

The role of predictive variables, in parents having children with conduct disorder

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Abstract

Introduction: Conduct Disorder in children may cause several psychosocial problems in their parents. Developing an understanding of the predictive role of variables that affect the psycho social problems and how it differs in the parents having children with conduct disorders and in parents having normal children is included in this study.

Materials & Methods: Exploratory research was used in this study as the method of study. A Sample was selected from parents having children with conduct disorder reported in various psychiatric settings in Kerala, India and also from parents having normal children. Convenient random sampling was used for selecting the sample. All the parents, of children diagnosed with conduct disorder in the age group of six to twelve ,reported in the psychiatric settings on a random day is selected as sample. Stepwise regression analysis was used for statistical analysis.

Result: Among the eleven variables studied, state anxiety, trait anxiety, trait anger, personal stress and occupational stress significantly influence the overall psycho social correlates in parents having children with conduct disorder in the present study. Here depression, state curiosity, state anger, trait curiosity, family stress and social stress were identified as variables which are having no predictor value on the psycho social correlates in parents, in the study.

Conclusion: The study hopes to make contributions in identifying the predictor role of variables in parents having children with conduct disorder and its impact on these parents. The study will also help to find out the areas in which parents need intervention and to decide which type of therapy will be more helpful for them. Identifying and understanding the relevant and feasible components of therapy can then facilitate more rigorous outcome studies in the area, which are imperative.

Keywords: Conduct Disorder, Depression, State Anxiety, Trait Anxiety, State Curiosity, Trait Curiosity, State Anger, Trait Anger, Family Stress, Social Stress, Personal Stress, Occupational Stress.

Introduction

Conduct disorder is a set of emotional and behavior problems in children. Children express certain symptoms and characters which make it different from other psychiatric disorders experienced by them. Conduct disorder is a continuous, lasting and incessant type of behavior and the children/adolescents with this disorder behave in a manner that they are not at all bothered about the basic rights of others and they will not express any interest in showing age appropriate norms. They will show characters which will violate the socially accepted norms and rules. Conduct disorder is considered as a mental illness in which, children or adolescents are expressing certain antisocial characters, violation of social norms and rules for a longstanding period (Sea right, Rottnek & Abby, 2001).⁽¹⁾ This disorder is generally found in childhood and will continue its occurrence in adolescence in a more frequent manner and may lasts throughout their entire life span. Conduct disorder is best described as a collection of behaviours that reflect a persistent and pervasive violation and disregard of the basic rights of individuals, age-appropriate societal norms, and laws set forth by the state and/or government (Frick & Dickens, 2006).⁽²⁾ The criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (American Psychiatric Association, 2000)⁽³⁾ suggests that for the child or adolescent to receive a diagnosis of

conduct disorder he/she must exhibit three or more of the listed behaviors in the past 12 months, with at least one item being present in the last 6 months, across the following dimensions: aggression to people and/or animals (e.g., using a weapon, getting into fist fights, kicking the family pet), destruction of property (smashing windows, punching holes in walls, setting fires, graffiti), deceitfulness or theft (e.g., stealing without a weapon, conning others), and serious violations of rules like truancy, running away (American Psychiatric Association, DSM-5th edition, 2013)⁽⁴⁾ adds more to the personality styles of children. There will be a callous and unemotional interpersonal style in them across multiple settings and relationships. There will be limited display of pro social emotions such as empathy or guilt in these children having conduct disorder.

At home, some toddlers have difficulties with impulse control and behavioural regulation, and their parents have difficulties with their own behaviour management. These parenting difficulties are especially likely if the parents are stressed by limited economic resources. Early difficult temperament grows into conduct problems at home, which keep the child from learning necessary social-emotional and cognitive skills (Dodge, 2011).⁽⁵⁾

Material & Methods

An explorative study was conducted to investigate the intensity of state and trait anxiety in parents having children with conduct disorders compared to that of parents having normal children. The population for the study was calculated as 200 parents having children with conduct disorder and 200 parents having normal children. Samples were selected from the parents of 200 diagnosed cases of children in the age group of six to twelve years old with conduct disorder reported in the department of psychiatry in the medical colleges which are the referral centers in Kannur, Thrissur and Thiruvananthapuram the three districts represents the north, south and middle regions of Kerala and also the parents of 200 normal children were taken from parents of children studying in various schools in these three districts in Kerala, India. All the parents, of children diagnosed with conduct disorder in the age group of six to twelve years, reported in the psychiatric settings on an outpatient day, was selected as sample, using convenience sampling method and since these psychiatric settings were referral centers these parents represents a population from almost all the districts in Kerala. Personal data schedule is used for collecting the socio demographic details of parents and the Malayalam adaptation of Spielberger's state trait personality inventory is used for collecting the details of state and trait anxiety in parents. Coding was done for the data collected.

