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Adaptation and validation of the Family Accommodation Scale for obssesive-compulsive symptoms in a sample of Spanish adolescents

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Introduction. Family influence and involvement in the obsessive-compulsive symptoms of their relatives are widely recognized in clinical practice although there is a very little research investigating those variables. The Family Accommodation (FAS) for obsessive-compulsive symptoms is an interview developed to evaluate those aspects of family interactions. The aim of this study is to present the Spanish translation, adaptation and validation of the FAS in a sample of Spanish adolescents.

Method. This is a 12 month follow-up study of 20 adolescents diagnosed of obsessive-compusive disorder (OCD), and their families, who started treatment in a child and adolescent mental health outpatient unit.

Results. The reliability measurement of the scale obtains good values (Cronbach's alpha is 0.87, Guttman split-half is 0.81). Measurement of convergent validity has good correlation levels with other measures of OCD symptoms severity, both at the onset of the treatment as well as at the 12 month follow-up. There are no significant differences in FAS scores between families whose mother and/or father exhibit OCD symptoms of their own and those without this condition. The results support the hypothesis that the evaluation interview of the Spanish adaptation of the family accommodation/involvement in OCD symptoms, as the original, is a reliable and valid measure of family participation in obsessive-compulsive symptoms of adolescent with OCD.

Key words:
Obsessive-compulsive disorder. Family-relations. Adolescence.

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Adaptación y validación de la Escala de Acomodación Familiar a los síntomas del trastorno obsesivo-compulsivo en una muestra de adolescentes españoles

Introducción. La participación de la familia en la sintomatología obsesivo compulsiva de los pacientes con TOC es un aspecto ampliamente identificado en la clínica, pero poco estudiado. Para valorar la «acomodación» a los síntomas y la repercusión de éstos en la vida familiar se ha creado una entrevista: la *Family Accomodation Scale for Obsessive-Compulsive Disordersto* FAS. El presente estudio tiene como objetivos presentar la traducción, adaptación y validación de la *Family Accomodation Scale* (FAS) en una muestra española de adolescentes con TOC.

Metodo. Estudio de seguimiento a 12 meses de una muestra de 20 adolescentes con diagnóstico de TOC y sus familias, que inician tratamiento en un servicio de salud mental infantojuvenil ambulatorio.

Resultados. La medida de la fiabilidad de la escala obtiene buenos valores (alfa de Cronbach de 0,87, la correlación entre las dos mitades es 0,81 [Guttman split-half model]). Las medidas de la validez concurrente presenta buenos niveles de correlación con otras medidas de gravedad de la sintomatología TOC, tanto al inicio del tratamiento como al seguimiento a los 12 meses. No hay diferencias significativas en las puntuaciones de la acomodación familiar entre el grupo de pacientes cuyos padre y/o madre tienen rasgos o clínica de TOC y el grupo cuyos ladre no presentan esta condición. Los resultados apoyan la hipótesis de que la entrevista de valoración de la acomodación/implicación familiar en la sintomatología TOC, en su adaptación española, al igual que al original, es una buena medida de la participación de la familia en la sintomatología obsesivo-compulsiva de los chicos/as con TOC, con buenos niveles de fiabilidad y validez.

Palabras clave:
Trastorno obsesivo compulsivo. Relaciones familiares. Adolescencia.

INTRODUCTION

The participation of the family in the obsessive-compulsive symptoms of patients with obsessive-compulsive disorder (OCD) is a widely detected aspect in the clinical setting. Relatives respond repeatedly to the needs their affected family

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member has of being calmed down and are required to participate in the «cleaning» rituals or they have to accept that their homes become a storage place of objects without apparent utility[1,2,3]. This situation may be related with a high level of tension and family conflict, contribute to maintain and reinforce the OCD symptoms and interfere in the treatment course.

