

Obsessive-compulsive behaviour among children and adolescents

A review

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Obsessive compulsive disorders (OCD) among children and adolescents are a mental health concern with a significant amount of personal distress and embarrassment for the individual and a large burden for the family, educational and community health services. This article presents a review of current literature exploring age and gender differences in OCD; incidence of the disorder among the general and clinical population; comorbid psychopathologies; developmental and cognitive factors; cross-cultural (and specific content) differences; etiology and maintenance of the disorder; family, sociocultural and birth order influences, and health outcome and therapy success rates. The implications for future research are discussed.

Key words: **Obsessive-compulsive disorder - Child - Adolescent - Personality - Incidence - Comorbidity.**

Definition

Obsessive compulsive disorders (OCD) represent psychological disorders with diverse forms of manifestation and the International Classification of Diseases (ICD-10) makes a distinction between predomi-

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nantly compulsive thinking and compulsive actions. Despite the heterogeneity in the phenomenology of compulsive disorders, they have their source in regimented and controlled behaviour. There is evidence that the psychological similarities between compulsive disorders are more pronounced than their differences. The Diagnostic and Statistical Manual of Mental Disorders "DSM-IV"¹ refers to the intrusive and inappropriate quality of the obsessions being "ego-dystonic" referring to an "individual's sense that the content of the obsession is alien, not within his or her control, and not the kind of thought that he or she would expect to have. However, the individual is able to recognise that the obsessions are the product of his or her own mind and are not imposed from without (as in thought insertion)". The sufferer will be inclined to ignore or suppress these impulses and cognitions or "neutralise" them with another thought or action.

Overall, OCD seems to comprise essentially two elements: obsessions and compulsions. Obsessions are the recurrent "intrusive, unwelcome, distressing thoughts and mental images" that creates fear and anxiety by "besieging" our minds, and they are frequently perceived as intruding and repug-

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nant.² Compulsions refer to the behaviours that sufferers of obsessional disorders perform in the form of a ritual or rumination in response to the obsession to reverse or relieve the fear. Common OCD obsessions include (among others) fears of dirt and contamination, obsessive need for order and symmetry, harming self/others, losing control, obsessions associated with sexual worries, nonsensical doubts, excessive religious or moral issues (e.g. scrupulosity), a need to tell/confess or hypochondria. Common compulsions include (among others) washing and cleaning compulsions, repeating/checking, repeating words/speech/conversation, compulsions about having things “just right” e.g. touching, counting, seeking reassurance, ordering/arranging, excessive list making, hoarding or praying.²

In addition to empirical findings much of the material has emerged from clinical practice. For example, Kirkcaldy (Subjective accounts of obsessionality among clinical patients (unpublished manuscript, 2007) collated subjective data reports from OCD patients and reported a list of attributes associated with the disorder: heightened sense of responsibility, perfectionism, indecisiveness, increased uncertainty, intolerance for ambiguity, irrational fear, low risk taking (avoidant personalities), inflated worry and concern, high desire for control, underlining emphasis on repetition, difficulty discriminating essential from inessential details and problems in attachment-separation/touching and releasing. Mataix-Cols *et al.*³ cite earlier clinical observations from Falret⁴ in which OCD is referred to as the “madness of doubt” (*folie de doute*) and the “delusion of touch” (*délire du toucher*). Others have looked at lay-beliefs about obsessive-compulsive disorder.⁵

The cost incurred personally and the financial burden of obsessive compulsive disorders alone for the health services are substantial. Ko⁶ in “Townsend Letter from Doctors and Patients. Oct., Homeopathy can benefit patients with OCD” cited that OCD cost the United States 8.4 billion dollars in 1990 in social and economic losses, which represents 6% of the total mental health bill of 148 bil-

lion dollars. He provided estimates according to which approximately 3.3 million American adults – aged between 18 to 54 (about 2.3% of people in this age group in a given year) show signs of OCD. It appears evenly distributed among men and women and is not limited to geographical location, ethnic origin, or economic conditions.

