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## PARENTAL PSYCHOPATHOLOGY IN CHILDREN WITH INFLAMMATORY BOWEL DISEASE – A PILOT STUDY RESULTS

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**Background:** There are very little literature data available on the prevalence of personality disorder in parents of children and adolescents suffering from inflammatory bowel disease. The purpose of this study was to assess the rate of parents meeting the criteria for a particular personality disorder according to the Structured Clinical Interview for DSM-IV Axis II Personality Disorders. **Methods:** The study included 36 parents of children and adolescents (aged 7-18 years) with inflammatory bowel disease. **Results:** Half of the parents of children with inflammatory bowel disease scored at or above the threshold of diagnostic criteria for a particular DSM-IV disorder on Axis II, mainly obsessive-compulsive personality disorder. Overall, rigidity and inflexibility about morality were the most frequent obsessive-compulsive personality disorder criteria. **Conclusion:** Parental personality factors play an important role in the context of pediatric inflammatory bowel disease, although the question remains whether it is influencing or being influenced by the disease. As this study was cross-sectional, we cannot say with certainty if the obsessive-compulsive personality disorder features occur with a high prevalence in parents of children with inflammatory bowel disease as a result of carrying for a child with a chronic disease, or they are a maintaining or even precipitating factor in the frame of pediatric inflammatory bowel disease.

**Key words:** inflammatory bowel disease, children, parents, psychopathology

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### INTRODUCTION

Inflammatory bowel disease (IBD) is considered to be one of the most serious chronic diseases to affect children and adolescents (1) and it can be emotionally challenging for both children and parents (2). The disease frequently leads to a highly complex somatic and psychiatric situation (3) and children and adolescents with IBD present a

population at a high risk of psychiatric disorders (4). Mainly depressive or anxiety disorders were found in children and adolescents with IBD (4,5) and the great variability in health status among adolescents with IBD may be due to family pathology (6). All children with DSM diagnosis had at least one parent with psychopathology (5).

There is a lack of literature data regarding the prevalence of personality disorder (PD) among parents of chil-

dren with IBD. One study showed that 21 of 27 parents of children with IBD had DSM III diagnoses predominantly on Axis II (5).

Parents of offspring with IBD are not an isolated group to study the rates of PD. The DSM Axis II disorders were more frequent in parents of adolescents with substance use disorder (SUD) than in parents of adolescents without SUD (7), as well as in parents of children with obsessive-compulsive disorder (OCD), where more obsessive-compulsive personality disorder (OCPD) and avoidant PD were found in these parents in comparison to parents of children with no psychiatric diagnosis (8).

In the light of published data, the hypothesis is that OCPD will be more prevalent in parents of children with IBD than in parents of healthy children (9).

In order to empirically test the findings regarding a high rate of PD among parents of children with IBD, we used a standardized instrument for non-clinical use to determine the number of persons scoring at or above the threshold of diagnostic criteria for DSM-IV disorder on Axis II.

## SUBJECTS AND METHODS

Study participants were parents of children (aged 7-18 years) treated for IBD for at least a year before the study. Thirty-six parents (9 fathers and 27 mothers) participated in the study on a voluntary basis and none refused it. Less than half of the parents (44%) were aged  $\leq 40$  and the rest were older than 40. Among participants, there were 5 married couples and the majority of parents were representing only one child. Thus, we included parents of 31 children or 70% of the total number of 44 children in our medical records, aged 7-18 and diagnosed with IBD for more than one year at the time of the study.

Subjects were serially recruited during 9 months at their scheduled visits to the Pediatric Gastroenterology Division, Rijeka University Hospital Center. All evaluations were performed at the Hospital and the Hospital Ethics Committee approved the procedures. A written informed consent was obtained from all participants.

