

Original Research Article

Parental Stress and Quality of life in Parents of Children with Bronchial Asthma

S.Gopal¹, Ashok Rai²

¹Head, Department of Psychology, DAV PG College, Varanasi-221001 (Banaras Hindu University).

²President, Indian Academy of Pediatrics, U.P. State, India.

Corresponding Author: S.Gopal

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ABSTRACT

Asthma is a highly prevalent chronic respiratory disease affecting 300 million people world-wide. The burden of this disease to governments, health care systems, families, Parents and patients is increasing worldwide. Parents of children with bronchial asthma exhibit a great amount of stress which may include stress related to the child's characteristics, particularly physical problem and long term care with environment. The present study intended to examine the parental stress and Quality of life of parents with bronchial asthma. 80 parents of children with bronchial asthma were selected from Kilkari pediatric hospital, Varanasi and 80 participants were matched parents of healthy children. Parental stress scale and WHOQOL-BREF were administered on 160 parents. For statistical analysis t test, ANOVA, post hoc test, coefficient of correlation and stepwise multiple regression were used. The mean scores of parents of children with bronchial asthma on Parental Stress scale were significantly higher and Quality of life scores in each dimension were significantly lower as compared to their matched controls. Results also reveal that the duration of illness in child play an important role in enhancing the parental stress. A negative relationship was found between parental stress and quality of life. Regression analysis showed that environmental and physical Quality of life was predicting the parental stress.

Key words: Parental stress, Quality of life, Bronchial asthma.

INTRODUCTION

Usually birth of a baby in a family anticipated with great excitement and expectation of the future filled with happiness and success. This exuberance may become muted with the birth of an ill child. It doesn't matter in the category of illness is physical or mental illness. The family in which this child is born will definitely have certain changes in psychosocial aspects among the family members especially excess in their parents. When a child is diagnosed with bronchial asthma, all the attention was focused on helping the child. But parents also need assistance in coping with stress, maturity

with their emotions and also positive personality approaches are required to them. Parents of children with bronchial asthma have very high level of parenting stress signifying that they perceived more stress in their role as parents than did parents of children without illness, many studies highlighted the same aspects in their findings. The parents are going through many stages of understanding and accepting their child's illnesses. Before the child's birth the parents have several expectations but after the birth it might be an emotional earthquake for them regarding their ill children. Everything seems to be upside down for them. Families caring for and

bringing up the child with illness can create strain in the family, social isolation due to the child's limited and lack of inhalation problem or behavioral problems. Illness in a child provokes a series of disequilibrium among the parents in their psychological aspects which directly or indirectly affect them in various social and psychological well beings. Parent shows a series of reactions after knowing that their child is ill and they start showing the guilt, sorrow, denial, anger, which affects different parents differently, so that these sort of stressors lead the parents to physical and mental health problem.

Parenting is a challenging process. The crucial role of parents and family in caring, nurturing, protecting and socializing young children is well established across the cultures. Strong parent-child connectedness improves child academic outcomes, self esteem, and mental health and has later protective effects of reducing the likelihood of alcohol and drug use in adolescence, high risk sexual behaviour and involvements in interpersonal violence. Parenting can influence children's social, emotional, and academic adjustment, efforts have been made to determine factors that affect parenting behavior. Parenting stress can be defined as excess anxiety and tension specifically related to the role of a parent and to parent-child interactions. When the parents learn that the child is having some form of disability, it causes enormous distress to them. Giving birth to a mentally challenged children or other disabled child is an unexpected stressful event which affects the whole family. Such an event may impair family development and may continue over time affecting the entire family system. The presence of a mentally challenged child in the family has far reaching implication for the family as a whole. The impact of the disability and problem associated with it are not restricted to the child but extend far beyond the child and affects a number of areas of family functioning as well as individual are adjustment. Parents go through intense

emotional and psychological stress and may have fewer resources of emotional gratification. They may consider mentally handicapped child as a threat to their self esteem and view themselves as a source of disability. They struggle to cope with the financial costs; parents also are confronted with new and unexpected experiences. Parents with disabled child may have higher levels of stress and lower levels of well being than with the normal children.