The repeated washing and checking behaviour and/or mental acts such as having to repeat phrases or words, take up several hours of each day and generate much distress and tension for the child. They recognise that such “thoughts are senseless, is aware that their own thoughts and that are probably worrying too much about them, but nevertheless feel compelled to tie and get rid of the thoughts, usually doing some sort of compulsion” and OCD is a “very upsetting, distressing disorder and sometimes children feel ashamed and embarrassed by the symptoms of it, often thinking for instance that because they had horrid thoughts means they must be a horrid person”.⁷

The onset of OCD begins in adolescence, although there is evidence that for at least a third of the cases of adult OCD onset was in childhood. For the most part, onset is gradual. Interestingly, about 20-30% of OCD patients report a past history of tics, and approximately 25% of these people meet the full criteria for Tourette’s disorder (DSM-IV).⁸ Conversely, up to 50% of people with Tourette’s disorder develop OCD in their lifetime. On the other hand, the incidence of Tourette’s disorder in OCD is lower, estimates ranging between 5% and 7%. And around 20-30% of individuals with OCD will have exhibited current or past tics (DSM-IV).

In a literature review of the significance of obsessions and compulsions in schizophrenia, McGowan and McIlroy⁹ reported the renewed interest in OCD over the last 15 years, partly attributable to the finding of the Epidemiological Catchment Area Study that identified that OCD was around 40 times more prevalent than originally thought. Researchers became interested in various specific facets of the obsessive compulsive spectrum of disorders as well as OCD including childhood OCD, simple, or classic OCD

and comorbid OCD. They argue that "Hollander¹⁰ listed these disorders as body dysmorphic disorder, hypochondriasis, depersonalization disorder, anorexia nervosa, bulimia nervosa, trichotillomania (pathological hair pulling), pathological gambling, paraphilias, multiple tics syndrome, onychophagia, delusional disorders, Sydenhams chorea, Parkinson's disease, epilepsy and autism. He then expands the list further by including developmental disorders such as Aspergers syndrome". For example, Hollander and Benzaquen¹¹ reported a 37% comorbidity of OCD with body dysmorphic disorder (pre-occupation with aberrations in one's physical appearance).

A major problem for this (and some other areas of psychiatric) research is the reliability of diagnosis. Nelson and Rice¹² examined the stability of diagnosis of OCD in the Epidemiological Catchment Area Study one year temporal stability of National Institute of Mental Health Diagnostic Interview Schedule lifetime diagnosis of OCD. Over 20 000 subjects aged 18 and over were assessed at five different sites and re-interviewed at step 2 (after one year). The temporal stability of diagnosis of OCD was low. For those subjects with a stable diagnosis of OCD they displayed a high rate of both obsessions and compulsions, earlier age of onset, more comorbid anxiety, affective and alcohol abuse/dependence disorders at initial assessment. Overall diagnosis had poor validity, leaving accurate estimates of the true incidence and prevalence unknown.

Grabe *et al.*¹³ reported life-time prevalence rates for OCD of 0.5% for over

4 000 adults. The twelve-month prevalence was 0.39%. Stein *et al.*¹⁴ examined OCD in the community involving a telephone interview initially with 2 261 adults from four areas of Canada. A subsample was re-interviewed and scored obtained on the Yale-Brown Compulsion Scale. The one month prevalence of OCD interviews was 3.1%. Upon clinical reappraisal c. 1 month prevalence estimates of OCD dropped to 0.6% and additional 0.6% had subclinical OCD. One common reason for overdiagnosis may be inappropriate level of worrying or concerns of

obsessions and an overestimation of the degree of distress and/or interference.

Incidence and gender differences

Despite diagnostic reliability problems, Karno *et al.*¹⁵ explored the epidemiology of OCD in five US communities, including over 18 500 subjects. The life-time prevalence was between 1.9-3.3% for OCD diagnosed without DSM-IV exclusion and 1.2-2.4% with such exclusion, rates estimated to be some 25-60 times higher than previously reported.

Valleni-Basile *et al.*¹⁶ studied the incidence, transition probabilities, and risk factors for OCD and subclinical OCD in 3 283 adolescents in a two-stage epidemiological study between 1987 and 1989 in the south-eastern United States. The one-year incidence rates of OCD and subclinical OCD were found to be 0.7% and 8.4%, respectively. Of those with baseline OCD, 17% had the diagnosis of OCD at follow-up; 62% moved to the referent group. Of those with baseline subclinical OCD, 1.5% had OCD at follow-up and 75% moved to the referent group. However, Thomsen¹⁷ in a epidemiological survey of the prevalence of OCD among German children had reported higher figures, comprised between 2.8-4.5%.

