respondents was 32.06 ± 7.12 with a minimum and maximum value of 14.00 and 48 years respectively.

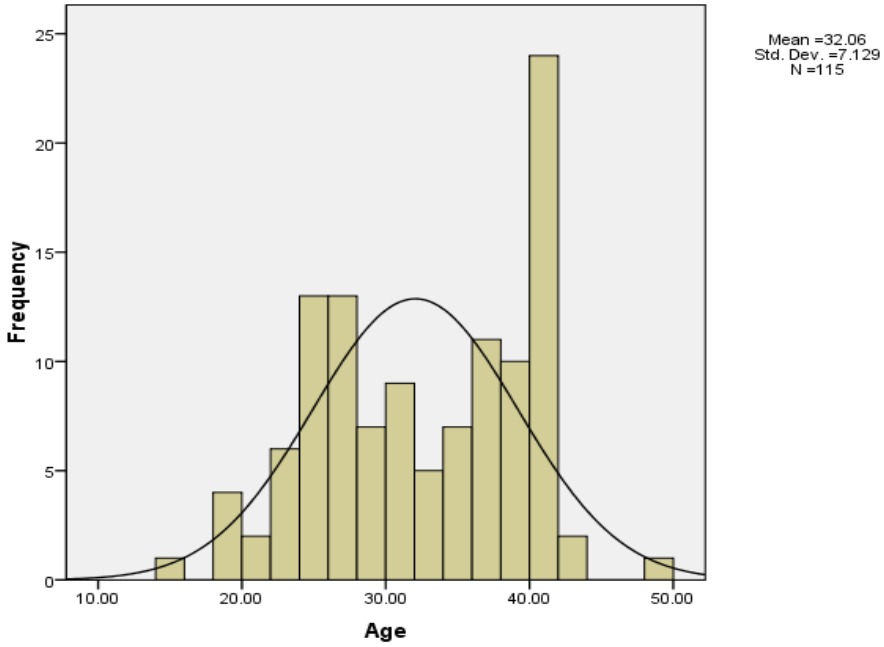

Figure 1: Histogram of Age

Table 2: Gender of the Participants

	Frequency	Percent
Male	78	69
Female	37	31

This table shows the distribution of gender across the study participants. Out of 115 asthmatic patients 69.6 (n=80) were males and 30.4 (n=35) were females.

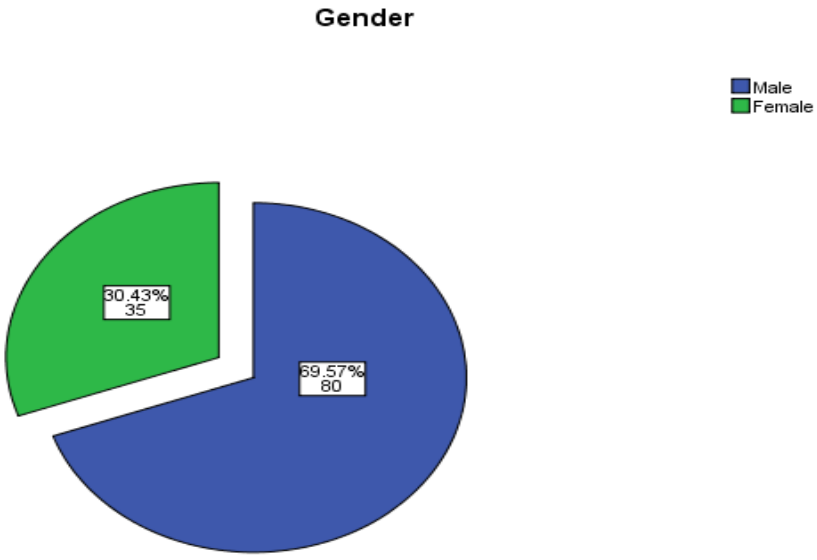

Figure 2: Pie chart of Gender

Table 3: Socioeconomic status of the participants

	Frequency	Percent
Upper	2	1.8
Middle	49	42.6
Lower	64	55.7
Total	115	100.0

This table shows the distribution of socioeconomic status across the study participants. Out of 115 asthmatic patients 55.7 (n=64) belonged to lower class, 42.6 (n=49) belonged to middle class and 1.7 (n=2) were from upper class.