Asthma is a chronic (long-lasting) inflammatory disease of the lower airways of the lungs in which various triggers cause narrowing which leads to difficulty breathing. These changes commonly occur in response to changes in the environment including weather, allergens, foods, or respiratory infections (colds). It is important to remember that Asthma is a reversible process which can be treated and controlled with proper intervention. An Asthma exacerbation consists of swelling and inflammation of the airways, increased mucous production, and reversible tightening of the tiny muscles that surround the airways (bronchospasm). In severe cases of asthma, damage to the lungs can accumulate over time, resulting in permanent narrowing of the airways. This disease is commonly found in children, although it can also occur in adults. Among children, asthma is a leading cause of hospitalization, chronic disease, and school absenteeism. Children with asthma may be able to breathe normally most of the time. When they encounter a substance that can cause problems (a "trigger"), an asthma attack (exacerbation) can occur. Having a child with asthma is challenging for families and thereby increases stress and taxes psychological functioning.

Studies have shown that parental stress may affect quality of life of parents of children with chronic diseases. Quality of life is a multidimensional concept that includes social, physical, psychological and environmental aspects. Studies in caregivers of children with various chronic illnesses have shown that such caregivers report an

impaired quality of life compared to that of caregivers of healthy children. For parents of children with asthma, a decreased quality of life is related to missed days of work, limited activities, inadequate sleep, and frequent night awakening and decreased emotional health¹. Stress appears to correlate negatively with quality of life i.e. higher the stress the lower the quality of life. Parents' distress and feeling of hopelessness may lower the satisfaction with different aspects of life and thus to reduced quality of life.

Vasundhara et al., (2011) conducted a study aimed to evaluate Parental Stress and Coping techniques in parents of children with bronchial Asthma. Parents of children with bronchial asthma had higher level of stress and maladaptive coping techniques. Results from the studies of stress and asthma have concluded that stress can significantly contribute to the child's levels of emotional competence. Additionally, mothers of children with asthma reported more issues with relationship difficulties within the family. At least one study found that family stress could contribute to childhood respiratory illness. Levels of stress within families of children with chronic illness and/or asthma have been identified as pervasive and extensive in their impact to the child's levels of self-concept and competence. Most of the studies focused on parenting stress of children with bronchial asthma and little attention were given to explore the relationship between quality of life and stress of parents. Therefore, the present investigation has been undertaken to study the stress and quality of life of parents of children with bronchial asthma.

Aims of the Study

1. To assess and compare the parental stress and quality of life of parents of children with bronchial asthma
2. To examine the relationship of parental stress and quality of life in children with bronchial asthma.
3. To assess and compare the parental stress and quality of life of parents of

children with bronchial asthma across duration of the illness.

4. To find out the significance of parental stress in predicting the quality of life.

HYPOTHESIS

The following hypotheses were formulated in the present investigation

1. There will be significant difference between parents of children with bronchial asthma and matched parents with healthy children on parental stress and quality of life
2. There will be significant difference among duration of the illness of children on parental stress and quality of life of parents.
3. There will be negative relationship between parental stress and quality of life
4. Physical, psychological, social and environmental domain of quality of life would predict the parental stress.

MATERIALS AND METHODS

Participants: The present hospital based study was carried out from May 2014 to Nov 2014. Eighty parents of children with bronchial asthma were selected from Kilkari Clinic, Pediatrics hospital, Varanasi. Eighty parents of healthy children served as matched control. Some pairs of participants were excluded due to failure to answer a majority of the questions. Researchers solicited participants from eligible children and their parents. The inclusion criteria for eligibility in this study were that children were diagnosed with asthma prior to this doctor's visit, and this was not their first visit. Participants had only been diagnosed with asthma, and no other chronic illnesses. The mean age of the Children was years. Each participant was with their parent/caregiver at the doctor's visit. Children in the age group of 11 months to 14 years with an established diagnosis of bronchial asthma and on regular treatment from last 3 months were included in this study. Informed consent was obtained from these parents before participation in the study. Collection of data was done in a calm

and separate room where only the researcher and respondent were present. Parenting Stress scale and quality of life scale were administered on these parents. Socio-economic status scale was used to assess the socio-demographic characteristics of the study groups.