The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) (10), with the self-report screener, was used to assess the presence of diagnostic criteria for PD in parents of children with IBD. This instrument allows diagnosis of 10 PD of DSM-IV on Axis II, as well as of depressive and passive-aggressive PD. Categorical approach was used based on a score at or above the threshold for a particular PD (fulfillment of criteria), or less than the threshold.

For comparison of our findings on the prevalence of PD criteria fulfilled among parents with the prevalence of PD in the general population, data from 3 sources were drawn (11-13).

## Statistics

Data were analyzed using the SPSS statistical package (version 11.5, Chicago, Illinois, USA). The binomial test was used to test the hypothesis that the proportion of parents who fulfilled the criteria for PD in our sample did not differ from the proportion of PD in the general population. For testing gender difference, as well as difference in the frequency of OCPD criteria between the parents who did and did not meet the criteria for OCPD, and also between the parents scored at or above the threshold for OCPD and those who did not meet the criteria for any of PD, the chi-square test was employed. The level of  $p < 0.05$  was considered to be statistically significant (for chi-square, both asymptotic and exact significance are shown).

## RESULTS

Eighteen of 36 (50%) subjects fulfilled a sufficient number of diagnostic criteria for one or more PD. Compared to the prevalence of PD in the general population, parents of children with IBD had 2.5- to 5-fold greater proportion of those that fulfilled the criteria for PD (Table 1). This result was significantly higher ( $p < 0.01$ ). Among those parents who scored at or above the threshold, half of them met the criteria for at least two PDs. The rate of parents of children with IBD who fulfilled the criteria for each particular PD type is shown in Table 1. PDs were also grouped in clusters (11) and the most prevalent one was cluster C (46%).

The most prominent group of parents who fulfilled the criteria for a particular PD included OCPD, with a rate of 36% of the total sample of parents (Table 1). It was significantly higher than the range of prevalence in the general population ( $p < 0.01$ ). Passive-aggressive PD was the second most prominent PD and also significantly higher than the median prevalence of 2.1 ( $p < 0.01$ ), but not significantly higher when compared with the highest prevalence in the general population of 12.6 ( $p = 0.073$ ). The number of parents who fulfilled sufficient criteria for paranoid PD was significantly higher at the lower level of prevalence range in the general population ( $p < 0.01$ ), but this significance was lost when the upper level of prevalence was calculated ( $p = 0.061$ ). Other percentages of parents who fulfilled the criteria for PD were no significantly different from data on the general population.

There were no significant differences according to gender distribution of the proportions of meeting the PD criteria in our sample, and no significant gender differences according to the frequencies of two or more fulfillment criteria for PD in our subjects. Also, data showed no significant gender differences in the rate of meeting the criteria for any particular PD type.

We also tested differences in the proportions of the specific OCPD criteria among parents who scored at or

Table 1.

*Frequency and percentage of parents of children with inflammatory bowel disease meeting DSM-IV criteria for particular personality disorders (PD) compared with data on general population*

Personality disorder (PD)	I	II	Significant difference among I and II p
	Parents who fulfill criteria for PD n (%)	Range of PD prevalence in general population %	
<b>All</b>	18 (50)	10.0- 20.0 <sup>1</sup>	<b>0.000*-0.000*</b>
<b>Cluster A</b>	4 (11)		
Paranoid	3 (8)	0.5 - 2.5 <sup>1</sup>	<b>0.001*-0.061</b>
Schizoid	1 (3)	7,5 <sup>1</sup>	0.237
Schizotypal	0 (0)	3.0 <sup>1</sup>	NA
<b>Cluster B</b>	6 (17)		
Antisocial	0 (0)	3 in men 1 in women <sup>1</sup>	NA
Narcissistic	3 (8)	less than 1 <sup>1</sup>	0.304
Histrionic	2 (6)	2.0 - 3.0 <sup>1</sup>	0.162-0.294
Borderline	1 (3)	1.0 - 2.0 <sup>1</sup>	0.304-0.517
<b>Cluster C</b>	16 (46)		
Avoidant	1 (3)	1.0 - 10.0 <sup>1</sup>	0.304-0.113
Dependent	2 (6)	2.5 <sup>1</sup> up to 7.9 <sup>2</sup>	0.227-0.442
Obsessive-compulsive	13 (36)	1.0 - 8.0 <sup>3</sup>	<b>0.000*-0.000*</b>
<b>Not otherwise specified</b>			
Passive-aggressive	8 (22)	median 2.1 up to 12.6 <sup>2</sup>	<b>0.000*-0.073</b>
Depressive	1 (3)	estimated 1-5%	0.304-0.457
*significant at level p<0.01			