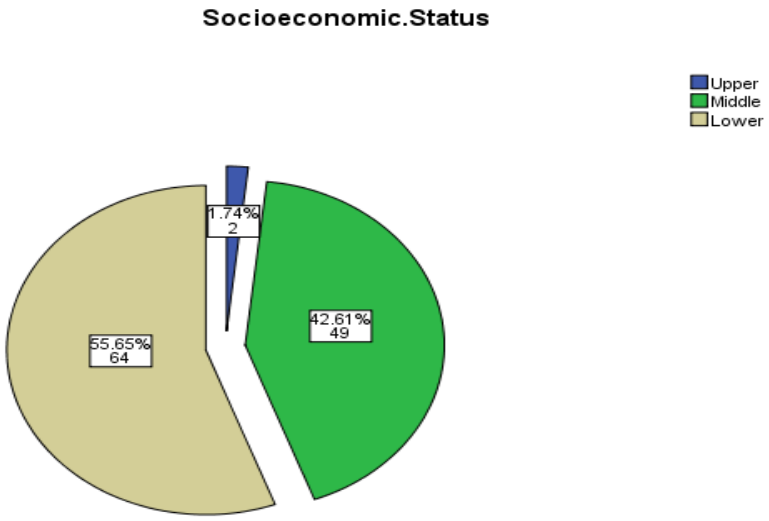

Figure 3: Pie Chart of Socioeconomic status

Table 4: Mean score of each item of Section 1 Mini Asthma Quality of Life Questionnaire

Descriptive Statistics					
Questions	N	Minimum	Maximum	Mean	Std. Deviation
1. Feel short of breath as a result of your asthma?	115	1.00	7.00	3.8435	1.24669
2. Feel bothered by or have to avoid dust in the environment?	115	1.00	7.00	3.7304	1.48278
3. Feel frustrated as a result of your asthma?	115	1.00	7.00	4.0435	1.42282
4. Feel bothered by coughing?	115	1.00	7.00	4.2696	1.43467
5. Feel afraid of not having your asthma medication available?	115	1.00	7.00	4.4696	1.56901
6. Experience a feeling of chest tightness or chest heaviness?	115	1.00	7.00	4.2000	1.45819
7. Feel bothered by or have to avoid cigarette smoke in the environment?	115	1.00	7.00	4.2087	1.51308
8. Have difficulty getting a good night's sleep as a result of your asthma?	115	2.00	7.00	4.5739	1.44526
9. Feel concerned about having asthma?	115	2.00	7.00	4.2783	1.23933
10. Experience a wheeze in your chest?	115	1.00	7.00	4.4522	1.68712
11. Feel bothered by or have to avoid going outside because of weather or air pollution?	115	1.00	7.00	4.2261	1.52212

This table shows the means score of each of the questions included in symptom section Mini Asthma Quality of Life Questionnaire.

Table 5: Mean score of each item of Section 2 Mini Asthma Quality of Life Questionnaire

	Minimum	Maximum	Mean	Std. Deviation
1. STRENUOUS ACTIVITIES	1.00	7.00	4.0783	1.45185
2. MODERATE ACTIVITIES	2.00	7.00	4.6783	1.46627
3. SOCIAL ACTIVITIES (	1.00	7.00	5.2087	1.40485
4. WORK-RELATED ACTIVITIES	1.00	7.00	5.2783	1.56467

This table shows the means score of each of the questions included in activity limitation section Mini Asthma Quality of Life Questionnaire. The mean score of strenuous, moderate and social and work related activities was 4.07 ± 1.45, 4.67 ± 1.46, 5.20 ± 1.40, 5.27 ± 1.56 respectively.

Table 6: Mean score of each item of Overall Mini Asthma Quality of Life Questionnaire

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Mini Asthma Quality of Life Questionnaire	115	1.73	6.53	4.3693	1.09542

This table shows the mean of the Overall Mini Asthma Quality of Life Questionnaire. The mean of a total of 115 asthmatics respondents was 4.36 ± 1.09 with minimum value of 1.73 and maximum of 6.53.

