

Quality of Life in Adolescents with Asthma



Medical Science

KEYWORDS : Adolescents, Asthma, Pediatric asthma quality of life questionnaire, Quality of Life

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ABSTRACT

Introduction: Asthma is the most common respiratory crisis encountered in clinical practice. Children with asthma are troubled not only by symptoms such as shortness of breath, cough and wheeze, they are also bothered by the Physical, Social, Educational and Emotional Impairments that they experience as a result of having asthma. Chronic Illness causes stigma, a loss of self-esteem and family strain. Various studies have shown that asthma caused children to feel self-pity, poor self-opinion, poor peer relations and social isolation. The present study is an attempt to understand the impact of asthma on the QOL of adolescents with asthma. Materials & Methods: A cross sectional study was conducted involving 150 adolescents who were known case of asthma. All the study subjects were interviewed using a pre-tested, pre-designed, semi-structured interview schedule including questions on: Socio-demographic variables, asthma symptoms and Pediatric asthma quality of life questionnaire (PAQLQ). Analysis was done using SPSS ver. 21. Results: A total of 76% of adolescents had an overall score of less than 5 on PAQLQ, which indicates poor quality of life. Mother's occupation has a significant impact on QOL with high scores observed with working mothers as compared to housewives. No association was observed between mother's education and QOL. Poor QOL was also associated with socio-economic status, with lower scores associated with lower socio-economic class Conclusion: Asthma affects the quality of life in all the three domains (symptoms, activity and emotion). Therefore, the evaluation of asthma-specific QOL should be included in the assessment of adolescents with asthma.

INTRODUCTION

Family income, occupational and educational attainment are measures of Socio-Economic Status (SES) that have been found to influence an individual's life opportunities. Life opportunities can manifest themselves in various ways, such as availability of resources to an individual within the health care system or an individual's perception about their Quality of Life (QOL) [1]. The relationship between higher levels of SES and higher scores on QOL in children has been well established [2-4]. Recent studies have also described the relationship between the specific effects of pediatric chronic disease in children and QOL. Children and adolescents with chronic disease will often have a lower QOL as seen in Duchenne Muscular Dystrophy [5], asthma [6], and heart disease [7-9].

Asthma is the most common respiratory crisis encountered in clinical practice. Children with asthma are troubled not only by symptoms such as shortness of breath, cough and wheeze, they are also bothered by the physical, social, educational and emotional impairments that they experience as a result of having asthma [10].

The WHO has estimated that 16 million disability-adjusted life-years are lost annually due to asthma, representing 1% of the total global disease burden. It is a public health problem not just for high-income countries; it occurs in all countries regardless of the level of development [11]. Paediatric asthma accounts for a large proportion of childhood hospitalizations, healthcare visits, absenteeism from day care/school and missed work days by parents [12].

Chronic Illness causes stigma, a loss of self-esteem and family strain. Various studies have shown that asthma caused children to feel self-pity, poor self-opinion, poor peer relations and social isolation. It also leads to anxiety and strain in care givers of asthma patients [13].

Thus, direct assessment of Quality Of Life (QOL) is necessary to

understand the impact of the disease on patient's well-being. It cannot be assumed that similar relationships to QOL seen in adults with asthma will hold true for adolescents [14]. In asthma, there are several reasons to examine adolescents as a unique group distinct from young children and adults [14]. However very few studies have focused on adolescents. The present study is an attempt to understand the impact of asthma on the QOL of adolescents with asthma.

MATERIALS AND METHODS

A cross-sectional study involving adolescents with asthma was conducted at department of Pediatrics/Pulmonary medicine/Medicine, A.J. Institute of Medical Sciences, Mangalore during Nov' 13 to Sept' 15. A total of 150 consecutive adolescent asthma patients, attending OPD/IPD of above department were selected for the study after taking informed consent from parents.

Inclusion Criteria

1. Age between 11-19 years
2. Diagnosed case of Asthma (> 1 year)

Exclusion Criteria

1. Newly diagnosed cases of Asthma.
2. Adolescents with other illnesses that affect quality of life.
3. Those who are not willing to participate in the study.

All the study subjects were interviewed using a pre-tested, pre-designed, semi-structured interview schedule including questions on: Socio-demographic variables, Asthma symptoms and Pediatric asthma quality of life questionnaire (PAQLQ) with specific domains like emotions, activity and symptoms related questions were asked and scored [15].

Collected data was entered in Microsoft excel sheet and analyzed using SPSS software ver. 21.0.

Mean age of the study group was 14.56 years with 80.7% subjects between 14 to 17 years of age and about two third of them were males (table 1). A total of 76% of adolescents had an overall score of less than 5 on PAQLQ, which indicates poor quality of life (Table 2). Mother's occupation has a significant impact on QOL of children suffering from asthma with high scores observed with working mothers as compared to housewives. No association was observed between mother's education and QOL (table 3 & 4). Poor QOL was also associated with socio-economic status, with lower scores associated with lower socio-economic class (table 5).