References: <sup>1</sup> Sadock, 2007; <sup>2</sup> Livesley, 2001; <sup>3</sup> Hersen, 2007

above the threshold for 4 out of 8 criteria for OCPD and subjects who scored below 4 criteria for OCPD, as well as subjects who did not score at or above the threshold for any of the PDs (Table 1). The most prevalent OCPD criteria in total sample were inflexibility about morality and rigidity. Inflexibility, as well as preoccupation with detail was significantly higher among parents meeting the criteria than among others parents of children with IBD. Some of the OCPD criteria (e.g., excessive devotion to work and hoarding) showed significant differences among the groups only according to one statistical method (Table 1).

## DISCUSSION

Every second parent of children with IBD fulfilled the criteria for PD, yielding a significantly higher rate than in the general population. The results also showed the parents who scored at or above the threshold for OCPD were most

numerous and significantly more prevalent in our sample than in the general population.

From these results, two main questions arise. First, why the rate of meeting the criteria for all PDs as well as for OCPD was higher in parents of children with IBD than in the general population? Second, do the increased rates of OCPD features in parents represented response to the presence of the disorder or a factor influencing development of IBD in their offspring? In order to clarify this topic, we will look for some similar researches on the prevalence of PD, especially OCPD, among parents of children with various diseases.

In our study, the rate of parents who scored at or above the threshold for PD was in the range of the rate of PD (40%-74%) reported from other studies in parents of children with IBD, as well as parents of children with OCD and parents of children with SUD. In our study, the rate of those who fulfilled the criteria for PD was higher than the rate among parents of children with OCD, where PD was present in 41% of mothers and 38% of fathers (8), but

Table 2.

*Frequency and percentage of obsessive-compulsive personality disorder (OCPD) criteria in parents of children with inflammatory bowel disease, according to fulfillment of DSM-IV criteria for particular personality disorder (PD)*

	Parents			Chi-square test		Parents	Chi-square test	
	total	I	II	differences I and II			III	differences I and III
		Fulfilled criteria for OCPD	Not fulfilled criteria for OCPD	asyp sig	exact sig (2-sided)	Not fulfilled criteria for any PD	asyp sig	exact sig (2-sided)
OCPD criteria	<i>N</i> =36 n (%)	<i>N</i> =13 n (%)	<i>N</i> =23 n (%)	p	p	<i>N</i> =18 n (%)	p	P
Preoccupation with details	14 (39)	10 (77)	4 (17)	<b>0.000**</b>	<b>0.001**</b>	3 (17)	<b>0.001**</b>	<b>0.001**</b>
Perfectionism	9 (25)	6 (46)	3 (13)	<b>0.028*</b>	<b>0.046*</b>	3 (17)	0.074	0.114
Excessive devotion to work	7 (19)	5 (39)	2 (9)	<b>0.030*</b>	0.073	1 (6)	<b>0.022*</b>	0.059
Inflexibility about morality	22 (61)	12 (92)	10 (39)	<b>0.002**</b>	<b>0.004*</b>	7 (39)	<b>0.003**</b>	<b>0.003**</b>
Hoarding	17 (47)	9 (69)	8 (35)	<b>0.047*</b>	0.082	8 (44)	0.171	0.275
Reluctance to delegate tasks	11 (31)	7 (54)	4 (17)	<b>0.023*</b>	0.056	1 (6)	<b>0.002**</b>	<b>0.004**</b>
Miserliness	4 (11)	2 (16)	2 (9)	0.540	0.609	0 (0)	0.085	0.168
Rigidity	19 (53)	8 (62)	11 (48)	0.429	0.502	8 (44)	0.347	0.473