Bryfska and Wolafczyk¹⁸ in a Polish study wanted to evaluate the rate and phenomenology of OCD and subclinical OCD in a non-referred population of 3 100 young adolescents. Results revealed an incidence of 0.38% for displaying OCD and of 2.7% for subclinical OCD. There was no significant differences in socio-demographic and socio-familial variables between the diagnosed OCD and clinical OCD subjects. Heyman *et al.*¹⁹ reported prevalence rates for OCD ranging between approximately 0.25% to 4.0%, while Yaryura-Tobias and Neziroglu²⁰ suggest that estimates are manifold higher today than those suggested several decades ago.

Thomsen and Mikkelsen²¹ reviewed all the documents concerning 4 594 non-retarded, non-psychotic patients treated at the Children's Psychiatric Hospital in Risskov, Denmark, as in- or outpatients between 1970

to 1986. Sixty-one children and adolescents (37 boys and 24 girls) fulfilled the DSM-III criteria for OCD indicating that the frequency of OCD in the child psychiatric clientele was only 1.33%. Only 8 of the 61 children were actually discharged with a diagnosis of OCD. Most children were diagnosed as *neurosis infantilis* and about one fifth received a diagnosis of maladjustment.

Epidemiological studies of OCD surveys tend to report a small preponderance of female subjects.²² Furthermore, there is evidence that gender differences vary in relation with the age of onset of the disorder, with a higher prevalence of males pre-pubertally, while females are more likely to be affected post-pubertally.²³ Bridgeman²⁴ showed OCD rates to be around 2-3% in the US population with the average age of onset being 14.5 years. Boys were shown to have earlier onset (peak onset is comprised between 13-15 years of age) than girls (peak onset 20-24 yrs). Niehaus and Stein²⁵ suggest that although research indicate a somewhat higher incidence of OCD among women, the relationship reversed among children, with boys displaying OCD rates outnumbering girls by 2:1. A recent German study carried out on children and adolescents hospitalized in a psychiatric clinic, Kirkcaldy *et al.* reported that 1.2% of the patients were diagnosed as "pure" OCD (Kirkcaldy BD, Siefen RG, Furnham A. Social, family and psychological predictors of obsessive-compulsive behaviour. Submitted).

Related issues: cross-cultural differences and specific content of OCD

Only during the last decade, the prevalence of OCD symptoms in the general population has been found to be remarkably high, though it is not clear why. Previous estimates of 1% have been corrected, as since the 1980s the OCD incidence in the general population of North America exceeded 2%¹⁵ and according to some reports the prevalence rates reached 3%.²⁶ OCD lifetime prevalence is approximately 2% in the United

States, Canada, and Puerto Rico. These findings confirm the figures for Europe and New Zealand. OCD lifetime prevalence worldwide is approximately 1-3%. Epidemiological studies using translated versions of standardised psychometric instruments and carried out in non-Western countries report similar incidence rates, sociodemographic characteristics and clinical phenomenology for OCD as reported among Western nations.²⁶ The estimated number of patients world-wide who suffer from this ailment appears to be at least 50 million.

Ayuso-Mateos²⁷ examined gender prevalence of OCD for various countries in a cross-cultural analysis. The lowest rates for DIS lifetime prevalence were reported in Iceland, and amounted to 0.2% and 1.4% for males and females, respectively (7 times more frequent among females). The highest rate was reported in Canada, 2.8% and 3.1% for males and females, respectively. Finally, in Spain a disproportionate number of males manifested OCD (2.1%), in contrast with females (0.6%). In a cross-national epidemiological study, Weissman *et al.*²⁸ also reported the prevalence of OCD across national and cultural boundaries. They used standardized instruments and diagnostic criteria and reported a prevalence rate of around 2% in all locations (the USA, Canada, Puerto Rico, Germany, Korea and New Zealand) with the exception of Taiwan (0.7% consistent with the overall lower rate of psychiatric morbidity).