MEASURES

Parental Stress Scale: It was developed by Berry and Jones in 1995. Hindi version of parental stress was used in this study. It consists of 18 items that describe the parent-child relationship and the parents' feelings regarding it. Parents respond by indicating the extent to which they agree or disagree with the statement. A likert type scale is used with 1-indicating a strong disagreement and 5-indicating a strong agreement. Both positive and negative items are included, which allow the instrument to assess stress by weighing the negative impact of parenting against the benefits it may provided. The parental stress scale was described as appropriate for parents of children with and without clinical problem and also beneficial for mothers and fathers parents. It is brief and easy to administration and scoring. This scale has satisfactory levels of internal reliability (.83), and test-retest reliability (.81).

WHOQOL-26 BRIEF Hindi version: World health organization (1995) was developed this questionnaire to assess the QOL of an individual. The original scale contains 100 items, which assess six domains of QOL. The WHOQOL-BREF is a shorter version of the original WHO scale. The Hindi version of the scale used in this

study was developed by Saxena, Chandiramani and Bhargava (1998). This scale contains 26 items, which measure four domains of QOL, namely physical health, psychological states, social relationships, and environment. Out of 26 items of the scale, only 24 items are scored. Items 1 and 2 are used as fillers, and not scored. The reliability ($r = \text{Cronbach's Alfa}$) of this scale was calculated and it ranges from .59 to .85. Confirmatory factor analysis (CFI) revealed a very high validity index of physical health (0.957), psychological states (0.982), social relationships (0.972) and environment (0.922) domains.

Data analyses: Data was analyzed using SPSS version 17. T-test was applied to see the difference in stress and different domains of quality of life between parents of children with bronchial asthma and their matched control. ANOVA and post hoc comparison was applied to know the mean differences among different duration of the illness of the child. Pearson's correlation coefficients were applied to know the association between parental stress and quality of life used by these parents. Step wise multiple regression analysis was applied to assess how Qualities Of Life predict the parental stress.

RESULTS

In order to assess the parental stress and Quality of life of parents of children with bronchial asthma and parents of healthy children was compared using t test and the obtained results have been presented in table -1.

Table 1: Mean SDs and t value of parents of children with bronchial asthma and parents of healthy children with respect of their parental stress and different domains of Quality of life

Groups Measures		Parents of Bronchial Asthma (N=80)	Parents of Healthy child (N=80)	df	t value
Parental stress	Mean	61.49	53.64	158	14.22**
	SD	4.73	1.40		
QOL-Physical	Mean	21.59	25.24	158	9.29**
	SD	2.82	2.09		
QOL-Psychological	Mean	18.91	21.01	158	6.42**
	SD	2.71	1.10		
QOL-Social	Mean	11.33	12.086	158	5.94**
	SD	2.07	1.04		
QOL-Environmental	Mean	25.20	32.13	158	13.22**
	SD	4.41	1.60		
QOL-Total	Mean	77.04	91.23	158	12.79**
	SD	9.41	3.13		

**p>0.01

Table-1 reveals that the obtained mean in the parental stress for parents of bronchial asthma is higher (Mean=61.49, SD=4.73) than that of parents of healthy children (Mean=53.64, SD=1.40) and mean differences between two groups have been found to be statistically significant ($t=14.22$, $df=158$, $p>0.01$). Results therefore, indicate that the parents of bronchial asthma had more stress in comparison to parents of healthy child. It was further expected that the parents of bronchial asthma would have poor quality of life than parents of healthy child. The significance of differences between the mean scores of the four domains of QOL is estimated. Parents of bronchial asthma are found to have a

significantly low mean score on physical, psychological, social and environmental domain of quality of life (Mean=21.59, 18.91, 11.33 and 25.20) than parents of healthy children (Mean=25.24, 21.01, 12.86 and 32.13). Among the four domains of QOL, the mean score in the social and psychological domain was the lowest in parents of bronchial asthma. The t value for the significance of the difference between the mean of the physical, psychological, social and environmental QOL scores of parents of bronchial asthma and parents of healthy children was 9.29, 6.43, 5.94 and 13.22, $df=158$ respectively, which again, were all found to be significant at the 0.01 level.

