INSTITUTO DE PSIQUIATRIA - IPUB
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O IMPACTO DOS TRANSTORNOS DE PERSONALIDADE ESQUIZOTÍPICO, *BORDERLINE* E OBSESSIVO – COMPULSIVO NAS CARACTERÍSTICAS SOCIODEMOGRÁFICAS E CLÍNICAS DO TRANSTORNO OBSESSIVO – COMPULSIVO

ISABELA AZEREDO MELCA

Dissertação de Mestrado submetida ao Corpo Docente do Programa de Pós – graduação em Psiquiatria e Saúde Mental – PROPSAM – do Instituto de Psiquiatria da Universidade Federal do Rio de Janeiro, como parte dos requisitos necessários para a obtenção do Grau de Mestre em Psiquiatria.

Orientador: Leonardo Franklin da Costa Fontenelle
Pós – Doutorado

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Janeiro 2015

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Melca, Isabela Azeredo.
O Impacto dos Transtornos de Personalidade Esquizotípico, Borderline e Obsessivo – Compulsivo nas Características Sociodemográficas e Clínicas do Transtorno Obsessivo – Compulsivo/ Isabela Azeredo Melca. Rio de Janeiro: UFRJ/ Instituto de Psiquiatria, 2015.
xi, 90f. : il.; cm..
Orientador: Leonardo Franklin da Costa Fontenelle.
Dissertação (mestrado) - UFRJ/ Instituto de Psiquiatria/ Programa de Pós-graduação Programa de Pós – graduação em Psiquiatria e Saúde Mental, 2015.
Referências: f. 59-68.
1. Transtorno Obsessivo – Compulsivo (TOC). 2. Transtorno de Personalidade. 3. Impacto dos Transtornos de Personalidade no TOC. I. Fontenelle, Leonardo Franklin da Costa. II. Universidade Federal do Rio de Janeiro, Instituto de Psiquiatria, Programa de Pós-graduação em Psiquiatria e Saúde Mental. III. Título.

FOLHA DE APROVAÇAO

O Impacto dos Transtornos de Personalidade Esquizotípico, *Borderline* e Obsessivo – Compulsivo nas Características Sociodemográficas e Clínicas do Transtorno Obsessivo – Compulsivo.

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Rio de Janeiro

2015

DEDICATÓRIA

Aos meus pais Luis e Fátima**,** pelo amor incondicional, pelos ensinamentos, paciência e até pelas brigas,e principalmente a minha mãe, verdadeira guerreira, que sempre me ensinou a não desistir dos meus sonhos. A minha irmã Daniela, modelo de superação, pelo seu amor sem fim.

AGRADECIMENTOS

Ao meu orientador, pela paciência, ensinamentos e confiança no meu trabalho.

A “equipe do TOC”, pela amizade.

Aos pacientes que compartilharam seus medos e sentimentos mais íntimos tornando possível novos aprendizados.

À Renilda Osorio, minha tia, minha companheira de horas boas e difíceis,pelo amor e carinho.

À Norma Caetano Azeredo,minha avó pelo amor e apoio incondicional, luz que me olha e orienta quando estou perdida.

RESUMO

O Transtorno Obsessivo - Compulsivo (TOC) é um transtorno mental crônico, sendo uma das dez principais causas de incapacitação devido ao seu prejuízo sócio - ocupacional. Quando comórbido aos transtornos de personalidade, os pacientes diagnosticados com TOC utilizam mais os serviços de saúde devido a maior gravidade dos sintomas obsessivos–compulsivos, menor resposta terapêutica e menor adesão ao tratamento.O presente estudo visa identificar o impacto dos transtornos de personalidade esquizotípico, *borderline* e obsessivo-compulsivo nas características sociodemográficas e nas manifestações clínicas dos pacientes diagnosticados com TOC. Para realização desse estudo, foram avaliados 110 pacientes com diagnostico de TOC do ambulatório de Pesquisas do Programa de Ansiedade e Depressão do Instituto de Psiquiatria da Universidade Federal do Rio de Janeiro (IPUB). Realizou-se uma análise multifatorial das possíveis características sociodemográficas e correlacionaram-se as características clínicas dos pacientes com transtorno de personalidade**,** diagnosticados com TOC. Os resultados obtidos sugeriram que os transtornos de personalidade eram comorbidades frequentes, alteravam a expressão clínica dos pacientes diagnosticados com TOC e agravavam os sintomas obsessivos–compulsivos uma vez quepacientes com TOC e transtorno de personalidade *borderline* (21,8% da amostra) apresentavam maior gravidade dos sintomas depressivos, ansiosos e obsessivos – compulsivos, além disso demonstravam maior impulsividade motora e não planejada e compulsividade cognitiva; pacientes diagnosticados com TOC e transtorno de personalidade Obsessivo – Compulsiva (20,9% da amostra) apresentavam maior frequência de transtorno de colecionamento e transtorno de humor bipolar e maior gravidade dos sintomas de colecionismo, simetria, compulsividade comportamental e menor impulsividade não planejada; pacientes diagnosticados com TOC e transtorno de personalidade esquizotípica (13,6% da amostra) apresentavam maior gravidade dos sintomas depressivos, maior compulsividade comportamental e menor impulsividade não planejada. O detalhamento do estudo se encontra no artigo **“Correlates of *Borderline,* Obsessive – Compulsive and Schizotypal Personality Disorders in Obsessive- Compulsive Disorder”.**

Palavras – Chaves: Transtorno Obsessivo – Compulsivo; Transtornos de Personalidade; Transtorno de Personalidade Obsessivo – Compulsivo.