Interaction of the family variables and OCD has been evaluated from different perspectives:

On the one hand, «classical» studies on family aggregation state that between 18 % and 30 % of relatives of OCD patients have OCD or subclinical symptoms and greater risk of related diseases[4,5]. Other authors stress the role of environmental factors: family context may be a risk factor for the disorder initiation, development and maintenance[6]. Parenting style, emotion expressed, or accommodation to the symptoms have been the most analyzed type of variables and have been considered intervention objectives[7]. It is precisely «accommodation» or participation of the family in the obsessive-compulsive symptoms and the repercussion of these symptoms in the family life[8] that have been considered specific and relevant aspects of the OCD disease. One of the problems was to find a valid and reliable instrument to measure them. This task was approached by the Yale group[2,3] with the construction of the specific interview: Family Accommodation Scale for Obsessive-Compulsive Disorders FAS. Based on a previous study[2] and on that of other authors[1], they elaborated a scale to measure different aspects of family participation in OCD symptoms of their family members. Furthermore, the definitive study included other interviews and measurements to analyze the psychometric properties of the proposed scale[3].

This study aims to present the translation, adaptation and validation of the Family Accommodation Scale (FAS) in a Spanish sample of adolescents with OCD. The professionals who are working within the child and adolescent setting are used to incorporating family interaction as an aspect to be evaluated and to intervening in the context of the complete treatment of OCD in these ages. Using a sample of adolescents to adapt and validate the scale also has the added value of the importance of the symptoms at these ages: between 50 and 70 % of adults report the onset of the symptoms before 14 years of age[9].

METHODS

The data we present form a part of a longitudinal type study of patients with OCD diagnosis in a child and adolescent mental health out-patient unit.

Subjects

Children and adolescents who initiated treatment in the child and adolescent mental health units in Cantabria between 1999 and 2005, with the diagnosis of OCD.

Exclusion criteria are:

- CI less than < 70.
- Diagnosis of GDD (generalized developmental disorder).
- Diagnosis of psychotic disorder.

Instruments

- Collection of sociodemographic data.
- Children's Yale-Brown Obsessive-Compulsive Disorder (Y-BOCS), Spanish version, adapted[10]. The Y-BOCS is a semistructured interview adapted for its use in ages between 6 and 17 years. It is designed to score severity of the obsessive and/or compulsive symptoms reported in the previous week and this is scored on the basis of the information supplied by the adolescents and their parents, although the final evaluation is based on the clinician's opinion.
- Questionnaire on Family Accommodation to OCD symptoms (FAS)[2,3] modified and adapted for this study). In every case, this was filled out with the information supplied by the mother.
- Questionnaire on family background: personal and family background in both parental branches were collected using the «screening» questions and examination adapted from the Spanish version of the SCAN (Schedules for Clinical Assessments in Neuropsychiatry) interview[11].
- Modified CGI (assessment scale by the clinician of 0 = not ill to 6: extreme).
- Family Environmental Scale (FES): two versions were evaluated: that of the patient and that answered by the mother. Ten scales were obtained and were grouped into three dimensions: relationships, development and stability[12].
- The invitation to participate in the study was made through the therapist or by telephone contact. To participate in the study, an informed consent had to be signed by the parents or legal guardian and the assent of the minor had to be obtained.

Family Accommodation Scale for the OCD symptoms (FAS)

The Family Accommodation to Obsessive-Compulsive Disorder Scale evaluates the participation grade in the obsessive-compulsive symptoms of a patient by the persons, normally the family, that he/she lives with. It was originally created by Lisa Calvocoressi, Lawrence Price and their colleagues[3] at Yale University, to be used in adult patients. Given the importance that the family participation has in most of the anxiety disorders in children and adolescents, this scale was revised by us in order to use it in samples of these ages.

With small variations on the original in those aspects that are adequate for the ages of our sample, the scale is perfectly applicable and usable in these samples.

The original scale is a semi-structured interview with time reference to the previous week, designed to be applied by a clinician or by a trained interviewer. In our experience, we believe that the scale should be administered by a clinician, psychiatrist or psychologist, trained in its use, since it is not rare that doubts arise while applying it on behaviors and aspects in which the differentiation between normality and disease is not easy.

The interview is made up of two sections:

The first part, with collection of clinical symptoms, is done with the patient and his/her family and is very similar to other interviews, such as the Yale-Brown OCS[10], so that it can be substitutable by one of these interviews.

