



A Survey on the Quality of Life in Patients with Bronchial Asthma in an Outpatient Clinic in Malaysia

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Authors' contributions

This work was carried out in collaboration between all authors. Author JPH designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Author KMK helped in designing the study, performed the statistical analysis, helped in writing the protocol, and helped in writing the first draft of the manuscript. Authors WCFK, YZK, CII, SN, Rubagavaagini, GJ, Kirjanbal, QM and SS managed the collection of data, literature search and analyses of the study. All authors read and approved the final manuscript.

Original Research Article

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ABSTRACT

Introduction: Bronchial asthma is one of the common diseases encountered by the physicians which leads to morbidity and mortality. Therefore it is important to know the quality of life in these patients. So that necessary measures can be taken to improve it.

Objectives: To assess the quality of life in patients with bronchial asthma.

Methodology: This was a cross sectional study conducted at a private clinic in Malaysia. Data was collected from 40 asthmatic patients. They were administered the mini asthma quality of life questionnaire developed by Professor Elizabeth Juniper. The Questionnaire tests four domains which includes symptoms, activity limitation, emotional function and environmental stimuli. The mean scores of 1-3.9, 4-4.9 and ≥ 5 indicated severe, moderate, mild limitations in the quality of life respectively. The data was analyzed using SPSS software (Statistical package for the social sciences).

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Results: The mean age of the patients was 32.7 ± 15 yrs. We found that 70% of the patients were females. 60% of the patients had severe impairment in the quality of life. In the symptoms, emotional function and environmental stimuli domains 70%, 65% and 75% of the patients respectively had severe impairment in the quality of life, whereas in the activity domain it was only 27.5%.

Conclusion: We conclude that most of the patients had severe impairment in the quality of life. It was seen that there was least impairment in the activity domain. Larger studies with more sample size is required to strengthen our findings.

Keywords: Bronchial asthma; quality of life; Malaysia.

1. INTRODUCTION

Bronchial asthma is a disease with increasing global significance. It is estimated that by the year 2025, the prevalence would have risen from the current 300 million to 400 million worldwide [1]. The prevalence of asthma in Malaysia is estimated to be 4.2% based on findings of the Second National Health and Morbidity Survey conducted by the Ministry of Health, Malaysia in 1996. The prevalence is estimated to be 4.5% in children aged up to 14 years and 4.1% in adults aged 15 years and above [2]. Many developing countries are experiencing this alarming increase in prevalence due to urbanization which has led to environmental pollution.

Bronchial asthma is a condition which results in restriction of the physical, emotional and social aspects of a patient's life. Effectiveness of treatment in a patient with bronchial asthma is generally assessed by measuring the change in clinical outcome parameters such as expiratory flow rates, symptoms and need for other medications [3]. However, it is now widely acknowledged that the personal burden of illness, as perceived by the patient, cannot be fully assessed by objective measures of disease severity because for diseases like bronchial asthma, traditional indices only moderately correlate with how patients feel and also function on a daily basis [4]. Assessment of disease-specific quality of life in clinical trials has gained a high profile recently, not only because of an increased awareness of the importance of this aspect of treatment evaluation [5] but also because we now have the methods for developing disease-specific quality of life questionnaires with strong measurement properties [6,7].

The most important goal in the management of bronchial asthma is the maintenance of a normal quality of life (QOL) for the patients. The health related quality of life in asthma can be assessed by either a generic or a disease-specific instrument. The AQLQ developed by Elizabeth F Juniper et al is a commonly employed tool to assess the QOL in patients with bronchial asthma [8]. The mini version which is a shorter and simpler version is also available which we have used in our study. The present study aimed at assessing the quality of life in patients with asthma and also to know the difference in quality of life with respect to gender and duration of asthma. Not many studies have been conducted in Malaysia in this regard. Hence we attempted this study so that we can take measures to improve the quality of life of asthmatic patients in this part of the world.

2. MATERIALS AND METHODS

This was a cross sectional study conducted in an outpatient clinic in Kuala Lumpur, Malaysia. A total of 40 patients were included and informed consent was taken from all the patients included in the study. The inclusion and exclusion criteria were as follows:

2.1 Inclusion Criteria

1. Patients above 18 years of age.
2. Patients with a confirmed diagnosis of bronchial asthma.
3. Patients without any other co morbid respiratory or cardiac conditions.

2.2 Exclusion Criteria

1. Patients below 18 years.
2. Patients with any other respiratory or cardiac problems other than bronchial asthma.
3. Patients with other conditions which would affect the quality of life of the patients.

The patients were asked to fill their demographic details which included name, age, sex and address. They were also asked about the duration of the disease. They were administered the self-administered English version of mini asthma quality of life questionnaire and for patients who did not know English the Malay version was administered. This questionnaire is designed and validated by Elizabeth Juniper, et al. [8]. Permission was obtained from the concerned authority before using the questionnaire. The questionnaire contains 15 questions. It tests four domains which includes symptoms, activity limitation, emotional function and environmental stimuli. The patient was asked to respond to each question on a seven point scale by recalling their experiences in the past 14 days. The results were expressed as mean scores for each domain and also the overall mean scores. The mean scores of 1-3.9, 4-4.9 and ≥ 5 for overall as well as the domains indicated severe, moderate, mild limitations in the quality of life respectively. The data was analyzed using descriptive statistics and non parametric tests were used to compare the means with the help of SPSS software.