\* significant at level  $p < 0.05$

\*\* significant at level  $p < 0.01$

similar to the prevalence found in parents of children with SUD, where 59% of parents had PD (7). However, our result was much lower than the rate of 74% of diagnoses on Axis II among parents of children with IBD (5).

One out of four parents in our study fulfilled the criteria for 2 or more PDs, which is a lower rate than among parents of children with SUD where a little more than one out of three parents had more than one PD (7).

Considering distribution of particular PDs among parents of children with IBD in a previous study, the most prominent were dependent, narcissistic and anti-social PDs, followed by histrionic and compulsive disorders (5), different from the present results. A possible explanation for this differences may lie in the fact that in the previous study, diagnoses were made according to DSM-III, more married couples were involved, and a different instrument was used to assess PD.

In two most recently published studies regarding the rate of PD, SCID-II was also administered. Among parents of children with SUD, the most prevalent were paranoid PD (31%), avoidant PD (23%) and OCPD (17%). It should be noted that OCPD in these parents did not differ significantly from the control group of parents of children without SUD (17% vs. 8.3%) (7). However, besides avoidant PD, OCPD was found to be one of the most prevalent PDs

(33%) in parents of children with OCD (8). The obsessive-compulsive parental behavior was also connected with the presence of anorexia nervosa in adolescents. Thus, fathers and mothers of adolescents with anorexia nervosa reported higher levels of obsessive-compulsive behaviors, according to self-reported psychopathology (14).

In order to better understand where the parental OCPD belonged (in adaptation or in predictive features) we tested differences in the frequencies of OCPD criteria among those parents who scored at or above the threshold criteria for OCPD and those that scored below the threshold for OCPD but fulfilled the criteria for another PD, as well as subjects that did not score at or above the threshold for any PD at all. Analysis of the relationship between specific OCPD criteria may help clarify which features of OCPD are associated with IBD. Although it would be expected that the group of persons meeting the criteria for OCPD will have a higher score in all these criteria, some interesting results were found. The most prevalent OCPD criteria in our sample were inflexibility about morality and rigidity. However, rigidity was not exclusively more prevalent among parents meeting the criteria for OCPD because no significant difference was found among the groups of parents. In contrast, rigidity was even more frequent among parents who did not meet the criteria for OCPD.



Results obtained in parents of children with IBD showed that some individual criteria of OCPD (preoccupation with detail and inflexibility about morality) were clearly more common among parents that also fulfilled the criteria for OCPD in comparison with those that did not meet these criteria. For example, hoarding, perfectionism and preoccupation with detail were significantly more frequent in parents of OCD children (15), but in our study hoarding and perfectionism were not significantly higher in parents scoring at or above the threshold for OCPD than in those that did not meet the criteria for any PD at all.

Because our study was of a cross-sectional design, we cannot say if the high prevalence of OCPD features in parents of children with IBD was the result of caring for a child with chronic disease, maintaining or even precipitating factor of the child's IBD, and we could not clarify the specificity of the association of different distributions of specific OCPD features among our various groups of parents.

Results of a previous study have shown that parental stress was significantly higher among those with unhealthy general family functioning and caregiver stress was greater among parents of the youth with more active Crohn's disease (16). A question that can arise is does parental adjustment to the recommended medical treatment regime imply and encourage the use of behavior, which are also characteristic features and behaviors for OCPD, like rigidity and preoccupation with detail (strictly following dietary regime, precise timing of meals, and daily organization of activity according to treatment recommendation). To study the causal relationship between responsibilities and stress in parents of children with IBD, additional longitudinal studies are required.