ABSTRACT

Obsessive - Compulsive Disorder (OCD) is a chronic mental disorder and one of ten leading causes of disability because of social and occupational impairment. When OCD is comorbid with a personality disorder, patients use more often health services due to greater severity of obsessive – compulsive symptoms, lower therapeutic response and lower treatment adherence. The present study aims to identify the impact of schizotypal, *borderline* and obsessive- compulsive personality disorders in socio-demographic and clinical features of OCD patients. To conduct this study, we evaluated 110 OCD outpatients from the Anxiety and Depression Research Programme of the Institute of Psychiatry of the Federal University of Rio de Janeiro (IPUB). We conducted a multifactorial analysis of the possible socio-demographic characteristics and correlated the clinical features of patients with personality disorders diagnosed with OCD. The results suggest that personality disorders were frequent comorbidities, alter the clinical expression of patients diagnosed with OCDand are associated with increased the severity of obsessive – compulsive symptoms since ocd and *borderline*patients (21.8% of the sample) showed increased severity of depression, anxiety and obsessive-compulsive symptoms, more motor and non-planning impulsivity and greater cognitive compulsivity; patients diagnosed with OCD and obsessive – compulsive personality disorders (20.9% of the sample) exhibited higher rates of hoarding and bipolar disorders and increased severity of hoarding, symmetry, more behavioural compulsivity and less non-planning impulsivity; OCD and schizotypal personality disorders patients (13.6% of the sample) showed increased severity of depression symptoms, greater behavioural compulsivity and lower non-planning impulsivity. The details of this study is found in the article**"Correlates of *Borderline,* Obsessive – Compulsive and Schizotypal Personality Disorders in Obsessive- Compulsive Disorder".**

Key Words: Obsessive – Compulsive Disorder; Personaliy Disorders; Obsessive-Compulsive Personality Disorders

SUMÁRIO

LISTA DE ANEXOS

Na lista de anexos**,** encontra-se o único instrumento utilizado nesta dissertação que não está publicado, ou seja, não está ao alcance de todos**,**e o artigo escrito pela aluna durante o estágio probatório.

1. INTRODUÇÃO

Este estudo faz parte da linha de pesquisa de Transtornos do Espectro Obsessivo-Compulsivodo Programa de Ansiedade e Depressão do Instituto de Psiquiatria da Universidade Federal do Rio de Janeiro (IPUB – UFRJ). Entre os objetivos dos estudos realizados nessa Linha de Pesquisa está a produção de conhecimento para melhor atendimento dos pacientes diagnosticados com Transtorno Obsessivo–Compulsivo (TOC) e demais transtornos de seu espectro.

Os critérios operacionais mais atuais para o diagnóstico do TOC foram definidos pelo Manual Diagnóstico e Estatístico de Transtornos Mentais, 5. Ed. (DSM – 5). O TOC é caracterizado por obsessões, compulsões e,na maioria dos casos, é comum a presença de ambas, que causam prejuízo ao funcionamento sócio-ocupacional (APA, 2013). As compulsões e as obsessões não são secundárias a outras doenças psiquiátricas, nem resultam do uso de substâncias, ou ainda de uma condição médica geral. Além do mais, elas devem ocupar o indivíduo pelo menos uma hora por dia e causar-lhe desconforto importante.

As obsessões, pensamentos, imagens ou impulsos, sãoreconhecidas como egodistônicas. São recorrentes e persistentes, intrusivas e involuntárias e ocasionam ansiedade ou sofrimento. Em resposta a essasobsessões, o indivíduo, muitas vezes, é compelido a realizar comportamentos repetitivos ou atos mentais, as compulsões. As compulsões podem ser rituais comportamentais (por exemplo: lavar, checar) ou mentais (por exemplo: contar, repetir palavras silenciosamente). As compulsões têm, como finalidade, tentar neutralizar ou diminuir a ansiedade e, muitas vezes,também tentam prevenir um evento temido.Tanto as obsessõesquanto as compulsões são identificadas como excessivas e irracionais, ocupam boa parte do tempo do indivíduo e interferem na sua rotina diária, no funcionamento ocupacional e nos relacionamentos sociais (APA,2013; GRANT et al., 2014; BLOM et al.,2011; GRISHAM et al.,2011).

O Transtorno Obsessivo-Compulsivoé a quarta doença psiquiátrica mais comum entre os pacientes e tema prevalência de até 3,1% na população geral (GRANT et al., 2014; FONTENELLE & HASLER, 2008). Entretanto, essa prevalência pode variar consideravelmente entre os estudiosos, devido às limitações metodológicas e às inconsistências entre os diagnósticos clínicos utilizados (RUSCIO et al.,2010).

Com relação ao gênero, meninos apresentam início da sintomatologia obsessivo –compulsiva mais precoce do que meninas, e são mais propensos à comorbidade com tiques (NARAYANASWAMY et al., 2012; APA, 2013). Entretanto, o TOC acomete igualmente homens e mulheres, e a idade de seu início apresenta distribuição bimodal. Em alguns indivíduos, inicia-se na infância, aproximadamente aos 10 anos e, em outros, durante a adolescência ou quando já adulto jovem, aproximadamente aos 21 anos (MATHIS et al., 2011; GELLER et al., 2006). Raramente, o TOC se inicia após os 30 anos de idade (GRANT et al., 2014; APA, 2013).