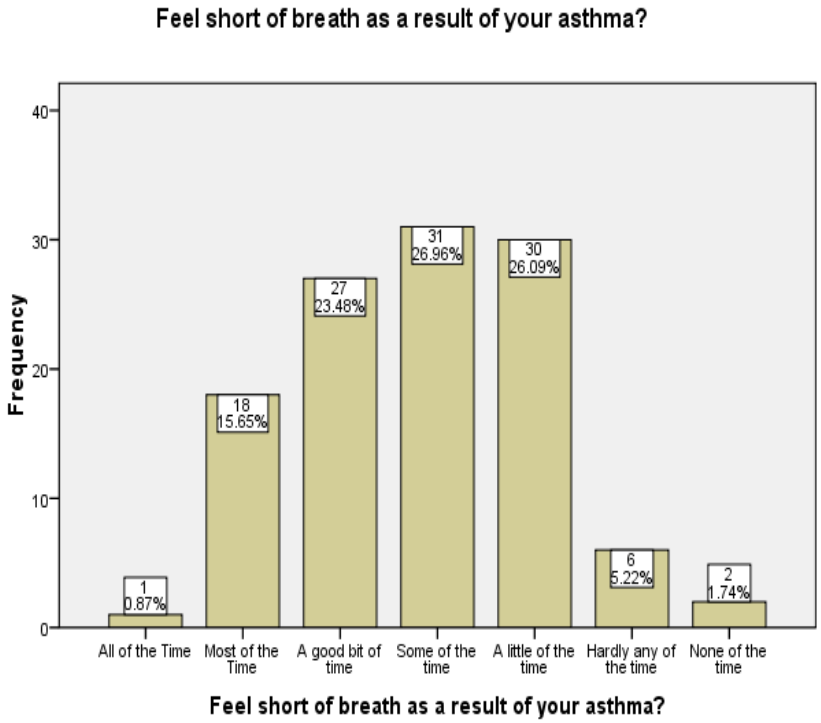

Figure:4 shortness of breath

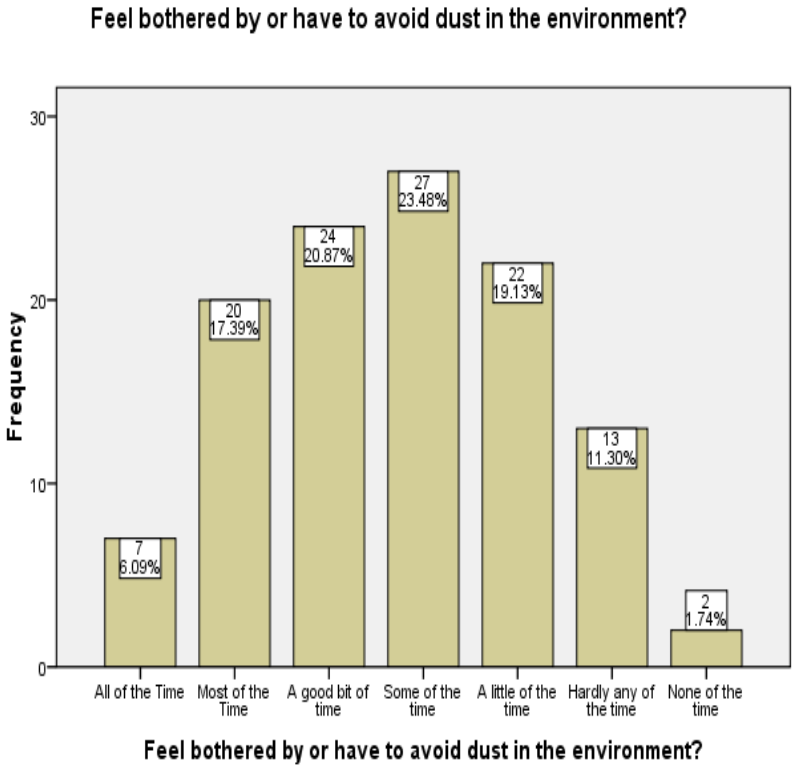

Figure:5 Bothered by dust in environment

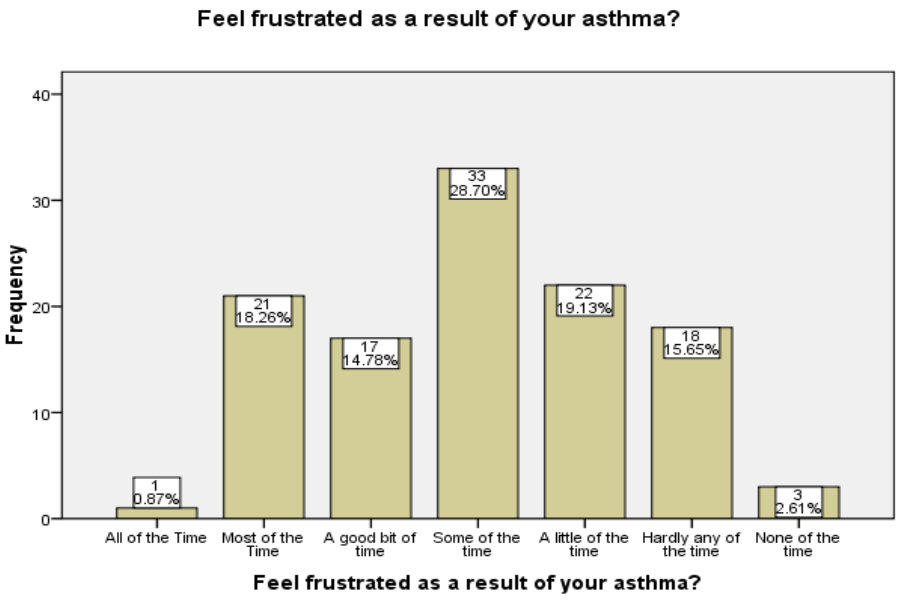

Figure: 6 Frustration as a result of asthma