Statistical Analysis

Stepwise regression is used to identify the predictor value of variables included in the present study. Regression includes the distinction between predictor variables and or outcome variables. Simple regression involves just a single dependent and independent variable. Multiple regression procedures are the most popular statistical procedures used in social science research. The difference between the multiple regression procedure and simple regression is that the multiple regression have more than one independent variable.

To find out the value of variables, in stepwise regression analysis, the dependent variable used is the psycho social correlates of parents having children with conduct disorder and the covariates/ independent variables are depression, state anxiety, state curiosity, state anger, trait anxiety, trait curiosity, trait anger, family stress, social stress, personal stress and occupational stress in parents. Following results show the stepwise regression analysis of variables included in this study.

Result and Discussion

In the present study, in PNC group a total of 196 fathers and 200 mothers responded. Four fathers in PNC group were outside the district, at the time of data collection, so that details from those parents were not able to be collected. In PCCD group 200 fathers and 200 mothers participated in the study. Out of the 400 parents, 396 parents responded to the inventories

In the PCCD group, there was no male included in the age group of less than 30 years where as in PNC group there was 2.6% were in this age group. But 22.5% females who were less than 30 years of age group were included in the PCCD group and 8.5% were included in the PNC group. More than 50% males in PCCD group and PNC group were in the age group of 35-44 years. But among females, more than 50% were in the age group of 30-39 years. 6.1% PNC group and 6.5% PCCD group males were in the age group of below or equals to 50 years and among females 0.5% were in PCCD group and nobody in PNC group were in the age group of below or equals to 50 years.

Out of the three ninety six parents in the PNC group only 4.3% belonged to lower primary or below education. Out of four hundred parents in the PCCD group, 7.8% belonged to this category. In PNC group, 9.1% got upper primary education and 46% were having high school education. More than one-fifth of the parents (22.2%) were having plus 2 level qualification and 10.1% degree level and 8.3% were having PG/Professional level education in PNC group. In the PCCD group it was 11.2%, 33.8%, 14.8%, 18.8% and 13.8% respectively in each level of education qualification. In PNC group 63.4% parents were living in Joint family, where as in PCCD group it was 36.6%. In PNC group 23.5% belonged to nuclear family and it was 76.5% in PCCD group. Occupation-wise classification showed, 12.5% parents of PCCD group were daily labourers and 9.7% self-employed where as in PNC group this was 25% and 6.2% respectively. All others were either salaried employees or were getting an assured minimum monthly income. In PNC group 38.4% of mothers were housewives whereas only 24.2% mothers in PCCD group belonged this category.

Step I

Step I analysis was carried out to know the increment in percentage of variables by the predictor variable state anxiety.

Table 4.4.1: Step -I of Regression analysis for psycho social correlates of parents

Variables entered	State anxiety
Correlation(R)	0.634
Proportion of variance (R2)	0.402
Percentage variation (Adjusted R2 x100)	40.1%
Beta 1 (β1) =0.556 B1= 0.062	SE β1 =0.003

Constant			-1.154
df	SS	MSS	F
Total	758	189.747	1
Regression	76.359	38.18	254.559
Residual	756	113.388	0.15

(p<0.001)

Results of step I analysis reveals that the percentage of variance accounted by state anxiety is 40.1%. The coefficient of correlation, ‘R’ value obtained is 0.634 and the percentage variation is 40.1 percent. The F value (254.559) also shows that state anxiety significantly (p<0.001) contribute in predicting the psycho social correlates of parents having children with conduct disorder.

Johnson, Cohen, Kasen, Smailes, and Brook (2001)⁽⁶⁾ states that maladaptive parental behaviors like anxiety will have a significant predictor role in developing and maintaining psychological problems in parents having children with conduct disorder.