3. RESULTS AND DISCUSSION

Forty patients were included in the study. The mean age of the patients was 32.7 ± 15 yrs.

As shown in Fig. 1 most of the patients were females (28 patients). We also observed that the mean scores were slightly higher in females i.e. 3.9 ± 1.1 than in males i.e. 3.8 ± 0.7 . When non parametric test was done to compare the means we did not find any statistical significance.

As shown in Fig. 2 we observed that most of the patients had severe degree of impairment (24 patients). The overall mean score was 3.9 ± 1.0 .

Table 1 shows the degree of impairment in each domain depending on the mean scores in each domain. As shown in the Table 1 in the symptoms (28 Patients), emotional function (26 patients) and environmental stimuli (30 patients) domains most of the patients had severe degree of impairment with the mean scores of 3.6 ± 1.5 , 3.6 ± 1.5 and 3.3 ± 1.8 respectively.

Whereas in the activity limitations domain (20 patients) majority of the patients had mild degree of impairment with the mean score of 5.1 ± 1.7 .

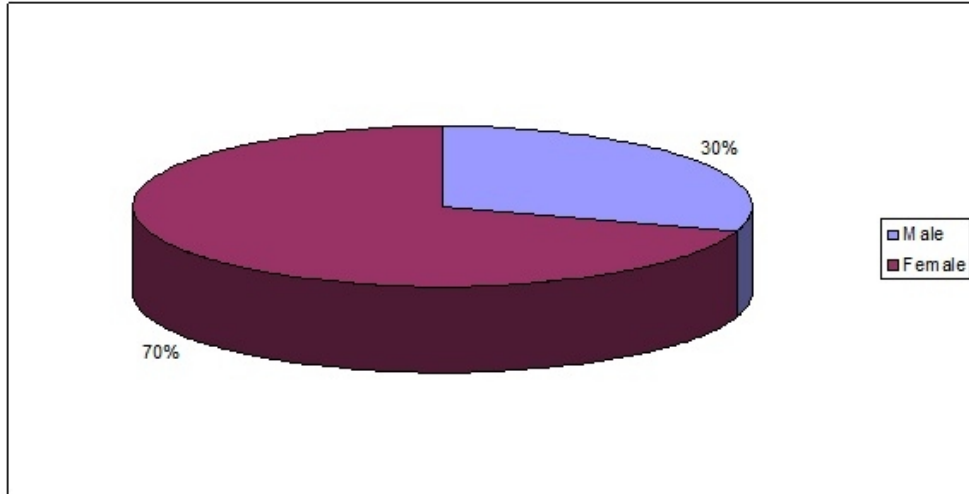


Fig. 1. Gender distribution

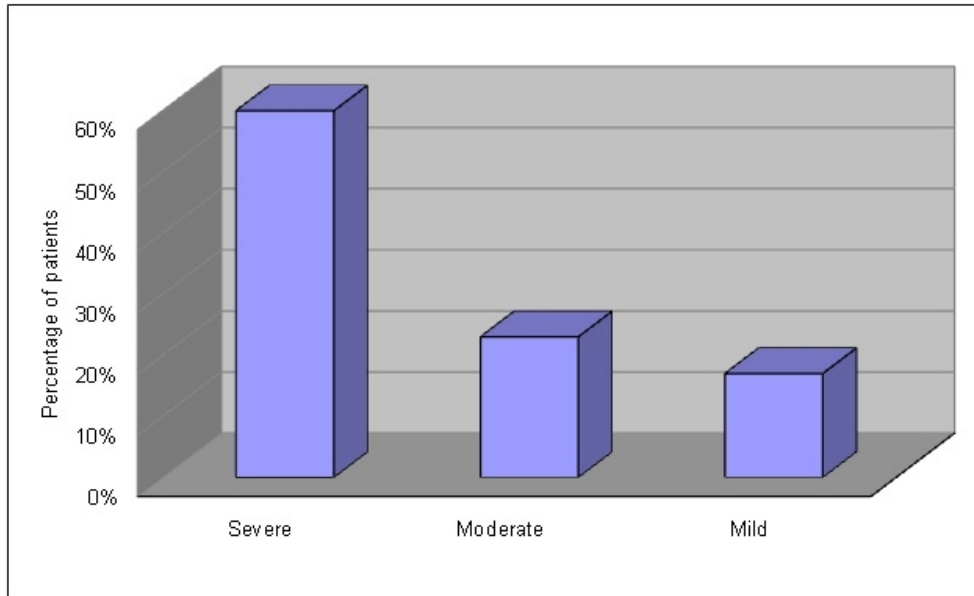


Fig. 2. Overall degree of impairment in the quality of life

Table 1. Degree of impairment in each domain

Domains	Severe impairment	Moderate impairment	Mild impairment
Symptoms	70%(28 patients)	20%(8 patients)	10%(4 patients)
Activity limitations	27.5%(11 patients)	22.5%(9 patients)	50%(20 patients)
Emotional function	65%(26 patients)	25%(10 patients)	10%(4 patients)
Environmental stimuli	75%(30 patients)	15%(6 patients)	10%(4 patients)

When we compared the overall degree of impairment and the duration of asthma we found that duration of the disease was more in patients with mild degree of impairment .i.e. 22.5 ± 14.5 years. In case of moderate and severe impairment it was 17.7 ± 10.7 years and 18.2 ± 10.3 years respectively. However there no statistical significance when we compared the means using non parametric tests.