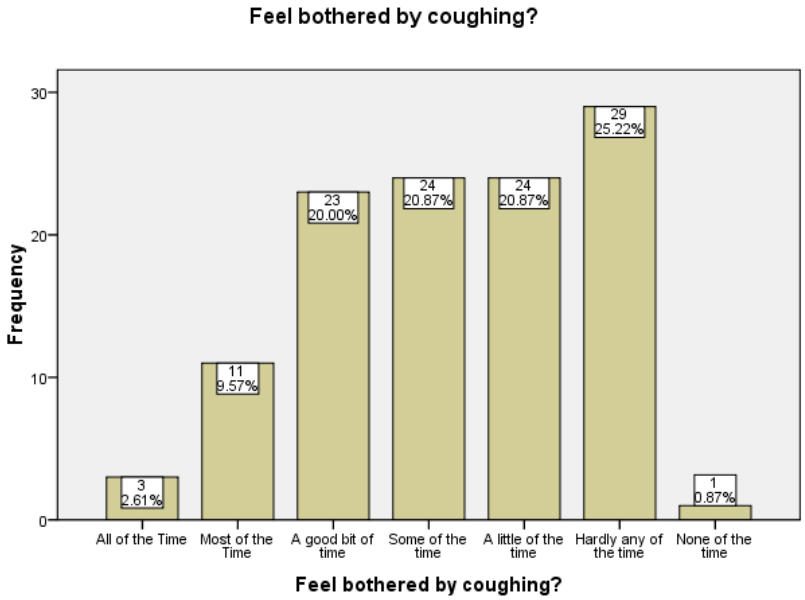

Figure 7: Bothered by coughing

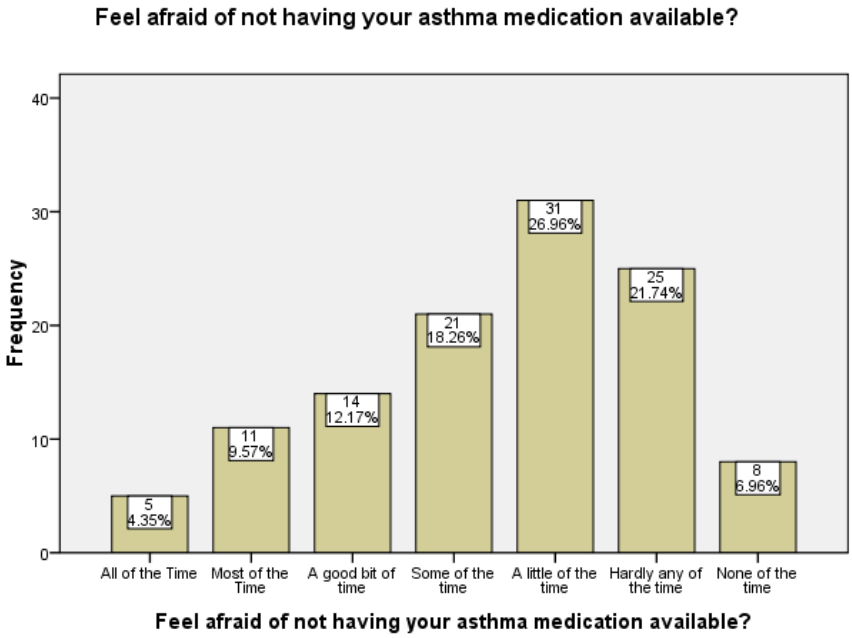

Figure 8: Afraid of not having asthma medication

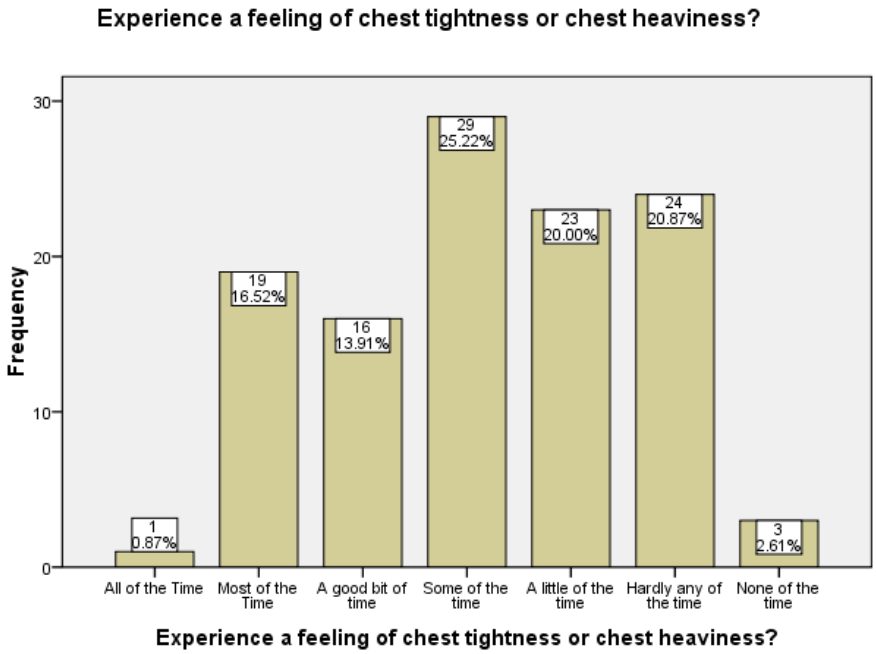