Parents experience serious psycho social problems when they have to rear and care children with conduct disorder. Parents who are having anxiety in dealing with children may be confused about the ways of dealing with their children, which may lead to curious, aggressive parenting style followed by parents disturb the rights and autonomy of children. The children may forced to obey stringent orders and rules imposed by

parents through threatening of severe and harsh punishment (Marsigilia, Walczyk, Buboltz, & Griffith-Ross, 2007).⁽⁷⁾ The field of psychology denotes the abnormalities in parent- child relationship like parental curiosity, anxiety and anger can increase the chance of developing psycho social problems in parents, who are having children with conduct disorder (Dwairy, Achoui, Abouserie & Farah, 2006).⁽⁸⁾

From the studies detailed above state that psycho social problems of parents having children with conduct disorder can be predicted by means of state anxiety in parents. The present study endorses this view point. Parents may themselves be in a confusion regarding the position and attitudes to be adopted in a situation which needs their intervention. Children with conduct disorder may cause continuous problem situations for parents in their family, school and neighborhood. State anxiety experienced by parents having children with conduct disorder may be confused about the strategies they should accept and implement, when their children are expressing the symptoms of conduct disorder.

4.4.2 Step II

Step II analysis was under taken to further understand the role of predictor variable trait anxiety in affecting the psycho social correlates of parents having children with conduct disorder.

Table 4.4.2: Step-II of Regression analysis for psychosocial correlates of parents

Variables entered					State anxiety and trait anxiety
Correlation (R)					0.677
Proportion of variance (R ²)					0.459
Percentage variation (Adjusted R ² x 100)					45.5%
Beta 1(β1)	-0.175	B1	0.019	SE β1	0.006
Beta 2(β2)	0.392	B2	0.041	SE β2	0.006
Constant					-1.486
Source	df	SS	MSS	F	
Total	724	181.222			
Regression	2	83.093	16.619	121.766	
Residual	719	98.129	0.136	(p<0.001)	

Results indicate that the percentage of variance produced by the two predictor variables state anxiety and trait anxiety together produced a change in ‘R’ from 0.634 to 0.677 (Table 4.4.2). This resulted in a significant (F=121.766; p< 0.001) increase in terms of conduct disorder in the sample studied. While summing up the percentage of variance it was seen that the two variables collectively contributed to 45.5% of total to the psycho social correlates of parents having children with conduct disorder. Hence trait anxiety could be used as a predictor variable for assessing the the psycho

social correlates of parents having children with conduct disorder as the increment in overall conduct disorder by adding this variable alone accounted for an increase of 5.40 percent. Cadoret and Yates (1995)⁽⁹⁾ used multiple regression analysis to measure the effect of anxiety in parents on their psycho social problems, on 95 male and 102 female adoptee and their adoptee parents. They found that (1) a biological background of antisocial personality disorder predicted increased adolescent aggressiveness, conduct disorder, and adult antisocial behaviors, and (2) adverse home

environments like, parents having severe anxiety conditions, depression, and substance abuse, independently predicted increased psycho social problems in them. A detailed study by McGrath, Elgar, Stewart, Waschbusch and Curtis (2004)⁽¹⁰⁾ explains the effect of parental anxiety on parenting skills which perpetuates the parental psycho social problems.

Parental trait anxiety can manifest in all areas of parents' lives, including work, mental and physical

health, and social and family relationships. They may become incompetent in facing challenges in life and also has to find problems in managing financial burden, sibling rivalry, stigma, self-doubt and blame, marital stress, and difficulty accessing services, in addition to dealing with the symptoms of conduct disorder in their child. The result of the present study also supports this finding that parents having trait anxiety is having a predictor role on parental psycho social correlates.

4.4.3 Step III

Increment in percentage variation accounted or variable trait anger was estimated during the step III of analysis.

Table 4.4.3: Step III of Regression analysis for psycho social correlates of parents

Variables entered		State anxiety, trait anxiety and trait anger		
Correlation (R)		0.713		
Proportion of variance (R ²)		0.509		
Percentage variation (Adjusted R ² x 100)		50.4%		
Beta 1(β1) =0.162	B1=0.018	SE β1 =0.006		
Beta 2(β2) =0.265	B2 =0.028	SE β2 =0.006		
Beta 3(β3) =-0.274	B3=-0.037	SE β3 =0.005		
Constant		-1.932		
Source	df	SS	MSS	F
Total	707	176.949		
Regression	3	89.980	12.854	103.462
Residual	700	86.969	0.124	(p<0.001)

Results indicate that the percentage of variance produced by the three predictor variables state anxiety, trait anxiety and trait anger together produced a change in 'R' from 0.677 to 0.713 (Table 4.4.3). This resulted in a significant (F=103.462; p< 0.001) increase in terms of the psycho social correlates of parents in the sample studied. While summing up the percentage of variance it was seen that the three variables collectively contributed to 50.4% of total to the psycho social correlates of parents having children with conduct disorder. Hence trait anger could be used as a predictor variable for assessing the psycho social correlates of parents as the increment in overall psycho social correlates of parents having children with conduct disorder by adding this variable alone accounted for an increase of 4.90 percent.