Bronchial asthma with existing methods of treatment can neither be cured nor completely prevented therefore it is best assessed by the comprehensive asthma control than the individual parameters of severity, pulmonary function tests or use of medications [9]. Many studies have observed the quality of life among patients with asthma using various instruments [10,11]. In our study we used the mini version of AQLQ as many studies have proved it to be a useful tool in measuring the quality of life in patients with bronchial asthma [12].

We found more females than males which were in concurrence with the study conducted in Nigeria [13]. Studies have shown that in general the lifetime likelihood of developing asthma is 10.5% greater in females than males [14]. The mean score in the quality of life in females was more than in males, which was contradictory to the study conducted by BO adenyi, et al. [13]. This could be because males are more exposed to environmental pollutants as they are more commonly exposed to the environment than females. We found that overall most of the patients had severe degree of limitation which was in concurrence with the study conducted in Nigeria [13]. This could be attributed to the fact that asthma can interfere with the daily activities which affects the patient's social as well as economic outcomes [15]. Hence alter the physical, emotional and functional well being of the patient.

Studies have shown that asthma can adversely affect the physical, psychological and social domains [15]. When we compared the degree of limitation in each domain we found that most of the patients had severe limitation in the symptoms, emotional function and environmental stimuli. But in the activity domain most of the patients had mild limitation. This is paradoxical to the study conducted in Nigeria where there was severe limitation in the activity domain [13]. The limitation in the symptoms domain could be because when a patient experiences an attack of asthma his symptoms are disturbing and affects him physically as well as psychologically. Many studies claim that stress and negative emotions triggers exacerbate the symptoms of asthma [16,17]. In the same way asthma it can have a negative impact on the emotional well being of a person. The patient might feel down due to the disease and have a constant fear of developing an attack. This could be avoided by proper counseling and reassurance by the doctor in charge and also interacting and sharing their experiences with fellow patients suffering from the same disease. Quality of life of patients with bronchial asthma is highly influenced by environmental factors due to urbanization which in turn leads to environmental pollution [13]. In our study we found severe limitation in the environmental domain which could be because the study was conducted in a urban population where environmental pollution is at its maximum. Studies conducted by Pelala, et

al., has shown that microbial agents play a role in bronchial asthma, thus contributing to induce and exacerbate asthma in genetically predisposed individuals [18].

Nevertheless we should remember that asthma is not a severe debilitating disease which hampers the physical activity of the patients. Infact several top achievers in sports, arts and science have also suffered from asthma. Hence in our study we found that in the activity domain most of the patients had mild limitation in the quality of life. This infers that the disease does not affect the normal day to day activity of the patients. But contrary to our finding studies have showed that asthma can have an impact on the physical activity of a person [19]. In a study conducted in Nigeria there was severe limitation in the activity domain [13]. In our analysis it was noticed that in patients with mild degree of impairment the duration of asthma was more and in patients with higher degree of impairment the duration was less. We could relate this to the fact that with many years of suffering from the disease the patient learns to cope with the problems related to the disease and thus the quality of life is not much hampered.

The diagnosis of bronchial asthma does not mean that the patients should lead a sedentary lifestyle and withdraw him from any physical activity. Activity is not only a perfect way to be in good shape, enjoy good health but also to keep good mental health [20]. Hence is important to develop a positive attitude towards physical activity in a patient with bronchial asthma.

4. CONCLUSION

The study showed that there was severe limitation in the quality of life in patients with bronchial asthma. We found that males had a poorer quality of life than females. Most of the patients had severe impairment in the quality of life in the symptoms, emotional function and environmental stimuli domain. Whereas in the activity domain most of the patients had mild impairment. We also noticed that as the duration of asthma increased the quality of life of the patients improved. The quality of life assessment is an important tool in knowing the impact of bronchial asthma on the day to day life of the patients. Implementation of the standard guidelines in the management of asthma plays a crucial role in improving the quality of life of these patients.

5. LIMITATIONS OF THE STUDY

The sample size is too small to comment on the quality of life of patients with bronchial asthma in the entire population. This is just a baseline data more studies with larger sample size maybe required to substantiate our findings.

CONSENT

Informed has been taken from all the patients under the study.

ETHICAL APPROVAL

All authors hereby declare that the study has been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

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COMPETING INTERESTS

Authors have no competing interests between the authors.

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