Figure 9: feeling chest tightness

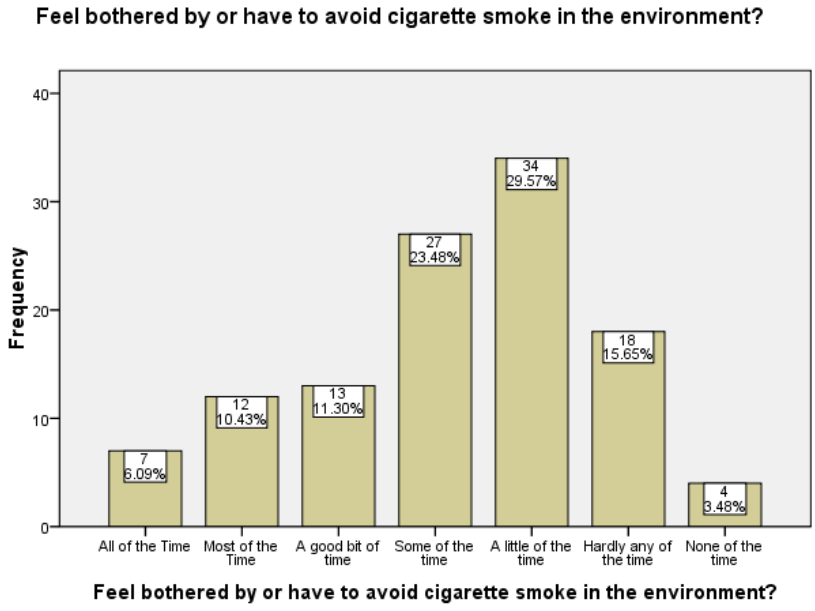

Figure 10: Bothered by cigarette smoke in environment

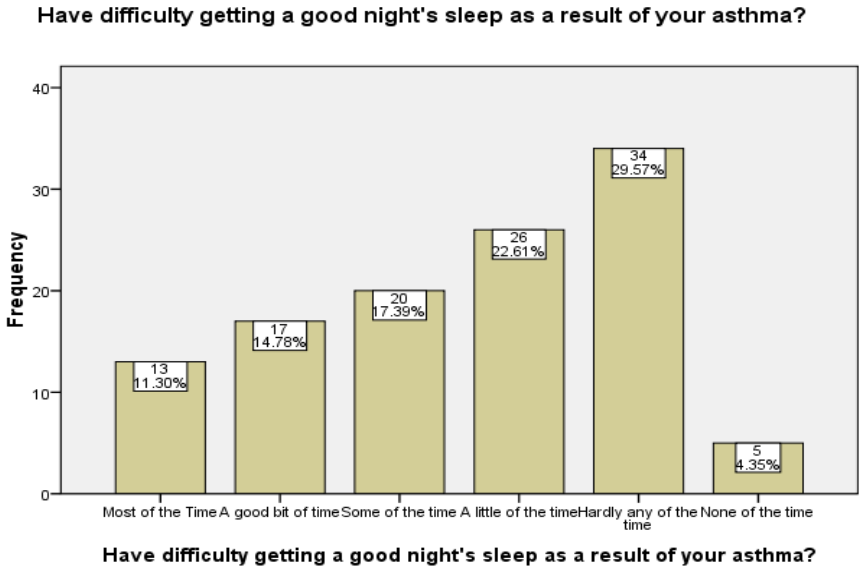

Figure 11: difficulty getting good sleep.