A etiologia do TOC ainda continua pouco compreendida (GRANT et al., 2014):quando se iniciana infância, a hereditariedadeé estimada como responsável entre 45% a 65% da variável; quando o início se dá na adolescência ou na vida adulta, a hereditariedade é estimada de 27% a 47% (VAN GROOTHEEST et al., 2005).Em pacientes com TOC de início precoce, os parentes de primeiro grau são 10 vezes mais diagnosticados com este transtorno (APA, 2013).

Outras prováveis causas etiológicas do TOC seriam a hiperatividade do córtex órbitofrontal e do núcleocaudado, assim como alterações funcionais ou estruturais do córtex cingulado anterior, tálamo, amígdala e córtex parietal (GRANT et al., 2014; MILAD & RAUCH et al., 2012; PIRAS et al., 2013). Estudos neuropsicológicos mostraram também que pacientes diagnosticados

com TOC apresentam déficits nas habilidades cognitivas relacionadas às funções executivas, impulsividade motora e inflexibilidade cognitiva (GRANT et al., 2014).

Pela 10ª Classificação Internacional das Doenças (CID–10), o TOC é considerado um transtorno ansioso (OMS, 1993). Entretanto, de acordo com o 5º. Manual Diagnóstico e Estatístico dos Transtornos Mentais (DSM – 5), o TOC não pertence mais aos transtornos ansiosos, sendo incluído no capítulo dos - Transtornos Obsessivos Compulsivos e Transtornos Relacionados. Esse capítulo é composto pelo TOC, os transtornos dismórficos corporais, colecionamento, tricotilomania, escoriação (*skinpicking*), TOC e os transtornos relacionados**,** induzidos por substâncias e medicamentos, devido a outras condições médicas e a outros transtornos obsessivos-compulsivosnão especificados (APA, 2013).

O TOC pode ser considerado um transtorno heterogêneo, seja pela sua sintomatologia ou pelo *insight* sobre os sintomas (FONTENELLE et al.,2010; JAKUBOVSKI et al.,2011; McKAY&ANDOVER,2012).Os conteúdos das obsessões e compulsões variam entre os pacientes, porém certas dimensões são mais comuns do que outras, tais como as de contaminação e lavagem, simetria, ordenação e arranjo, checagem, obsessões e colecionismo (APA, 2013; McKAY & ANDOVER,2012; VICTORIA & FONTENELLE, 2010). A dimensão das obsessões inclui os pensamentos, imagens ou impulsos repetitivos com conteúdo agressivo, religioso, sexual ou somático. É comum haver sintomas em mais de uma dimensão (APA, 2013).

No DSM – IV – TR, o colecionismo, quando grave, era correlacionado como um sintoma do TOC; quando de leve a moderado, era um sintoma do transtorno de personalidade obsessivo–compulsivo. Provavelmente, essa correlação era feita com base na ideia de que o TOC e o transtorno de personalidade obsessivo–compulsivo tinham a mesma etiologia ou pertenciam ao mesmo *spectrum*

(FONTENELLE & GRANT, 2014). Atualmente, apesar de o colecionismoainda ser considerado tanto um sintoma do TOC, como do transtorno de personalidade obsessivo–compulsivo (FROST et al.,2011; FONTENELLE &GRANT,2014), no DSM – 5, o transtorno de colecionamento foi considerado uma nova entidade diagnóstica, caracterizadopela aquisição excessiva e pela dificuldade de descartar bens independente do valor de cada um deles, o que resulta em espaços “entulhados” (APA, 2013).

As principais diferenças entre o transtorno de colecionamento para o colecionismo secundário ao TOC sãode que o pensamento, no transtorno de colecionamento, é menos intrusivo, associado à baixa ou à ausência de *insight*, e as compulsões geram prazer ou sensação de recompensa (FONTENELLE & GRANT, 2014). Com relação aos transtornos de personalidade, o colecionismo, como sintoma, parece estar presente não somente no transtorno de personalidade obsessivo–compulsivo, mas também no paranóide, esquizotípico e evitativo. Excluir os critérios de colecionismo e de avareza dos critérios diagnósticos do transtorno de personalidade obsessivo–compulsivo parece aumentar a validade do diagnóstico do transtorno de personalidade obsessivo–compulsivo (FONTENELLE & GRANT, 2014).

Os critérios diagnósticos mais atuais para Transtorno de Personalidade foram definidos pelo Manual Diagnóstico e Estatístico de Transtornos Mentais, 5ª. Edição (DSM – 5). Os transtornos de Personalidade são considerados como padrões duradouros de vivências íntimas ou comportamentos que se desviam das expectativas da cultura do indivíduo. São invasivos, inflexíveis e também mal-adaptativos. Têm início na adolescência ou no começo da idade adulta, são estáveis ao longo do tempo eacarretam sofrimento ou prejuízo. Esses padrões devem se manifestar em pelo menos duas áreas,sejam elas as de cognição, afeto, relações interpessoais ou controle dos impulsos (APA,2013).

Os Transtornos de Personalidade são incluídos na Seção II e III do DSM – 5. A Seção II; constituem uma atualização dos critérios propostos pelo DSM – IV – TR, enquanto a Seção III inclui o modelo de pesquisa proposto para o diagnóstico dos transtornos de personalidade (APA, 2013).