Kadri *et al.*²⁹ examined the prevalence of anxiety disorders in a population based, epidemiological study in Morocco. They examined OCD cases for over 15 years. The reported OCD rates were 6.1%, with a high prevalence of women (93.8%). Of these, about a third (29%) manifested obsessions and compulsions, 20.8% obsessions only (mainly religious, contamination and aggressive content) and the remaining half compulsions only (cleaning and washing, checking and repeating).

Thomsen³⁰ in a survey considering over 1 000 Danish pupils, aged 11-17 years, found among them higher scores for obsessional symptoms/traits than those detected among

high school students in the United States, after adjusting for age differences. However, the most frequently reported symptoms were the same: repetitive thoughts or words, troubles making up one's mind and worries about being clean enough.

In an Iranian study by Mohammadi *et al.*,³¹ they used a randomized systematic and cluster sampling and screened some 25 000 subjects. The prevalence rate of OCD in Iran was 1.8% (0.7% for males and 2.8% for females. Gender differences persist even after controlling for demographic differences). The mean age of onset was 21.3 years, with no difference between males and females.

It is never clear, however, whether cross-cultural differences in incidence is a result of real cultural or national differences or methodological issues like sampling, reporting or diagnostic criteria.

Causes of OCD

There are essentially three main models explaining the etiology and treatment of OCD. The traditional psychoanalytic model asserts that compulsions and obsessions are the outcome of a wrestle between aggressive and/or sexual impulses with defence mechanisms which serve to "safeguard" the individual. The method of treatment consists in confronting the source of fear and alleviate the repression so that the specific instinct that has been repressed will be gratified. Since obsessions and compulsions are perceived as defence mechanisms, they are likely to be very problematic to target for treatment. The cognitive-behavioural model considers the compulsions associated with obsessiveness as learned behaviours that have been reinforced by their consequences. For instance, Meyer and Chesser³² have demonstrated reduction of anxiety or fear caused by obsessions. There are other theories about the causes of OCD which include stress and critical adverse childhood events. Treatment of OCD derived from cognitive-behavioural theories entail exposure to whatever situation triggers the anxiety and trying to prevent the ritual or response (*e.g.* exposure to

dirt and then prevent washing immediately after such confrontation). Such treatments have been shown to be very effective. Finally, the biomedical – or psychophysiological – model includes theories such as a genetic link,³³ neurochemical factors³⁴ and brain damage caused by illness or physical injury.³⁵ Therapy modalities derived from this model include psychopharmacological treatment, with some success, and psychosurgery, which is very rarely used.

In a contribution by Abed and Pauw³⁶ an (biopsychological) evolutionary hypothesis for OCD was examined, researchers having hypothesised that OCD is an accentuated variant "of an adaptive strategy that enhanced the reproductive fitness of those humans who possessed this trait over those who did not within their ancestral environment. The fact that the experience of unwanted intrusive thoughts and compulsive rituals are universal phenomena across cultures is consistent with this view.³⁷⁻³⁹ Furthermore, the relatively high lifetime prevalence of OCD of around 2.5% and one-year prevalence of 1.6%³⁹ would argue against the condition being caused by a harmful genetic mutation, but is consistent with it representing the severe end of a potentially adaptive trait,⁴⁰ instead."

Cheng *et al.*⁴¹ explored neurocognitive measures assessing frontal-striatal functions presumably associated with OCD were examined (executive, attention and memory and visuomotor abilities). The obsessive compulsive group revealed deficits in spatial attention (spatial memory) when compared with healthy controls. OCD did not show any cognitive deficits compared to Gilles de la Tourette's syndrome (GTS) group, the latter showing impairment in areas of response inhibition, cognitive flexibility and divided attention compared to healthy controls and compulsive disorder. There is plentiful support for the cognitive models of OCD. Mathews *et al.*⁴² found that those reporting obsessive-compulsive symptoms were associated with heightened responsibility,⁴³ thought action fusion⁴⁴ and metacognitive beliefs.⁴⁵

A multidimensional model of OCD was recently proposed by Mataix-Cols *et al.*,³ since

it seemed that obsessive disorders are phenotypically extremely heterogeneous, despite mental health nomenclatures which regard "OCD as an unitary nosological entity."