DISCUSSION

The QOL of patients with chronic diseases, mainly asthma, is increasingly being the focus of research. Our study showed a decrease in the QOL in all levels of asthma severity (mild, moderate, and severe), which is in agreement with the international literature. We found that about three fourth (76%) of adolescents had an overall poor quality of life as per PAQLQ. Juniper¹⁶ conducted a large population-based study and found that asthmatics have a significantly worse QOL than those individuals who never suffered from asthma. Katia T et al.¹⁷ also observed in their study that over half of the adolescents of both sexes had poor QOL. In a study Okelo et al.¹⁸ report the relationship between emotional quality of life (QOL) and morbidity in 185 adolescents with asthma. Many of the asthma subjects reported emotional symptoms and 45% reported feeling depressed.

In present study we observed that Poor QOL has been observed in adolescents of lower socio-economic status and non-working mothers. A study was undertaken by Adams RJ et al., of the prevalence of psychological distress in asthma in the general population and its associations with quality of life. In a multiple regression model: family's financial situation and education level was significantly associated with low scores on mental health questionnaire¹⁹. Blanc et al.²⁰ and Alpert et al.²¹ both found significant association between socio-economic status (SES) and asthma-related quality of life. They observed that both lower area-level SES²⁰ and composite individual-level SES²¹ have been associated with worse general and asthma-specific quality of life. Higher family income improves the affordability of the required treatment, health care services and hence a better QOL. Moreover, a secure income is a reassurance to the family members and contributes to their psychological wellbeing. Al-Gewely et al. in their study, observed that mother's occupation significantly affected the patient overall PAQLQ score, scores of symptoms and emotional function with higher scores for those of working mothers²².

In present study we found higher scores on PAQLQ in children of educated mothers, though the difference was not significant. A higher caregiver educational level may play a role in raising the awareness about chronic diseases with a better coping ability which leads to improvement of QOL scores among their children. Also, higher education level can contribute to employment opportunities and higher family income. Similarly, a previous study reported that the caregiver educational level was the most important factor affecting the quality of life of asthmatic preschool children where higher caregiver educational level was associated with higher QOL scores²³.

CONCLUSION

This study sheds light on the factors that determines QOL in adolescents with asthma. Asthma affects the quality of life in all the three domains (symptoms, activity and emotion). Therefore, the evaluation of asthma-specific QOL should be included in the assessment of adolescents with asthma. A multidisciplinary team needs to face the challenge of providing good QOL with

the purpose of making these patients better adapted to society and to their own needs.

Table 1. Distribution of Age and Gender

Variables		N	%
Age Group	10 to 13	29	19.3%
	14 to 17	121	80.7%
Sex	Male	99	66.0%
	Female	51	34.0%
Total		150	100.0%

Table 2. Distribution based on Pediatric asthma quality of life questionnaire (PAQLQ)

PAQLQ (Overall)	N	%
<5	114	76%
5-6	31	20.7%
6-6.9	5	3.3%
> 6.9	0	0%
Total	150	100.0%

Table 3. Comparison of Quality of Life as per Mother's occupation

Quality of Life	Mother's Occupation	N	Mean	SD	p- value
Overall	Working	73	4.29	1.17	< 0.05
	Housewife	77	3.91	1.06	
Symptoms	Working	73	4.18	1.27	< 0.05
	Housewife	77	3.71	1.11	
Activities	Working	73	4.13	1.21	0.299
	Housewife	77	3.94	1.10	
Emotions	Working	73	4.53	1.22	< 0.05
	Housewife	77	4.13	1.25	

Table 4. Comparison of Quality of Life as per Mother's education

Quality of Life	Mother's Education	N	Mean	SD	p- value
Overall	Above Primary	99	4.13	1.18	0.56
	Illiterate/ Primary	51	4.02	1.02	
Symptoms	Above Primary	99	3.95	1.29	0.82
	Illiterate/ Primary	51	3.91	1.05	
Activities	Above Primary	99	4.05	1.18	0.75
	Illiterate/ Primary	51	3.99	1.11	
Emotions	Above Primary	99	4.40	1.29	0.29
	Illiterate/ Primary	51	4.17	1.17	

Table 5. Comparison of Quality of Life as per Socio-economic status

Quality of Life	SES	N	Mean	SD	p- value
Overall	Middle/ Upper	88	4.42	1.13	< 0.05
	Lower	62	3.63	1.12	
Symptoms	Middle/ Upper	88	4.32	1.24	< 0.05
	Lower	62	3.66	1.20	
Activities	Middle/ Upper	88	4.21	1.19	< 0.05
	Lower	62	3.68	1.16	
Emotions	Middle/ Upper	88	4.63	1.26	< 0.05
	Lower	62	4.05	1.21	

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