Table 2: Mean, SDs scores and F values for parental stress and different domains of QOL of parents across the duration of illness of children

Status of illness		Duration of illness			
Measures		Birth to 2 years	Above 3 years	No illness	F ratio
Parental stress	Mean	58.48	64.50	53.64	208.65**
	SD	3.19	4.08	1.41	
QOL-Physical	Mean	21.78	21.40	25.24	43.31**
	SD	3.05	2.60	2.08	
QOL-Psychological	Mean	19.00	18.83	21.01	20.53**
	SD	3.03	2.39	1.11	
QOL-Social	Mean	11.05	11.60	12.86	18.94**
	SD	2.22	1.89	1.04	
QOL-Environmental	Mean	24.98	25.43	32.13	87.15**
	SD	4.59	4.25	1.60	

** $p>0.01$

The second hypothesis of the study was that there would be significant difference among duration of illness with respect to their parental stress and different domains of QOL scores. In order to test this hypothesis the obtained data were analyzed with the help of one way analysis of variance which have been presented in table-2. The one way ANOVA are given as $F_{2, 157}=208.65$, $p>0.01$ on the variable parental stress, $F_{2, 157}=43.31$, $p>0.01$ on the physical domain of QOL, $F_{2, 157}=20.53$, $p>0.01$ on the psychological domain of QOL, $F_{2, 157}=18.94$, $p>0.01$ on the social domain of QOL and $F_{2, 157}=87.15$, $p>0.01$. Results indicate that parents of children with sufferer from above three years duration of illness scored high on stress scale and low on all domains of QOL scale than their counterpart of two years sufferer and no sufferer groups. Tukey's

HSD was applied as a post-hoc test for ascertaining the significance of mean differences and the obtain value of Tukey's HSD are presented in table-3.

Pair wise comparison by Tukey's test revealed that above three years sufferer parents and two years sufferer parents perceived more stress and less QOL than no sufferer parents. The largest amount of difference was observed between above three years sufferer parents and without sufferer parents followed by two years sufferer parents and without sufferer parents who support the notion that the duration of bronchial asthma in child plays an important role in producing a high level of parental stress less quality of life. The most important aspect of the present study involves the hypothesis that parental stress is significantly related to the all domain of QOL. As shown by table-4, this proposition

is strongly supported. The product moment correlations have been computed between

parental stress and QOL which have been presented in table-4.

Table 3: Pair wise mean differences among duration of illness group in relation to their stress and domain-wise QOL following Tukey's HSD test

Measures	Duration of illness	Above 3 years	No illness
Parental stress	Birth to 2 years	6.025*	4.837*
	Above 3 years	-	10.862*
QOL-Physical	Birth to 2 years	0.375	3.463*
	Above 3 years	-	3.838*
QOL-Psychological	Birth to 2 years	0.175	2.012*
	Above 3 years	-	2.188*
QOL-Social	Birth to 2 years	0.550	1.813*
	Above 3 years	-	1.263*
QOL-Environmental	Birth to 2 years	0.450	7.150*
	Above 3 years	-	6.700*

*p>0.05

Table 4: Coefficient of correlation between the parental stress and different domains of QOL

Measures	PSS	QOL-PH	QOL-PSY	QOL-SOC	QOL-ENVI
PSS	-	-0.524**	-0.283**	-0.228**	-0.524**
QOL-PH	-	-	0.453**	0.390**	0.608**
QOL-PSY	-	-	-	0.618**	0.568**
QOL-SOC	-	-	-	-	0.500**
QOL-ENVI	-	-	-	-	-

**P>0.01

Table 5: Step wise multiple regression analysis using parental stress as a criterion and domains of QOL as a predictors

Predictors	Criterion (Parental stress)						
	R	R square	R square change	B	Beta	t	F
QOL-Environmental	0.52	0.27	0.27	-0.36	-0.33	3.99**	59.78**
QOL-Physical	0.58	0.34	0.07	-0.56	-0.33	3.99**	40.66**

N=160, **P>0.01

A close examination of table-4 illustrates the qualitative analysis of parental stress; it is significantly and negatively correlated with physical domain ($r=-0.52$, $p>0.01$), psychological domain ($r=-0.28$, $p>0.01$), social domain ($r=-0.23$, $p>0.01$) and environmental domain ($r=-0.52$, $p>0.01$). In order to determine the significance of parent's quality of life in predicting their stress step-wise multiple regression analysis was done. Obtained results are displayed in Table 5.