It has been proposed that OCD may represent a psychological immune system in which "anxiety and panic are on-line emotional states, designed to generate risk avoidance behaviour as a direct response to the exposure to immediate (real or imagined) dangers, whereas the obsessional system is an off-line process primarily designed to generate harm-avoidance behaviour in response to dangers that may be countered some time in the future".³⁴

There is no reason to suppose that insights from the three theoretical traditions may not be usefully integrated.

Comorbidity and individual differences

Comorbidity is a problem for all diagnoses. Karno *et al.*¹⁴ reported that approximately one-third (30%) of sufferers of OCD also met criteria for a major depressive episode. Barsky⁴⁶ asserted that hypochondriasis and OCD share many features with the preoccupation with fear of being seriously ill coupled with an inaccurate interpretation of somatic symptoms. Fahy *et al.*⁴⁷ showed that around 10% of females patients with OCD had a history of eating disorder (anorexia). Kirkcaldy *et al.*⁴⁸ found that eating disordered adolescents were inclined to be low on externalisation with significant differences on the scale insecurity, depression, compulsiveness and (low) aggression. Anorexia is a manifestation of OCD, anorexics for example display "stereotypic rigid, ritualistic, perfectionistic and meticulous" attributes with an "obsessional concern with food and focus of control" of personality traits.

Sprengelmeyer *et al.*⁴⁹ examined recognition of facial expressions of basic emotions including disgust by sufferers of OCD and with GTS with and without coexistent obsessive-compulsive behaviours (OCB). Both groups with obsessive-compulsive symptoms (OCD, GTS with OCB) revealed impaired recognition of facial expressions of disgust. These difficulties were not observed in oth-

er clinical groups including subjects with panic disorder and generalized anxiety, or for participants with GTS without obsessions or compulsions, suggesting that the insufficiency is intimately related to the presence of obsessive-compulsive symptoms. Individuals exhibiting OCD were able to assign words to emotion categories without difficulty, showing that their problem with disgust is linked to a failure to recognize this emotion in others and not a comprehension or response effect. They argued that the inability to accurately recognise disgust is consistent with the neurology of OCD and with the concept that aberrant experience of disgust may be involved in the genesis of obsessional and compulsive behaviour.⁵⁰

Riemann⁵¹ asserted that the assumption that OCD in childhood and adolescence represents a rare phenomenon, pediatric OCD appears a fairly common condition affecting between 1-4% of young people. It often co-occurs with diverse other disorders.

In the study mentioned before by Kirkcaldy *et al.*²⁵ they applied the concept of a spectrum of disorders using trait compulsivity as a dimension ranging from impulsivity through to compulsiveness. By generating quasi-compulsives (high trait scorers) and comparing these with low trait compulsive individuals they found clear differences. Females were somewhat more likely to be compulsive. High compulsivity was associated with high internalization and externalization scores, personality differences being largest for uncertainty, depression and aggressiveness.

Between 58-80% of children and adolescents with OCD also suffer from at least one other psychiatric diagnosis (30-50% from two or more). Specific comorbid disorder rates vary from study to study. However, the rank order of diagnostic category remains quite consistent with anxiety disorders (*e.g.*, generalized anxiety disorder; 26-75%) and depressive disorders (*e.g.*, major depressive disorder; 25-75%) being the most common followed by disruptive behavioural disorders (*e.g.*, attention deficit, hyperactivity disorder, oppositional defiant disorder; 15-51%) and tic disorders (*e.g.*, tics, Tourette's disorder; 15-32%).

Developmental and intellectual factors

“Natural history studies show that OCD has clinical manifestations that change as time progresses; the number of OCD symptoms gradually increases during childhood and then decreases during late adolescence and early adulthood. OCD is more severe in males where OCD developed before age 10 and in females where OCD developed after age 10. It is controversial if subclinical symptoms of OCD progress to OCD. The debated issue is if subclinical OCD is a stage of development or a level of severity.”⁵²

Obsessive-compulsive behavioral features may be part of normal child development.¹⁶ Ritualised behaviour is quite common among children at around 30 months of age, and appears to decline at the age of three years, tending to disappear at the age of four, when the child becomes more familiar with his/her surroundings.