Os transtornos de personalidade são agrupados em 3 gruposde acordo com as suas similaridades. O grupo A inclui os transtornos de personalidade paranóide, esquizóide e esquizotípico, e as principaiscaracterísticas desse grupamento são a excentricidade e a estranheza. O grupo B inclui as personalidades *borderline*, antissocial, histriônica e narcisista. As pessoas deste grupamento**,**geralmente**,**são emocionais, dramáticas e erráticas. O grupo C inclui as personalidades esquiva, dependente e obsessivo-compulsiva, e os indivíduos geralmente são ansiosos e medrosos (APA, 2013). Os grupamentos A e B demonstram resposta pobre ao tratamento quando comparados ao C (FRIBORG et al.,2013).

Os resultados da pesquisa epidemiológica nacional com álcool sugeriram que 15% da população adulta americana possui pelo menos um transtorno de personalidade, e écomum que coocorram com outros transtornos de personalidade. Além disso, pacientes diagnosticados com transtornos de personalidade possuem maior vulnerabilidade para desenvolver outro transtorno psiquiátrico (FRIBORG et al.,2013). Os pacientes diagnosticados com transtorno de personalidade acarretam maior ônus econômico para o sistema de saúde do que**,**por exemplo**,** os pacientes com depressão e ansiedade (SOETEMAN et al.,2008).

O transtorno de personalidade esquizotípico é caracterizado pelo déficit social e interpessoal, distorções cognitivas e comportamento excêntrico. Podem ocorrer ideias de referência, pensamentos mágicos, mas não delírios. Esses indivíduos tendem a ser supersticiosos e podem apresentar discurso incomum, comportamento esquisito ou inadequado para as convenções sociais.

Geralmente procuram tratamento para sintomas ansiosos ou depressivos associados. A prevalência desse transtorno é de aproximadamente 3% da população, e ocorre principalmente em homens (APA, 2013; GENG et al.,2013).

A característica principal do transtorno de personalidade antissocial é o desrespeito e a violação dos direitos dos outros, que se inicia na infância ou no começo da adolescência e continua na vida adulta. Psicopatia e sociopatia costumam ser sinônimos desse transtorno. Os antissociais podem enganar e manipular, tendem a ser impulsivos, irritadiços, agressivos e não demonstram arrependimento por seus atos. É comum a comorbidade do transtorno de personalidade antissocial com transtornos ansiosos, depressivo, abuso de substância e de controles do impulso (APA,2013).

O transtorno de personalidade *borderline* (TPB) é caracterizado por um padrão de instabilidade nos relacionamentos interpessoais, na autoimagem e no afeto. Indivíduos com TPB podem ser impulsivos, e, geralmente, essa impulsividade é expressa em áreas, como as definanças, sexo, comida, direção imprudente e abuso de substâncias (APA, 2013). Estudos epidemiológicos indicam que o TPB afeta cerca de 1% a 5,9% da população (LEICHSENRING et al.,2011; MAUREX et al.,2010).

O transtorno de personalidade obsessivo–compulsivo (TPOC) possui como principais características a preocupação com a organização e o perfeccionismo. Pessoas diagnosticadas com esse transtorno de personalidade dedicam-se excessivamente ao trabalho, são conscienciosas, escrupulosas e inflexíveis com questões morais, éticas ou de valores; a dificuldade em descartar objetos também pode se fazer presente. O TPOC é um dos transtornos de personalidades mais prevalentes de todos, afetando aproximadamente de 2,1% a 7,9% da população; sendoque, nos homens**,** é duas vezes mais comum. (APA, 2013).

As comorbidades são importantes na prática clínica, uma vez que podem dificultar o diagnóstico do TOC e aumentar o sofrimento, o comprometimento e o risco de suicídio dos pacientes, ou seja**,** tornam mais grave o transtorno. Além disso, quando existe comorbidade**,** é necessário abordagens terapêuticas mais complexas e, mesmo assim**,**os pacientes podem apresentar pior resposta ao tratamento (TORRES et al., 2013).

A presença de comorbidades em pacientes diagnosticados com TOC costuma ser mais regra do que exceção. Isso provavelmente ocorre pelo fato de o TOC aumentar a vulnerabilidade aos demais transtornos psiquiátricos e aos fatores etiológicos comuns entre o TOC e suas comorbidades (TORRES et al., 2013; LOCHNER et al., 2011; NESTADT et al., 2009).

Quando a comorbidade ocorre com um transtorno de personalidade, o tratamento torna-se mais complexo, devido àmenor resposta terapêutica e aadesão diminui ao tratamento, do que quando a comorbidade coexiste com outro transtorno mental (TORRES et al., 2013; FRIBORG et al.,2013; ANSELL et al.,2011). O grau de comprometimento psicossocial também depende do tipo de transtorno de personalidade comórbido (FRIBORG et al.,2013; ANSELL et al.,2011). Ocomprometimento psicossocial é maior entre pacientes com transtorno de personalidade esquizotípico e *borderline* do que entre pacientes com TPOC ou personalidade esquiva(SKODOL et al., 2002).A prevalência da associação entre os transtornos de personalidade e o TOC varia entre 32% a 86% (PENA- GAJIDO et al., 2013; WETTERNECK et al.,2011; MATSUNAGA et al., 2005). Além disso, mais de 50% dos pacientes diagnosticadoscom TOC possuem mais de um transtorno de personalidade comórbido (FRIBORG et al., 2013; TORRES et al.,2006).

O Transtorno de Personalidade Esquizotípico (TPE) é um dos transtornos de personalidade mais prevalente no TOC. Em estudos realizados**,** a prevalência desse transtorno variou de 0% a 50 % (HUANG et al., 2011; TORRES et al.