It is clear that quality of life concern with environmental factor emerged as the best predictor of stress in parents contributing 27 percent in the total variance followed by physical quality of life that contributed 7 percent of total variance. Examination of β revealed that the said predictors contributed negatively ($\beta =-0.33$ & -0.33 respectively) to parental stress. The above patterns of findings suggest that with poor environmental and physical quality of life increase the status of stress in parents.

DISCUSSION

The results of the present study highlight the parental stress and quality of life of parents of bronchial asthma. The results have shown that parents of bronchial asthma had significantly higher mean score on parental stress than parents of normal children and lower mean score on all domain of quality of life. These results suggest that parents were trapped by the responsibilities as parent and found themselves giving up more time of their life to meet their children needs than ever expected. All parents of bronchial asthma feel unpleasant and lack of freedom and they cannot escape from it. Parents of bronchial asthma children felt that they could not handle the things very well and did not enjoy things as they used to. Higher scores on stress scale and lower score on QOL scale indicating that they experience the parental role, as restricting their freedom and frustrating when inflammation causes recurrent episodes of wheezing, breathlessness and tightness in the chest of their child. These parents show symptoms

of depression that relates to guilt and unhappy feelings. The present results support the findings of Chiou et al. (2008) who have reported the high level of parenting stress in parents of children with epilepsy and asthma. Studies on adolescents, have reported that parents of children with severe asthma had higher level of parental stress. They reported difficulty in sleeping, night awakening and being stressed by watching their child during medical visits/ procedures. A family in turmoil is stressful for all and especially for children, although in the case of a child with asthma, the problem may be bidirectional. Mothers of children with asthma report more perceived parenting stress, and the quality of the mother-child relationship is more problematic than for a comparison group of mothers with healthy children.

One of the aims of the present study was to consider the most important factors which may be involved in the effect of bronchial asthma on the QOL of the parents. Findings of the results revealed that parents of the children with bronchial asthma had significantly worse mean scores in all QOL dimensions when compared to data from parents of children with without illnesses. The present study revealed that severity of illness was associated significantly with poorer QOL in nearly most of the all domains. These factors tend to lay additional physical, psychological, social and environmental burden on the family reducing their QOL. This was evidenced by the impairment in the physical functioning, vitality, general health, and role physical domains for those parents as these domains deal with all physical activities including household activities, bathing, dressing, energy and fatigue. On the other hand the study of Lawoko (2003) indicated that the reduced QOL was more determined by such variables as financial burdens, distress & hopelessness than by the child's sex and illness.

Present study has shown that high quality of life could inhibit the parental stress and low QOL facilitate the parental

stress in parents of bronchial asthma. The present results support the finding of other researchers and suggest that the parents of children with developmental disabilities showed that parenting these children is associated with impaired mental health, higher levels of stress, and also impaired physical functioning. These parents accommodated to their child's needs early on by restricting their social life and making changes in family routines.

CONCLUSION

Result of the present study indicates that parents of children with bronchial asthma had higher level of stress and poor quality of life. This study is useful to the literature in the areas of quality of life and parental stress in parents of children with bronchial asthma. This study revealed that there are negative correlations between quality of life and parental stress. The fact that there are negative correlations between quality of life and parental stress can perhaps give medical practitioners something to consider when examining quality of life. This line of research has a great opportunity to be explored more deeply and should perhaps be considered a valid area of study in the future. Medical practitioners could use the results of this study, and hopefully future studies, to use a family centered approach to caring for patients with bronchial asthma. By acknowledging that parental stress could be influencing children's quality of life, or quality of life could be influencing parental stress, practitioners could focus on working with parents to become less stressed. It could also be useful for children to know that their asthma impacts the whole family, and the family should work together to treat the asthma.

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