Roth and Pendergrass⁵³ examined advances in the neurobiology of pediatric OCD. They suggest that 50% of adults with OCD have experienced the onset of the disorder during childhood (retrospective studies have shown that between 30-50% of adults report that their symptoms started in childhood or adolescence.⁵⁴ The prevalence rates are cited as ranging between 0.25-4% for children.¹⁷ Heyman *et al.* reported prevalence rates of 0.25% among 5-15 year-old patients, but found that the prevalence rates rise exponentially with age (0.63% among the 13-15 year-old subjects). Overall, they identified 25 cases of OCD among a sample of some 10 000 children. They claimed that, likely, rates increase significantly from 16 years and over and that among children OCD prevalence is possibly underestimated because children will try and conceal with ailments from parents. Two-thirds of the children had other psychiatric diagnoses, with comorbidity rates being 52% for anxiety disorders, 20% depression, 44% conduct disorders and 4% eating disorders.

Family, socio-cultural functioning and birth order

Investigators interested in social causes of OCD have looked at socialisation and the

possible effects on this disorder. Childhood OCD is related to a dysfunction in social, adaptive and academic functioning.⁵⁵ A previous study,⁵⁶ reported that mean family size of obsessionals was smaller than that of controls. Furthermore first born, male obsessionals were more numerous. Reichenberg⁵⁷ found that among patients affected by autism, mean overall repetitive behaviour was significantly worse among the first-borns than among the second born siblings. Further studies have demonstrated that OCB (and hypertension) is more common among first born children.⁵⁸

Heymann *et al.*¹⁹ reported that children suffering from OCD usually come from larger families and lower income groups, but proportion of male to females is equal.

Steketee and van Noppen⁵⁹ reviewed family constellation of patients including family features of parental attachment, expressed emotion and family accommodating children. This method revealed that the patient perceived negative effects, hostility, emotional overinvolvement and criticism. Conversely, a relative during an interview admitted that the therapy was effective. Family accommodating was associated with a poor family functioning and with more extreme OCD symptoms after treatment. Authors suggested that “emotional overinvolvement and accommodating to OCD symptoms may further reduce patients self-efficacy and coping or problem-solving skills. These features will undoubtedly contribute to state anxiety, avoidance and rituals.”

Health outcome and therapy success

Theories of cause are inexorably related to theories of cure. Numerous studies have been carried out on the efficacy of different “cures” or treatments. In average around three-quarters of patients suffering from OCD who completed the treatment showed an improvement. The therapeutic outcome for those obsessionals without compulsions is significantly worse.⁴³ Currently the Food and Drug Administration has approved three medications for the treatment of OCD among chil-

dren and adolescents: clomipramine, fluoxetine and sertraline. All of these demonstrated to be efficient, but contemporary treatments seem inclined to favor the selective serotonin reuptake inhibitors (SSRIs) over clonipramine due to their reduced side-effects.²⁴

Keijers *et al.*⁶⁰ provided standardized treatment consisting of 18 sessions of *in vivo* exposure and response prevention to 40 patients diagnosed with OCD, using compulsive behaviour and obsessive fear as the outcome variables. Overall, both complaint-related variables such as greater initial severity of symptoms (longer problem duration, higher level of depression, lack of motivation for treatment, and dissatisfaction with the therapeutic relationship) and depression predicted a negative outcome for compulsive behaviour.

Systematic desensitisation has been shown to reduce symptoms in 30% of patients suffering from OCD.⁶¹ Exposure and response prevention (prolonged exposure and strict prevention of using ritualistic behaviour) had, in several controlled studies, consistently revealed that 65-75% of patients undergoing such treatment demonstrated an improvement, which persisted at follow-up.⁶² Mataix-Cols *et al.*⁶³ have suggested in their research that patients with a high hoarding score were more likely to drop-out from a trial and show a lower improvement than non-hoarding OCD patients. Moreover, those who were characterised by high sexual-religious scores tended to respond less well to behaviour therapy. Overall, cognitive behavioural therapy (CBT) appears more effective for patients with contamination/washing, aggression/checking and symmetry/ordering symptoms than for "overt" compulsions.

Tundo *et al.*⁶⁴ examined the efficacy of cognitive behaviour therapy on a sample of pharmacologically resistant SSRIs treatment OCD patients. Overall 42% had much or very much improved as assessed by the clinical global impression improvement scale after a follow-up of 12 months.