2006; POYUROVSKY & KORAN, 2005). Os dados ora referidosreforçam a associação entre TOC e sintomas do *spectrum* esquizofrênico (YAMAMOTO et al.,2012; TORRES et al.,2006).

Pacientes com TOC comórbido ao TPE apresentam curso mais deteriorante e pior prognóstico quando comparados aos pacientes com diagnóstico somente de TOC, uma vez que a resposta ao tratamento farmacológico e à terapia comportamental são pobres (BRAKOULIAS et al., 2014;POYUROVSKY et al., 2008; POYUROVSKY & KORAN,2005). Além do mais, pacientes com TOC e TPE possuem menos insight, início mais precoce do TOC, maior gravidade dos sintomas obsessivos–compulsivos, maiscompulsões de contagem, histórico de fobia específica e são**,** na maioria**,** homens (BRAKOULIAS et al., 2014;POYUROVSKY et al., 2008;POYUROVSKY & KORAN,2005).

Testes com sensibilidade para performance do córtex pré-frontal, dorsolateral e orbitofrontal apresentaram respostas pobres nesses pacientes, o que demonstra maior disfunção executiva (BRAKOULIAS et al., 2014). As altas pontuações no Questionário Obsessivo- Compulsivo nos domínios cognitivos sugeriram que os pacientes com TOC comórbido ao TPE apresentavam crenças mais fortes com a temática responsabilidade/medo/perfeccionismo/incerteza e importância em controlar os pensamentos (BRAKOULIAS et al., 2014; POYUROVSKY & KORAN,2005).

O TOC e os transtornos do controle dos impulsos (TCI), originalmente, representariam lados opostos de um *continuum* de comportamentos persistentes e mal-adaptativos. O primeiro buscaria evitar o dano, e o segundo procuraria sensações e comportamentos de risco (KASYAP et al., 2012; FINENBERG et al.,2010). Esse *continuum* impulsivo-compulsivo seria devido à compulsividade e à impulsividade que envolveriam comportamentos repetitivos, além da inabilidade em postergar ou inibir esses comportamentos. Transtorno de Personalidade *Borderline* (TPB) se encontraria no lado impulsivo desse*continuum* (HUH et al.,2013).

Sabe-se que a compulsividade dos pacientes com TOC e a impulsividade dos transtornos de personalidade do grupamento B envolvem um aumento da tensão antes da realização do comportamento repetitivo, bem como a diminuição da ansiedade após sua execução (HUH et al.,2013). Pacientes diagnosticados com TOC e com comorbidade de TPB apresentam mais comportamentos impulsivos – agressivos e maior prejuízo do funcionamento global (NEWTON – HOWES et al., 2010; MATSUNAGA et al.,2005).

Apesar da confusão causada pela terminologia, até pouco tempo, o Transtorno de Personalidade Obsessivo–Compulsivo (TPOC) era considerado como precursor do TOC (STARCEVIC et al.,2013). Embora ambos os transtornos sejam considerados como transtornos separados, pertencentes a capítulos distintos no DSM – 5, existe uma sobreposicão entre eles (STARCEVIC et al., 2014; EISEN et al.,2006). A distinção entre TPOC e TOC parece não estarmuito bem definida.Sugere-se, por consequência, que a principal diferença sejam as características egodistônicas do TOC, as obsessões e compulsões que causam ansiedade e sofrimento,as egosintônicas no TPOC,cujos sintomas são congruentes com os desejos do indivíduo (TAYLOR et al., 2011), ou seja, a principal diferença entre os transtornos seria o sofrimento dos pacientes com TOC (PINTO et al., 2014; FINEBERG et al., 2007).

A relação entre TPOC e TOC ocorre particularmente pelo perfeccionismo, colecionismo e preocupação com detalhes. O exposto sugere que o TPOC, como é definido pelo DSM – 5, não seja condição prévia para desenvolvimento do TOC, porém o diagnóstico de TOC aumenta aprobabilidade de o TPOC estar presente (EISEN et al., 2006). Estudos demonstram que a prevalência de TPOC em pacientes diagnosticados com TOC varia de 15% a 25% (WU et al., 2006: PINTO et al., 2006; GARYFALLOS et al., 2010). Essa variação pode ocorrer**,** pois alguns sintomas do TOC podem se sobrepor às características do TPOC. É possível também que algumas características desse transtorno de personalidade reflitam a sintomatologia do TOC, devido a uma descrição distintiva pobre entre os dois transtornos (TORRES et al., 2006).

Estudos genéticos correlacionaram oTOC com o TPOC. Frequências maiores de TPOC foram encontradas em parentes de primeiro grau de pacientes com TOC. Outro estudo demonstrou que o TPOC é duas vezes mais frequente em parentes de pacientes diagnosticados com TOC (GARYFALLOS et al., 2010; CALVO et al.,2009). Perfeccionismo, neuroticismo, ansiedade, vulnerabilidade ao estresse, preocupação com detalhes e colecionismo são as principais características demonstradas por esses parentes(CALVO et al., 2009).

Estudos comparativos demonstram que**,** nos pacientes com TOC e TPOC, o primeiro sintoma obsessivo–compulsivoocorre mais cedo e que o TOC é de início precoce e insidioso. Esses pacientes também apresentam mais sintomas obsessivos–compulsivosrelacionados ao perfeccionismo, maior propensão às obsessões de simetria, ordem, dúvidas e acumulação. Com relaçãoàs compulsões, as mais prevalentes foram as de checagem, limpeza e verificação. A gravidade das compulsões émaior,quanto maior for aegossintonia e menor a resistência à realizaçãodessas(GORDON et al., 2013; GARYFALLOS et al., 2010; COLES et al.,2008).