Parental anger in those having children with conduct disorder which in turn may be linked parental psycho social disorders later on (Stattin & Kerr, 2000; Kerr & Stattin, 2000).⁽¹¹⁾ There are enough documents which have described the long-term effect of parental anger in the development of problems in psycho social factors in parents (Edwards, Felitti, Holden, & Anda, 2003).⁽¹²⁾

Step wise multiple-regression analyses was used by Stormshak, McMahon, Bierman and Lengua (2000)⁽¹³⁾ to examine the incremental and independent

contributions of each of the parenting constructs to their psycho social problems. For incremental contribution of each parenting construct, change statistics were derived at each step in the equation. While examining the independent contribution of anger in parents, increase in the psycho social problems of the parents were noticed. The present study also supports this finding.

Trait anger is the overall inclination of an individual towards anger. Angry behavior and many of the above implications of trait anger can make interacting with other people more difficult. This is especially true for those who tend to express negative emotions in situations that are not anger provoking. Being negative in such situations can be inclined to make other people angry or respond negatively, and this in turn can create more conflict. This means that people high in trait anger are more likely to generate conflict, and thus have more reasons for being angry. Parents having children with conduct disorder may express more negative reactions to others compared to parents having normal children. This may cause even more difficult for them and to their child to lead a normal life in the society. Regression analysis conducted in this study proves psycho social problems of parents having children with conduct disorder can be predicted by means of trait anger in parents.

4.4.4 Step IV

Step IV Regression analysis calculated the increment in percentage variation accounted or variable personal stress was estimated during the step IV of analysis.

Table 4.4.4: Step-IV of Regression analysis for psycho social correlates of parents

Variables entered		State anxiety, trait anxiety, trait anger and personal stress		
Correlation (R)		0.730		
Proportion of variance (R ²)		0.533		
Percentage variation (Adjusted R ² x 100)		52.60%		
Beta 1 (β1) =0.132	B1 =-0.015	SE β1 =0.006		
Beta 2 (β2) =-0.255	B2 =-0.027	SE β2 =0.006		
Beta 3 (β3) =-0.254	B3 =-0.035	SE β3 =0.005		
Beta 4 (β4) =-0.223	B4 =-0.014	SE β4 =0.003		
Constant		-1.178		
Source	df	SS	MSS	F
Total	673	168.476		
Regression	4	89.846	8.985	75.756
Residual	663	78.631	0.119	(p<0.001)

Results indicate that the percentage of variance produced by the four predictor variables state anxiety, trait anxiety, trait anger and personal stress together produced a change in ‘R’ from 0.713 to 0.730 (Table 4.4.4) hence the percentage variation improved from 50.40 percent to 52.60 percent. Thus the increment of 2.20 percent could be attributed to personal stress. The F value (75.756) also shows that personal stress significantly (p<0.001) contribute in predicting the psycho social correlates of parents having children with conduct disorder.

Nachshen & Minnes (2005) state that parents having a child with conduct disorder find it as a potentially chronic stressor in their life, which involves a series of acute as well as continuous demands, throughout the child’s developmental periods. This personal stress will have its role on deciding the intensity of psycho social problems in parents (Mahoney & Perales 2005).⁽¹⁴⁾

Hagg (2007)⁽¹⁵⁾ explains that parents experienced the negative emotions due to disturbing behavior of the children, and this will cause personal stress which have its effect on parental psycho social problems. Meltzer, Ford, Goodman and Vostanis (2011)⁽¹⁶⁾ examined the predictor role of personal stress on parental psychological balance using multiple linear regression analysis. The extent to which the stress in parents increases the likelihood of psychological problems in parents gave affirmative responses when presented with each burden or stigma item. The present study also reinforces these results.

Parents having children with conduct disorder may even forget about their own personal life, personal preferences, likes and dislikes since they may be over pre occupied with the problem behavior of their children. In this study it is found that the psycho social correlates in parents having children with conduct disorder is having a predictor role on the personal stress in parents.

4.4.5 Step V

Increment in percentage variation accounted or variable occupational stress was estimated during the step V of analysis.