In a recent study on child and adolescent psychiatric patients, almost one half (47.3%) of high trait compulsive individuals showed

marked or full improvement and another 40% a slight improvement. Only 12.3% displayed no improvement after treatment.

Steketee and Chambless⁶⁵ explored expressed emotion to BT outcome at one year follow-up with patients suffering from panic attack with agoraphobia and OCD using *in vivo* exposure (and response inhibition). Eleven percent of patients relapsed. Expressed emotions were successful in predicting drop-out and post-test outcomes, but were unrelated to regression after the follow-up. In another study, Rufer *et al.*⁶⁶ reported that patients with hoarding symptoms were significantly less likely to be treatment responders, and those displaying prevalently religious and sexual obsessions were inclined to respond less frequently.⁶⁷

Himle *et al.*⁶⁸ looked at a large sample of patients receiving group exposure and response prevention, and found they showed significantly improved ratings of compulsions, obsessions and depression which was maintained at three month- and long-term follow-up. Treatment outcomes of subjects receiving a 12 week-treatment were not significantly different from those of subjects receiving 7 week-treatment.

O'Kearney *et al.*⁶⁹ evaluated behavioural and cognitive therapies among adolescents suffering from OCD. It was clear that "when combined with medication, BT/CBT produced superior outcome than medication alone, but combining medication BT/CBT does not result in better outcome than CB/BT alone."

Himle *et al.*⁷⁰ examined the role of inferior insight into the treatment response of 60 OCD patients who participated in seven weeks of cognitive behavioural group therapy. After controlling for the confounding effects of pretreatment levels of OCD severity, depression and medical status, those with sufficient insight displayed better post-treatment outcomes than individuals with poor insight.

Soomro⁷¹ found poorer outcome among OCD was best predicted by initial security, depression, duration of ailment, poor motivation, dissatisfaction with therapeutic relationship. Superior treatment outcome was

related to adherence to exposure homework assignment, living in one's own family, employment, no previous treatment, having fear of contamination, overt ritualistic behaviour and depression.

Conclusions

There is a clear indication that therapy success rate for OCD among children and adolescents is relatively good, especially when begun early, hence the need for a relative early adequate screening and identification of the disorder is valuable. The disorder manifests between 1.9-3.0% of children,⁷² a magnitude of prevalence similar to that for adults (1-3%). It is usually slightly more common among females, but to some extent cross-cultural differences may play a role here. Comorbidity is certainly common *e.g.* depression, GTS, eating disorders, and oppositional disorders.

Since there are a complex array of factors implicated in the manifestation of compulsive disorders, the inclusion of cognitive-behavioural therapy as well as family-oriented therapies – especially for children and adolescents – with possible psychopharmacological treatment whenever necessary would seem effective techniques in treatment programmes. Indeed, adolescents may profit from the outpatient care as opposed to the inpatient, hospitalised setting. Future research may benefit from incorporating psychometric measures of individual differences and vary clinical design (*e.g.* in- and outpatient settings) to determine which method of intervention is the most appropriate.

Riassunto

Comportamento ossessivo compulsivo nei bambini e negli adolescenti: una review

I disturbi ossessivo compulsivi (*obsessive compulsive disorders*, OCD) nei bambini e negli adolescenti rappresentano un problema di salute mentale, con un notevole carico di stress personale e di malessere per l'individuo che ne è colpito e con notevoli ripercussioni per la famiglia e i servizi assistenziali, educazionali della comunità. Questo articolo presenta una review della letteratura scientifica circa le

differenze relative al sesso e all'età dei pazienti colpiti da OCD, l'incidenza del disturbo tra la popolazione generale e quella psichiatrica, le comorbidità psicopatologiche, i fattori cognitivi e di sviluppo, le differenze inter-culturali (e gli aspetti specifici), l'eziologia e il mantenimento del disturbo, le influenze familiari, socioculturali e l'ordine di nascita, i tassi di successo terapeutici e il decorso della salute. Gli autori discutono, inoltre, le implicazioni per la ricerca futura.

Parole chiave: Disturbo ossessivo-compulsivo - Bambini - Adolescenti - Personalità - Incidenza - Comorbidità.

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