The second part is made up of 12 sections in which the grade of implication, tolerance and accommodation of the family in these symptoms are evaluated. In this section, the clinician uses the symptoms collected in the previous section to quantify this family accommodation. The 12 types of accommodation behaviors appear in table 1. Each question is scored between 0 (not applicable) to 4 (extreme). The total score is the sum of the partial scores of each item, thus it is between 0 and 48.

Table 1 Areas of family accommodation to the OCD symptoms evaluated in the Family Accommodation Scale (FAS)

Types of family accommodation for the OCD symptoms	Score				
	None or not applicable 0	Mild 1	Moder. 2	Severe 3	Extre. 4
1. Provide safety to the patient					
2. Observe (control) the patient deliberately doing his/her rituals					
3. Wait for the patient					
4. Abstain from saying or doing things					
5. Facilitate avoidance					
6. Facilitate compulsions					
7. Participate in the compulsions					
8. Help in simple tasks					
9. Tolerate rare behaviors or disturbances of the home					
10. Modify personal routine					
11. Modify family routine					
12. Assume responsibilities of patient					

The reliability data are good for the original sample (internal consistency: Cronbach = 0.82 and global interrater reliability of 0.94). In regards to validity, it significantly correlates with the global score of the Y-BOCS scale ($r = 0.45$; $p > 0.003$) and with the evaluation of clinical severity of the disorder (GAF, $r = 0.45$; $p < 0.009$)

The FAS interview was translated directly from the original[3]. After, another person, who did not know the original version, received the translated version and made a back-translation to English that was compared with the original one. It was practically identical. The interview, that was originally intended for adult patients, had undergone small changes in the writing style to adapt them to the ages of our subjects. The back-translation and changes were sent to the authors for their supervision and approval. Once the final version was elaborated, it was administrated to five patients of the service and their family to verify if it was adequate.

Statistical analysis

Internal consistency of the scale has been analyzed with Cronbach's alpha coefficient and the split-halves method.

In regards to the validity, convergent validity of the FAS was calculated with two severity measurements of obsessive-compulsive symptoms: the score on the Y-BOCS, and the GAF and with a measurement of family environment: the FES.

Descriptive statistics and non-parametric tests (Mann Whitney, Kruskal-Wallis test, Spearman's correlation) were used in the statistical analysis.

RESULTS

Sample description

Mean age of treatment onset is 13 years (SD: 2.98; range: 6-17). Clinical symptoms begin at around 12 years (SD: 3.11; range: 5-17). Nine patients (45 %) are receiving drug treatment in addition to individual-family type psychotherapy.

At the onset of treatment, mean score on the Y-BOCS scale was 19.17 (SD: 6.87; range: 8-31). Mean score of the FAS was 16.20 (SD: 12.81; range: 0-43). The group that received the mixed type OCD diagnosis (n = 9) has significantly higher scores than the pure obsessive or compulsive type groups (Kruskal-Wallis test: chi^2: 8.61; sig = 0.013). There were no significant differences in the FAS scores in the patient group whose father and/or mother (N = 10) had OCD traits or

symptoms (Mann-Whitney test, sig = 0.49). If we only consider the OCD condition in the mother, the difference was also not significant (Mann-Whitney test, sig = 0.067).

Of the 15 patients for whom there are follow-up data at 12 months, mean score on the Y-BOCS scale at 12 months was 8.73 (SD: 6.68; range: 0-20). Mean score of the FAS was 3.87 (SD: 3.66; range: 0-12). Almost all the patients improved at follow-up, 47 % were much better and 10 patients had therapy discharge.

Psychometric properties of the scale

The reliability of the scale was calculated with two methods:

The correlation between the items to measure internal consistency by the Cronbach alpha coefficient, which was 0.87 for our sample. Table 2 shows the correlation values of each item and the improvement obtained when some of them are eliminated: for our sample, only the a value would improve and this very little with the elimination of item 1: reassure the patient and item 10: modification of personal routines.