Os pacientes diagnosticados com TOC e TPOC possuem maior número de comorbidades com transtornos do humor e ansiosos (GORDON et al.,2013; LOCHNER et al.,2011). Os sintomas obsessivos–compulsivossão mais incapacitantes, assim como o prejuízo funcional avaliado pela avaliação global de funcionamento quando comparados a pacientes que apresentem somente o diagnóstico de TOC (STARCEVIC et al., 2014; GORDON et al., 2013; PINTO et al., 2011; GARYFALLOS et al., 2010; COLES et al.,2008). Além disso, esses pacientes possuem menor consciência de morbidade, procuram menos tratamento e demoram mais para estabelecer elos terapêuticos; apresentam também pior resposta terapêutica seja com medicamentos, seja com terapia cognitivo comportamental (STARCEVIC et al., 2013; GORDON et al., 2013; PINTO et al., 2011; LOCHNER et al., 2011).

2. JUSTIFICATIVA

O TOC é um transtornomental crônico, sendouma das dez principais causas de incapacitação devido às importantes disfunções social e ocupacional (GRISHAM et al.,2011;HOLLANDER et al., 1997; SIBRAVA et al.,2011). Os transtornos de personalidade afetam o início, a gravidade e o prognóstico de outras doenças (OKASHA et al., 1996; ANSELL et al.,2011). Geralmente a comorbidade com os transtornos de personalidade pioram o prognóstico mesmo quando ocorre o tratamento adequado (OKASHA et al.,1996; ANSELL et al.,2011).

O desenvolvimento de pesquisas sobre a comorbidade entre o TOC e os transtornos de personalidade se justificam pela elevada prevalência dessa associação, que varia de 32% a 86% (PENA- GAJIDO et al., 2013; WETTERNECK et al.,2011; MATSUNAGA et al., 2005) Além do mais, esses pacientes apresentam sintomatologia obsessivo - compulsiva mais grave (BAER et al.,1992), pior funcionamento geralmedido pela avaliação global de funcionamento (SKODOL et al.,1995; BAER et al.,1992) e utilizam mais os serviços de saúde (ANSELL et al.,2011) quando comparados aos indivíduos sem transtorno de personalidadecomórbido.

Até a presente data, poucos estudos tentaram caracterizar as características sociodemográficas de pacientes diagnosticados com TOC e com transtorno de personalidade, bem como correlacionar clinicamente os diferentes transtornos de personalidade em pacientes diagnosticados com TOC. Os poucos estudos que correlacionaram TOC a transtornos de personalidade enfatizaramum único tipo de transtornode personalidade, e os mais frequentemente estudados foram os transtornos de personalidade obsessivo–compulsivo (GORDON et al., 2013; STARCEVIC et al., 2013; LOCHNER et al., 2011; GARYFALLOS et al., 2010; COLES et al., 2008; EISEN et al., 2006; DIAFERIA et al., 1997) e o esquizotípico

(BRAKOULIAS et al., 2014; HUANG et al., 2011;POYUROVSKY et al., 2008; TALLIS & SHAFFRAN, 1997).

Para melhor entendimento da consequência do TOC na saúde pública, torna-se necessário avaliar de forma rigorosa as implicações de sua gravidade clínica e de suas comorbidades psiquiátricas (RUSCIO et al.,2010), bem como, ampliar os conhecimentos das manifestações do TOC em associação com os transtornos de personalidade através de estudos que viabilizem um detalhamento entre essas comorbidades e a possibilidade da alteração de seu fenótipo.

3. OBJETIVOS

O presente estudo visa identificar o impacto dos transtornos de personalidades esquizotípico, *borderline* e obsessivo-compulsivo nas características sociodemográficas e nas manifestações clínicas dos pacientes diagnosticados com transtorno obsessivo–compulsivo. Além do mais, buscou-se aferira prevalência desses transtornos de personalidadeem pacientes diagnosticados com TOC.

4. O ARTIGO

Notam-se diversas lacunas na literatura sobre a comorbidade entre os transtornos de personalidade e o TOC. Até a presente data, poucos estudos tentaram esclarecer ou caracterizar as correlações sociodemográficas e clínicas entre os diferentes transtornos de personalidade e o TOC.

Geralmente, os estudos enfatizam um único transtorno de personalidade. Os mais frequentemente estudados são os transtornos de personalidade obsessivo –compulsivo (GORDON et al., 2013; STARCEVIC et al., 2013; LOCHNER et al., 2011; GARYFALLOS et al., 2010; COLES et al., 2008; EISEN et al., 2006; DIAFERIA et al., 1997) e o esquizotípico (BRAKOULIAS et al., 2014; HUANG et al., 2011;POYUROVSKY et al., 2008; TALLIS & SHAFFRAN, 1997). Considera-se esse procedimento uma limitação, uma vez que os indivíduos podem preencher critérios diagnósticos para mais de um transtorno de personalidade (SANISLOW et al., 2009).

O interesse para elaboração deste artigo partiu da observação de que os indivíduos podem ser diagnosticados com mais de um transtorno de personalidade (SANISLOW et al., 2009),e do não conhecimento de algum estudo que investigasse a correlação entre o transtorno de personalidade *borderline* e o TOC. Logo, o artigo "***Correlates of Borderline, Obsessive – Compulsive and Schizotypal Personality Disorders in obsessive-compulsivedisorder***"busca examinar as características sociodemográficas e correlacionar as características clínicas dos pacientes com transtorno de personalidade segundo os critérios de SKODOL et al. (2011)nos pacientes diagnosticados com TOC.