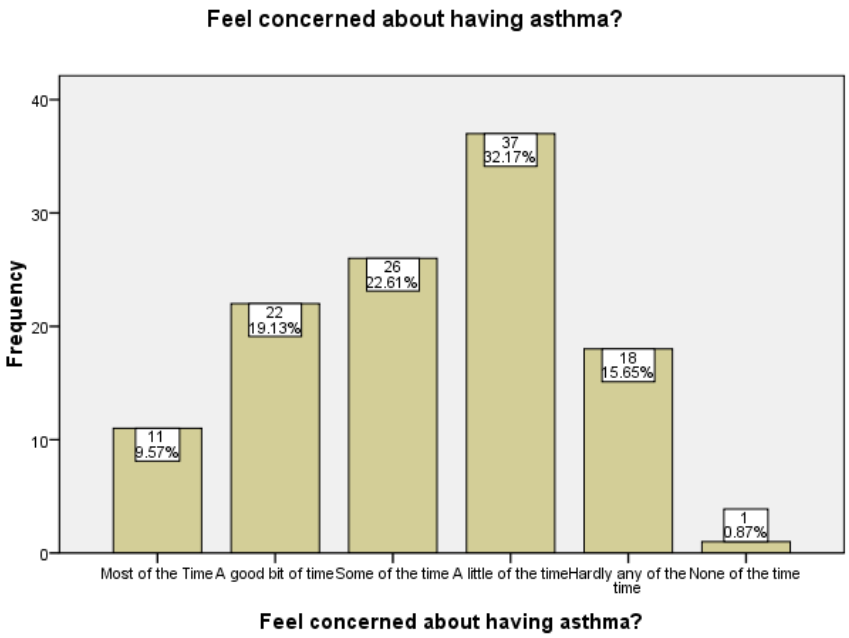

Figure 12: concerned about Asthma

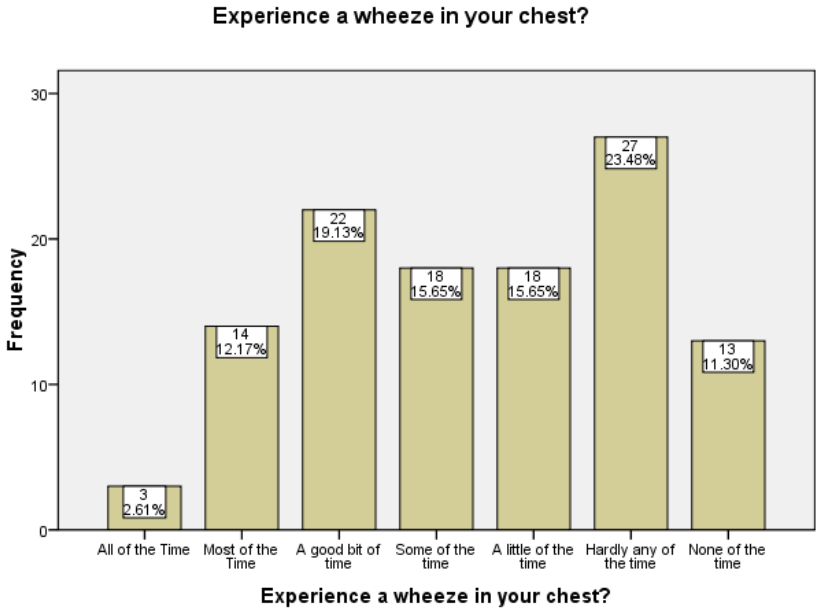

Figure 13: wheeze in chest.