Since persons with OCPD have limited interpersonal skills (11) and results of a previous study revealed the necessity of preventive programs, especially in case of PD (17), our findings could lead to developing and implementing psychosocial treatment interventions that will involve both offspring with IBD and his/her parents in order to improve their relationship, since this at risk parent-child relationship can be further stressed by the demands of IBD itself.

#### *Limitations*

A limitation of the study was absence of a control group of parents of children with some other disorder or of healthy children, so we compared our results on parents of children with IBD with literature data, which are not data from our country. Besides that, since general population standards were used, it could have entailed some differences in regard to the instruments used and different interviewers.

Although the study included parents of 70% of all children aged 7-18 treated for IBD in our hospital for at least

one year at the time of the study, the sample was rather small and not both parents of a child were included. Other limitations could be identified as the use of categorical rather than dimensional approach and the fact that other psychiatric diagnoses such as those on Axis I were not assessed. However, it should be noted that parents with PD highly affect their children, regardless of whether the PD is the primary or the comorbid diagnosis (17).

It was beyond the range of the current study to assess parental attachment and parenting style, other personality traits as well as disease characteristics, such as disease severity and time elapsed from the diagnosis. The latter may be of special importance on answering the question where OCPD in parents belongs, i.e. in the results of IBD in children or as an influencing factor since PDs are persistent and commonly present for a period of at least 5 years (10).

Regardless of all the limitations, according to our knowledge, this is the first study assessing the rate of subjects scoring at or above the threshold of diagnostic criteria for DSM-IV disorder on Axis II in parents of children with IBD and therefore it should be perceived as one that can set up a scene for future research. Additional longitudinal studies in greater samples and a control group of parents could address many of these issues that presented as limitations in our study.

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## SUMMARY

### PSIHOPATOLOGIJA U RODITELJA DJECE S UPALNIM BOLESTIMA CRIJEVA – REZULTATI PROBNE STUDIJE

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*Uvod:* Malo je podataka u literaturi koji govore o učestalosti poremećaja ličnosti u roditelja djece i adolescenata koji boluju od upalnih bolesti crijeva. Svrha ove probne studije bila je odrediti učestalost roditelja koji ispunjavaju kriterije za postavljanje dijagnoze određenog poremećaja ličnosti temeljem ispunjavanja Strukturiranog kliničkog intervjua za poremećaje ličnosti s osi II. iz DSM-IV. (SKID-II). *Metoda:* Obuhvaćeno je 36 roditelja djece i adolescenata (starosti 7 do 18 godina) s upalnim bolestima crijeva. *Rezultati:* Polovina roditelja djece s upalnim bolestima crijeva ostvarilo je prag dijagnostičkih kriterija za postavljanje dijagnoze s osi II. prema DSM-IV, većinom za opsesivno-kompulzivni poremećaj ličnosti. Sveukupno gledajući dijagnostičke kriterije, rigidnost i pretjerana savjesnost, skrupuloznost i nefleksibilnost u pitanjima morala, etike ili vrijednosti bili su najčešći, za opsesivno-kompulzivni poremećaj ličnosti prisutni kriteriji. *Zaključak:* Značajke ličnosti roditelja mogu imati važnu ulogu u kontekstu pedijatrijskih upalnih bolesti crijeva, iako ostaje otvorenim pitanje radi li se o čimbeniku koji utječe ili je pod utjecajem bolesti djeteta, odnosno neovisan od toga. Temeljem ove presječne studije ne možemo sa sigurnošću kazati jesu li opsesivno-kompulzivne značajke ličnosti koje su sa značajno većom učestalošću prisutne u roditelja djece s upalnim bolestima crijeva rezultat brige za dijete s kroničnom bolesti, podupirući ili možda čak precipitirajući čimbenik.

*Ključne riječi:* upalne bolesti crijeva, djeca, roditelji, poremećaji ličnosti