Word count:3544

Number of tables: 4

Number of references: 72

The correlates of borderline, obsessive-compulsive, and schizotypal personality disorders in obsessive-compulsive disorder

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Running title: Personality disorders in OCD

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ABSTRACT

Background: The impact of personality disorders (PDs) in obsessive-compulsive disorder (OCD) phenotype is still uncertain.

Methods: We assessed correlates of *borderline* personality disorder (BPD), obsessive-compulsive personality disorder (OCPD) and schizotypal personality disorder (SPD) in 110 OCD patients with diagnostic interviews for PDs and co-occurring psychiatric disorders and self-report instruments for OCD symptoms, severity of depression, anxiety, and *borderline* features and degree of impulsivity and compulsivity.

Results: OCD patients with BPD (21.8%) displayed lower education, *higher* rates of specific mood, anxiety, eating, and impulsive disorders, greater frequency of compulsions involving interpersonal domains (e.g. reassurance seeking), increased severity of depression, anxiety, and specific OCD symptoms, more motor and non-planning impulsivity, and greater cognitive compulsivity. Patients with OCD and OCPD (20.9%) exhibited *higher* rates of hoarding disorder, bipolar disorder, and specific phobia, greater frequency of OCD symptoms involving morality (i.e. taboo thoughts), increased severity of hoarding and symmetry, more behavioral compulsivity, and less non-planning impulsivity. Finally, OCD patients with SPD (13.6%) had higher rates of bipolar disorder, increased severity of depression, and specific OCD symptoms, greater prevalence of "low-order" repetitive behaviors (e.g. touching other people), lower non-planning impulsivity, and greater behavioral compulsivity.

Conclusion: These finding highlights the importance of assessing PDs in OCD.

Key-words: Obsessive-compulsive disorder; personality disorders; *borderline* personality disorder; obsessive-compulsive personality disorder; schizotypal personality disorder; antisocial personality disorder.

INTRODUCTION

The DSM-5 defines personality disorder (PD) as "an enduring patter of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and lead to distress or impairment" [1]. Although several studies have shown that patients with obsessive-compulsive disorder (OCD) display an increased prevalence of several PDs in clinical [2] and epidemiological settings [3], it is unclear whether PDs or associated traits predispose to, or are a consequence of OCD. One study found that individuals with mixed avoidant, compulsive and dependent features were more likely to have a longer duration of illness. This suggests that lifestyle changes secondary to OCD might end up misshaping and disarranging the personality structure of OCD patients who had no premorbid PDs [4]. The mitigation of PD traits after successful treatment of OCD has been seen as an evidence supporting the later hypothesis[5]. Other studies suggest that the rates of specific PDs in OCD do not *differ from those seen in* other anxiety disorders [6, 7].

Despite the long-standing discussion of the primary vs. secondary nature of PDs in OCD, very few studies have attempted to clarify or characterize the socio-demographic and clinical correlates of different PDs in OCD. In general, these studies typically focus on a single PD, most frequently obsessive-compulsive [8-14] or schizotypal PDs [15-17]. This limited focus ignores the fact that in several cases, individuals may fulfill diagnostic criteria for more than one PD at any given time. For instance, schizotypal (SPD), *borderline* (BPD) and obsessive-compulsive personality disorders (OCPD) tend to increasingly co-occcur as the patients' illness progresses [18]. Consequently, it is important to investigate the correlates of these

PDs in the same sample. Importantly, despite BPD's substantial prevalence, significant disability, disturbing risk of suicide, increased levels of treatment seeking, and major economic burden [19], we are also not aware of any study to date that has investigated the correlates of BPD in OCD.

In this study, we examined the socio-demographic and clinical correlates of a sample of PDs judged by Skodol and colleagues [20] to be associated with the most extensive empirical evidence of validity and clinical utility, namely SPD, BPD, and antisocial (APD) PDs. Given its importance to the field of obsessive-compulsive and related disorders, OCPD was also included as a variable of interest. The above-mentioned PDs are also recognized to be the representatives of each personality cluster, namely SPD (cluster A), AS/BPD (cluster B), and OCPD (cluster C) [1]. Therefore, the selected PDs represent a series of conditions covering a substantial range of the entities described as PDs in the DSM system.

Broadly speaking, we predicted that OCD patients with personality disorders would be characterized by earlier onset, increased severity of symptoms and lower socio-economic status. More specifically, based on the existing literature, we hypothesized that: (i) OCD patients with SPD will exhibit an earlier age at OCD onset [21, 22], increased rates of hoarding [23] and other "low-order" OCD symptoms (such as superstitious behaviors or need to touch and/or rub) [23, 24], and greater impulsivity [25] and compulsivity [26]; (ii) patients with BPD will display earlier OCD onset age [27-29], greater rates of mood, anxiety, eating, and impulse control disorders [30], increased frequency of OCD symptoms involving some sort of interpersonal interaction (e.g. reassurance seeking) [31], and higher impulsivity [32] and compulsivity levels [33]; (iii) patients with OCPD will exhibit an earlier OCD onset age [34], higher rates of hoarding and symmetry symptoms [34], decreased impulsivity and increased compulsivity levels [35], and finally (iv) patients with APD will exhibit decreased rates of scrupulous obsessions (e.g. unacceptable religious or sexual thoughts) or compulsions (e.g. need to confess or to be reassured) [36], increased impulsivity levels and, due to its exclusionary criteria

[1], reduced rates of kleptomania [37] but increased rates of other impulse control disorders [1].