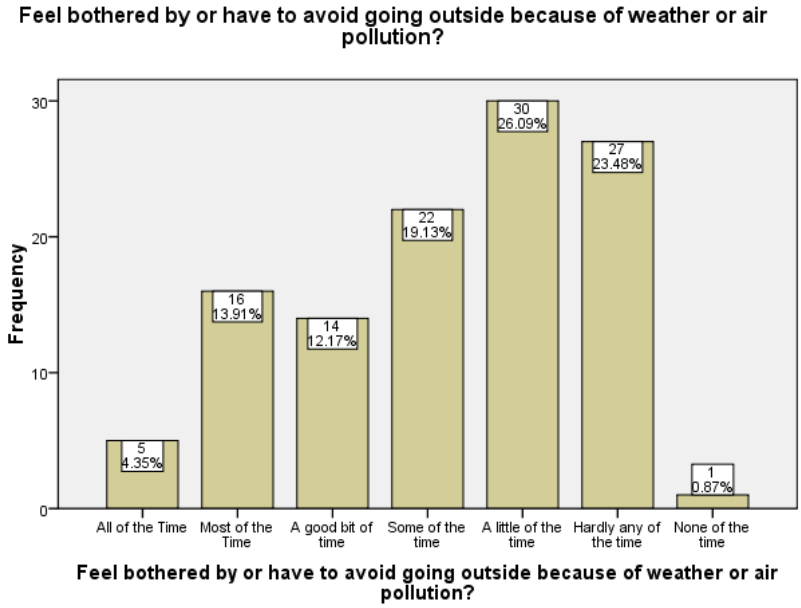

Figure 14: avoid going outside due to pollution

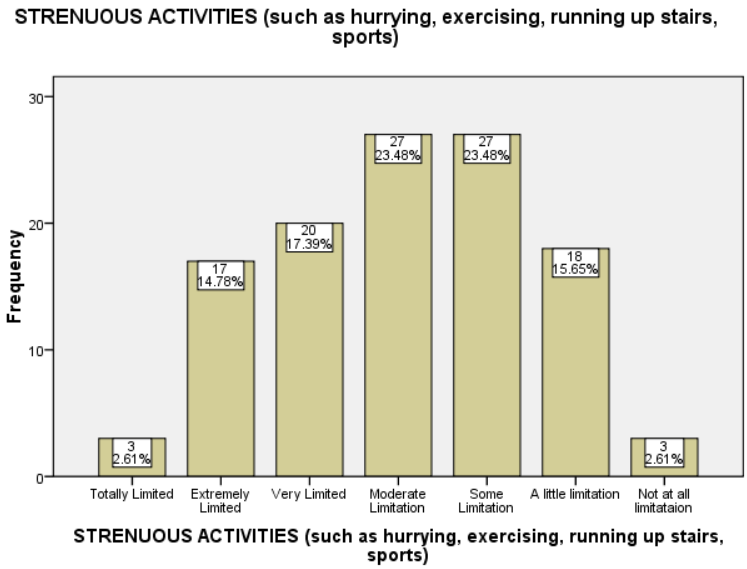

Figure 15: avoid strenuous activities

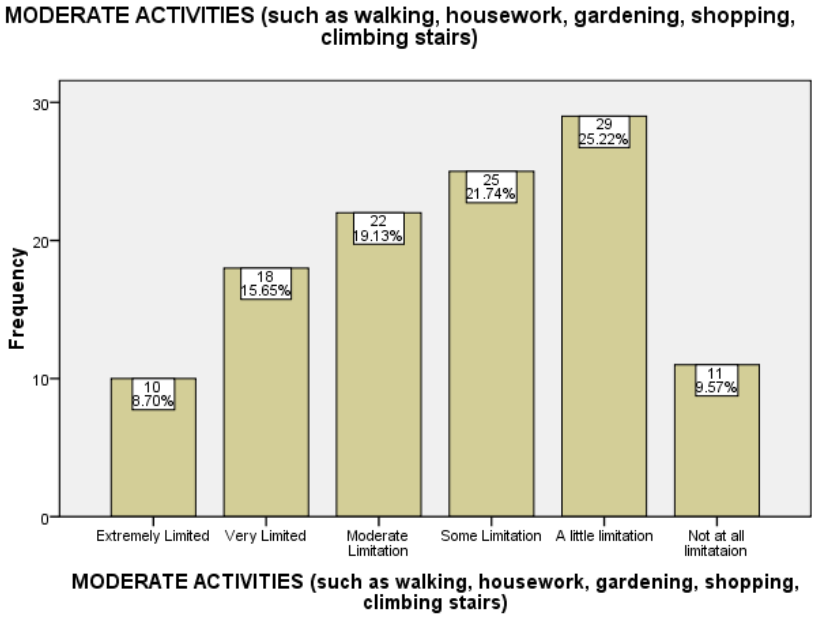

Figure 16: Avoid moderate activities

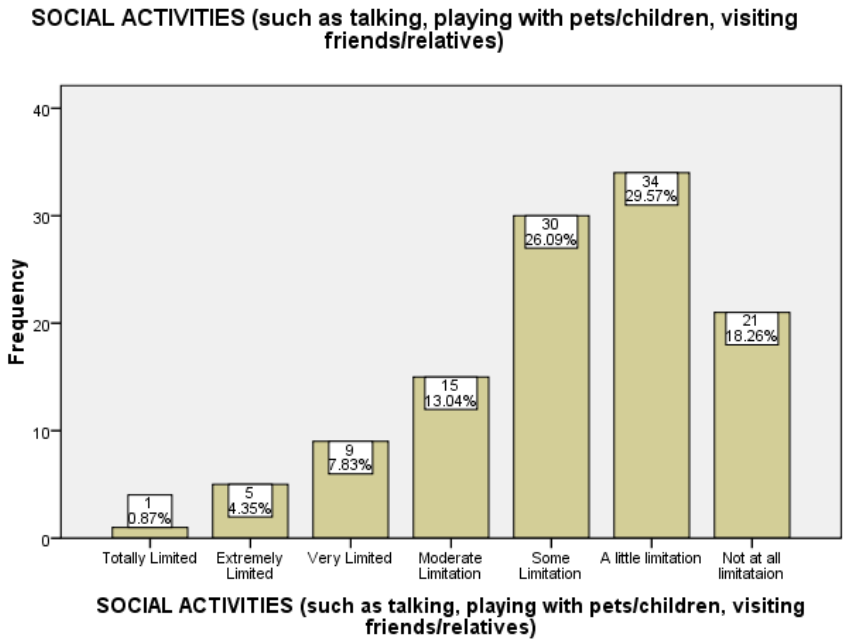

Figure 17: avoid social activities

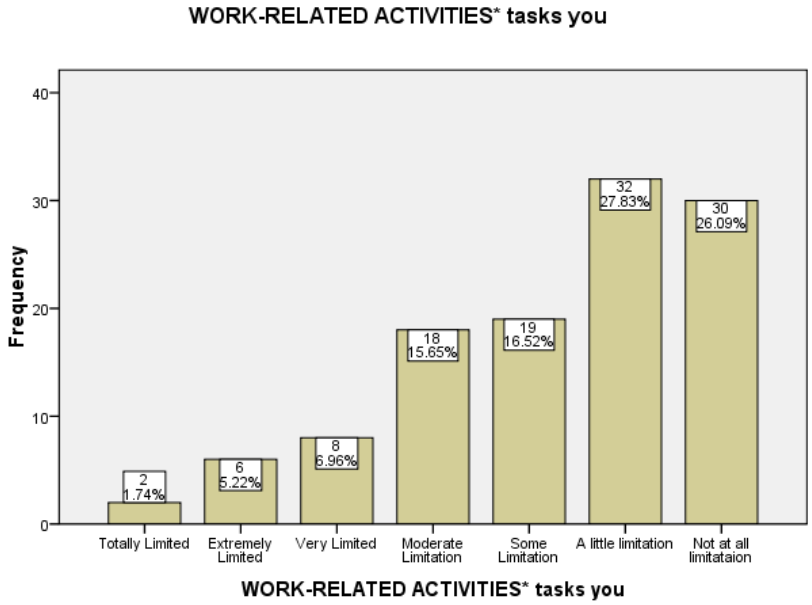

Figure 18: Avoid work related activities

DISCUSSION:

The study of activity related quality of life in adult asthmatics revealed various results.

115 patients of asthma were included in this study 69.6% of which were males and 30.4% were females. This finding is inconsistent with [8] which concluded that in adulthood, more females than males have a prevalence for asthma.

Almost 53% of the patients felt frustrated and anxious because of their condition according to this study. People with anxiety have poorer asthma control and when anxiety was dealt with, asthma symptoms got improved. [9]

According to [10] black adolescents with chronic asthma suffered from anxiety and poor asthma control and impairment in quality of life.

23.48% patients revealed of having moderate to some limitation, 14.78% stated an extreme limitation while 2.61% showed total limitation while doing strenuous activities which included running,

climbing up stairs and exercise. These results are in agreement with [11] which stated that patients with asthma tend to avoid physical exercise owing to fear of aggravated respiratory symptoms while according to [12] no longitudinal relationship was found between physical activity and asthma and they concluded that physical activity cannot be regarded as a culprit behind incidence and exaggeration of asthmatic symptoms.

According to this study 23.48% patients try to avoid environmental dust some of the time, 20.87% avoid it a good bit of time. 6.09% revealed that they have problem with pollution all of the time. These findings are in agreement with [13].