Table 4.4.5: Step-V of Regression analysis for psycho social correlates of parents

Variables entered		State anxiety, trait anxiety, trait anger, personal stress and occupational stress.	
Correlation (R)		0.735	
Proportion of variance (R ²)		0.541	
Percentage variation (Adjusted R ² x 100)		53.3%	

Beta 1 (β_1) =0.129	B1 =0.014	SE β_1 =0.006		
Beta 2 (β_2) =0.269	B2 =0.029	SE β_2 =0.006		
Beta 3 (β_3) =0.253	B3 =0.035	SE β_3 =0.005		
Beta 4 (β_4) =-0.259	B4=-0.016	SE β_4 =0.003		
Beta 5 (β_5) =0.138	B5 =0.008	SE β_5 =0.002		
Constant	-1.178			
Source	df	SS	MSS	F
Total	663	165.976		
Regression	5	89.750	8.159	69.789
Residual	652	76.226	0.117	(p<0.001)

Results indicate that the percentage of variance produced by the five variables state anxiety, trait anxiety, trait anger, personal stress and occupational stress together produced a change in 'R' from 0.730 to 0.735 (Table 4.4.5). This resulted in a marginal but significant ($F=69.789$; $p < 0.001$) increase in terms of the psycho social correlates of parents having children with conduct disorder in the sample studied. While summing up the percentage of variance it was seen that the eleven variables collectively contributed to 53.3% of total to the psycho social correlates of parents having children with conduct disorder. Hence occupational stress could be used as a predictor variable for assessing the psycho social correlates of parents as the increment in overall conduct disorder by adding this variable alone accounted for an increase of 0.70 percent.

Garbarino, Cuomo, Chiorri and Magnavita (2013)⁽¹⁷⁾ examined the predictor role of occupational stress in the correlates of mental health in police officers who are the members of 'VI Reparto Mobile' of Genoa, a police special force unit called on to maintain law and order in all the major public events that take place in Italy, using regression analyses. The result showed that lower levels of support and reward and higher levels of effort and over commitment were associated with higher levels of mental health symptoms. Psychological screening revealed 21 (7.3%) likely cases of mild depression (Beck Depression

Inventory, $BDI \geq 10$). Officers who had experienced a discrepancy between work effort and rewards showed a marked increase in the risk of depression (OR 7.89, 95% CI 2.32 to 26.82) when compared with their counterparts who did not perceive themselves to be in a condition of distress. The findings of this study suggest that work-related stress may play a role in the development of mental health problems in police officers. The present study also is having a similar result, showing that occupational stress in parents is having a predictor role on the psycho social problems of parents. Occupational stress in parents can cause disturbances in the family environment which may facilitate psycho social disturbances in parents (Smith Robinson & Segal, 2012).⁽¹⁸⁾

Parents having children with conduct disorder may find the stress in work place as an additional mental trouble in addition to the stress they already have. The problem child in their life may lead to a reduced level of work efficiency and career advancement, which may in turn affect the entire life conditions of an individual and his family. Psycho social problems in parents are having a predictive role on occupational stress as per the regression analysis used in this study.

A summary of the successive R's percentage variance, increase in R, percentage variation (Adjusted $R^2 \times 100$) and increase in percentage variation is given in table 4.4.6.

4.4.6 Percentage variation during stepwise regression analysis

Table 4.4.6: Percentage variation during stepwise regression analysis

Step variable Entered	R	Increase in R	Percentage variation (adjusted $R^2 \times 100$)	Increase in percentage Variation
I State anxiety	0.634	40.10	40.10	
II Trait anxiety	0.677	0.043	45.50	5.40
III Trait anger	0.713	0.036	50.40	4.90
IV Personal stress	0.730	0.017	52.60	2.20
V Occupational stress	0.735	0.005	53.30	0.70

Variables having predictor value identified in the present study are state anxiety, trait anxiety, trait anger,

personal stress and occupational stress. A summary of the successive R's percentage variance, increase in R,

percentage variation (adjusted $R^2 \times 100$) and increase in percentage variation is given in table 4.4.6. Thus it could be concluded that there are five significant predictor variables for psycho social correlates in parents having children with conduct disorder. The order of these variables as obtained in the stepwise regression analysis is state anxiety, trait anxiety, trait anger, personal stress and occupational stress. The result of the present stepwise regression analysis also endorses the views expressed by the above mentioned studies that state anxiety, trait anxiety, trait anger, personal stress and occupational stress are having significant predictor role on parental psycho social variables.

Conclusion

It could be summarized that among the eleven variables studied, Psycho social correlates of parents having children with conduct disorder can be predicted more by state anxiety. Trait anxiety has got the second highest predictor role, after state anxiety, on the psycho social correlates of parents having children with conduct disorder. Trait anger has got the third highest predictor role on the psycho social correlates of parents having children with conduct disorder. Psycho social correlates of parents having children with conduct disorder can be predicted by personal stress and occupational stress in parents next to trait anger successively.

Conflicts of Interest: The authors have none to declare

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