We have also used another method of evaluating internal consistency, that of calculating the correlation between the split halves that was 0.70 (Spearman-Brown halves of equal length = 0.82).

The results of the calculation of the convergent validity are shown in table 3. The FAS and severity measurements of the OCD symptoms show good correlation levels that are very significant, below 0.001 in almost all the cases. On the contrary, the measurements of family environment (the three dimensions that the FES measures) do not correlate with the scores obtained on the FAS. When the correlation coefficients of each one of the 10 scales of the FES are analyzed with the scores obtained in the FAS, only the expressivity scale has a mild level of significant correlation (rho = 0.54; sig = 0.032).

Table 2 Analysis of the reliability of the scale with Cronbach α coefficient

	Corrected item-total correlation	α coefficient if item is eliminated
Provide safety to the patient	0.3001	0.8752
Observe (control) the patient	0.5111	0.8605
Wait for the patient	0.6659	0.8482
Abstain from saying or doing things	0.8158	0.8382
Facilitate avoidance	0.5819	0.8543
Facilitate compulsions	0.6526	0.8515
Participate in the compulsions	0.5907	0.8538
Help in simple tasks	0.6296	0.8509
Tolerate rare behaviors	0.7245	0.8456
Modify personal routine	0.3220	0.8681
Modify family routine	0.4698	0.8620
Assume responsibilities	0.4163	0.8640

Table 3 Convergent validity of the FAS scale: correlations (non-parametric: Spearman's Rho)

	FAS at onset (n = 20)	FAS follow-up at 12 m (n = 15)
YB-obsessive	**0.517**	**0,498**
	Sig = 0.028	**Sig = 0.059**
YB-compulsive	**0.621**	**0.451**
	Sig = 0.006	**Sig = 0.91**
YB total	**0.770**	**0.688**
	Sig = 0.00	**Sig = 0.005**
CGI	**0.701**	**0.20**
	Sig = 0.001	**Sig = 0.014**
FES family relationship	0.404	
	Sig = 0.20	
FES family development	–0.209	
	Sig = 0.437	
FES family stability	–0.124	
	Sig = 0.648	
FES patient relationship	0.052	
	Sig = 0.853	
FES patient development	0.070	
	Sig = 0.804	
FES patient stability	–0.157	
	Sig = 0.575	

FAS: Family Accomodation Scale; FES: Family Environmental Scale.

In the follow-up data at 12 months, there is general improvement in all the scores of clinical severity and family accommodation. There are 4 patients who have been lost to follow-up and 1 of those included in the study has only received 2 months of treatment. Of the 15 patients for whom we have 12 month follow-up data, the correlations of the measurements of the FAS and Y-BOCS and the GAF maintain an acceptable level and continue to be significant (table 3). There was specific intervention in 11 of our patients to decrease family accommodation, 6 of them have been discharged and continue to be asymptomatic at follow-up. However, this variable was not proposed in the original study and has not been evaluated in the rest of the patients, so that we could not include it in the analysis of the results.

DISCUSSION

In our sample of children and adolescents, the Family Accommodation Scale for OCD symptoms shows excellent in-

ternal consistency, improving that obtained in the general study (0.82 *vs* 0.87 in ours). In the analysis of the correlations of each item (table 2), only 2 items, that referring to «calming» the patient by his/her family members and modification of personal routines had a low correlation coefficient with the general scale. This could be due to the characteristics of the age of our sample or due to that fact that it really contributes little to the measurement of family accommodation. The split half method also shows excellent internal consistency of the FAS.

Convergent validation obtains good correlation results, above 0.70, and a very significant level, with the severity measurements of the symptoms, both with the global score of the Y-BOCS and the CGI. This correlation is maintained at follow-up, although with values that are somewhat lower. Strangely, the correlation levels are much better than in the original sample, which suggests the hypothesis of the elevated interrelationship between the family participation and OCD symptoms in samples of children and adolescents. On the contrary, there is no correlation with other measurements of family variables (FES). In the original American study, positive correlations were obtained with other measurements of family interaction and practically none with other variables of family stress not related with OCD symptoms. This supports a good discriminative validity, according to the authors[3]. The FES measures different aspects of family life: cohesion, expressivity, conflict, independence, action, organization, control and participation in cultural, recreational or ethical-religious activities. Lack of correlation between family accommodation measurements and these dimensions may be interpreted in this sense as the absence of interrelationship between the more global variables of family life (FES) and the most specific ones in relationship with the OCD symptoms.