This study showed that sleep was affected moderately. These results are in agreement with [14]**.** These results are also in accordance with [15] which stated that patients suffering from asthma also suffer from obstructive sleep apnea which in turn affects their quality of sleep.

More patients avoid cold weather. This result is in agreement with [16] which stated that asthma symptoms are exaggerated in cold even if the patient has a good control over asthma. Cold weather leads to an increase in functional disability [17], incidence of allergic rhinitis and an asthmatic episode also increases in patients who are already suffering from respiratory conditions [18] .

Patients showed concern about their condition and were afraid of sudden onset of respiratory symptoms which leads to a limitation in their daily activities. This finding is in agreement with [19] which stated that the concern experienced by patients leads to them being more limited in their activities hence avoiding certain tasks which than leads to a certain limitation in QOL [20]

15.65% patients reported that their moderate activities are very limited, while 19.13 % a moderate limitation in these tasks. 8.70% revealed a total limitation. These results are in accordance with [21]. According to [22] 19% of asthmatics had to change their jobs because of work aggravated asthma while 33% of the employees reported having asthmatic attack due to various work tasks. 46.09% of patients in this study had some kind of limitation while doing their work tasks.

29.57% patients stated that they hardly any limitation while doing any social activity ,this result is in agreement with[23]. 26.09% revealed that they experience a limitation a little of the time.

CONCLUSION:

This study revealed that environmental factors like polluted dusty environment, cigarette smoke results in patients modifying their outdoor activities. Strenuous and moderate activities are limited moderately and the activity related QOL is affected as the patients tend to avoid some physical activities due to concern and fear of a sudden asthmatic attack.

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