There are some methodological limitations that restrict the generalization of the findings of this study:

The small sample size favors the appearance of results that may not be maintained in samples that are more representative in regards to size. It is certain that when the data were analyzed, we had 35 measurements (20 + 15) of the FAS, and the remaining scales, although it has been decided to present the data from the initial moment and follow-up separately. On the other hand, the two investigators were not «blinded» to the scores obtained in the YBOCS, FAS and CGI, so that there may be biases when scoring in the same sense.

In all the cases, the FAS was conducted with the mother, this being, in our experience, the family member that generally has the best involvement in the clinical aspects of these ages. However, there may be a certain bias as direct information is lacking on the behavior of other members of the family. Although repeated measurements are made, no reliable test-retest was done since this is a follow-up study, in which most of the patients are asymptomatic at 12 months. Our hypothesis is that the changes in the FES correlate, as has been demonstrated, with the symptom improvement.

In the children and adolescent sample, we found that the cases with greater symptom severity also had greater intensity in family accommodation to the symptoms. In the follow-up, the symptoms and family involvement in it improved parallelly.

In their second study on the interview, the authors of the interview[3] suggest three possible models to explain the functional meaning of family accommodation.

- *1st model.* The OCD symptoms are those that precipitate the family accommodation responses, thus the objective of the treatment in this case is the OCD symptoms of the patient.

- *2nd model.* Similar to the previous, but the family response, once initiated, maintains the OCD symptoms. In these cases, family intervention in addition to the individual one would be necessary in order to decrease family accommodation.

- *3rd model.* In this group, accommodation would be primarily precipitated by the family member involved. The authors state that in this case the obsessive symptoms of the parents could play a central role. Along the line of this hypothesis, we analyzed if the families in which the father and/or mother have symptoms or manifest symptoms of OCD had higher scores in accommodation to their children's symptoms. In our sample, we have not found significant differences between the group with parents without OCD symptoms and that in which the parents, at least one of the two, had them. We also did not find any differences with the group in which the mother was the one who presented symptoms or manifest symptoms of OCD. In any event, it is an interesting hypothesis that will require subsequent studies and larger samples.

From our point of view, following the recommendations of other specialists on the subject, such as the Australian group from the University of Griffin[6,13], it seems interesting to include the specific study with the families within the complete therapeutic approach, in order to help them avoid «maintaining» the OCT symptoms of their children or family members. Some pioneer studies at the beginning of the 1990's had already supported the hypothesis that the interventions directed at reducing family participation in the OCD symptoms improved the therapeutic results[14] and this was maintained in the follow-up[15]. Careful consideration about how the accommodation functions and simple instructions to avoid the maintaining behaviors with the parents are generally sufficient in most of the cases. For some families, the difficulties are greater. They are generally families in which their child has more serious symptoms and

there may be other family factors other than the OCD symptoms of the parents that can contribute to this bad evolution. In this group, a more complex and elaborated intervention package, along the line of that created by the Australian group, could be useful[13]. For the moment, we do not have the conditions to assure the causal direction nor to identify which other family variables may be mediating this relationship.

CONCLUSIONS

The interview to evaluate the family accommodation/involvement in the OCD symptoms (FAS) in its Spanish adaptation is a good measurement of the family participation in the obsessive-compulsive symptoms of children with OCD, with good reliability and validity levels.

The grade of family accommodation is higher in those patients who have greater severity of the symptoms and decreases with the improvement of the symptoms in the follow-up.

The data supplied in the present study support the hypothesis of the utility of including the therapeutic work with the families in order to reduce the family participation in the obsessive-compulsive symptoms of their close family members. However, more studies are needed to clarify the contribution of «accommodation» in the maintenance of the symptoms and the therapeutic possibilities of family intervention.

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