METHODS

One hundred ten OCD patients who sought treatment at a university clinic for anxiety and obsessive-compulsive spectrum disorders were included in this study. Inclusion criteria were a diagnosis of primary OCD according to DSM-IV-TR criteria, age between 18 and 60 years and being able *to* read and fill out forms. Patients were considered to have primary OCD if obsessive-compulsive symptoms were the most clinically significant ones as compared to other co-occurring conditions. Whenever this was not the case, patients were not included in the study and were referred to treatment in another specialized clinic (e.g. mood disorders clinic, substance abuse or rehabilitation units, and inpatient facilities). The procedures involved in this research protocol were fully explained to patients, who signed an informed consent before being included in the study. The protocol was approved the local ethics committee.

Participants were assessed with a specially designed socio-demographic questionnaire, interviews for the diagnosis of PDs (the Structured Interview for DSM-IV Personality) [38] and co-occurring psychiatric disorders (the Structured Clinical Interview for DSM Disorders [39] and the Structured Interview for Hoarding Disorder [40]), and self-report instruments to evaluate OCD symptom profiles (Florida Obsessive-Compulsive Inventory [41]), severity of depression (Beck Depression Inventory [42]), anxiety (Beck Anxiety Inventory [42]), *borderline* (*Borderline* Evaluation of Severity Over Time [43]), and obsessive-compulsive symptoms (Yale-Brown Obsessive-Compulsive Scale [44, 45]) and dimensions (Obsessive-Compulsive Inventory-Revised [46]), and the degree of impulsiveness (Barratt Impulsiveness Scale [47], and compulsiveness (Grattan Compulsivity Scale). One specially trained psychiatrist (IAM) conducted all clinician-administered interviews, including the SIDP, the SCID, and the SIHR. Only SPD, APD, BPD and

OCPD had their presence/absence assessed with the SIDP (which did not counted hoarding as a criterion for OCPD, as recommended by Mataix-cols et al [48]).

While the instruments included in our assessment package are all well known in research settings, we have developed the Grattan Compulsivity Scale (GCS) with the specific aim of assessing the severity of traits underlying obsessive-compulsive and related disorders, behavioral and substance addictions, and other disorders characterized by excessive and/or impulsive-compulsive behaviors. More specifically, the CGS is a 10-item self-report likert scale that addresses what we have preliminarily termed "cognitive" and "behavioral" compulsivity, i.e. the experience of being overwhelmed by symptoms (e.g. "I get stuck on one thought") or to display more specific OCD-related traits (e.g. "I am a rigid person"). Patients rate each item on a dimension ranging from 0 (never/rarely) to 4 (never/almost ever); preliminary analyses in non-clinical populations have confirmed this GCS two-factor solution (data not published). We compared patients with and without specific PDs using chi-square and Fisher's exact test for categorical variables and Student's T test or Mann-Whitney U test depending on the normality of distribution. The adopted level of significance was 0.05.

RESULTS

Our sample included 55 (50%) female subjects. Patients had a mean age of 39.4 (SD: 12.5) years. Participants came from different ethnic backgrounds, including 84 (76.4%) white, 16 (14.6%) mixed ancestry, and 10 (9.1%) black individuals. Forty-nine patients (44.5%) had some higher education, 41 (37.3%) had an intermediate level, and 19 (17.3%) had only basic education. In terms of marital status, 65 volunteers were single (59.1%), 34 were married (30.9%), four were divorced (3.6%) and six were widowed (5.5%).

At least one PD was considered to be present in 58 OCD patients (52.7% of the total sample), including BPD in 24 (21.8%), OCPD in 23 (20.9%), SPD in 15 (13.6%), APD

in three (2.7%), and other PDs in eight (13.7%) subjects. Several patients had more than one PD. Among the 50 OCD subjects who had at least one PD of interest (i.e. BPD, OCPD, SPD and ASP), thirty seven (74.0%), 11 (22.0%) and two (4.0%) OCD patients had one, two and three PDs, respectively. For a description of the number of patients fulfilling criteria for more than one PD, see table 1.

Table 1: Frequency of different personality disorder co-diagnosis among patients with personality disorders of interest.

BPD (n=24)	**OCPD (n=23)**	**SPD (n=15)**	**APD (n=3)**
OCPD: 5 (20.8%)	BPD: 5 (21.7%)	BPD: 4 (26.7%)	BPD: 3 (100.0%)
SPD: 4 (16.7%)	SPD: 4 (17.4%)	OCPD: 4 (26.7%)	OCPD: 1 (33.3%)
APD: 3 (12.5%)	APD: 1 (4.3%)	APD: 0 (0.0%)	SPD: 0 (0.0%)

Patients with and without the PDs of interest were compared with respect to socio-demographic features, comorbidity patterns, and symptom profiles. However, the numbers of cases with APD (n=3) was too low to allow a statistical comparison. We found that lower educational levels and greater rates of specific mood, anxiety, eating, and impulse control disorders characterized patients with OCD and BPD (see table 2). These patients also had greater rates of specific OCD symptoms, such as the need to touch objects or other people and the need to "confess" or seek reassurance, among others. In terms of severity, OCD patients with BPD had more intense depressive, anxiety, and obsessive-compulsive symptoms (particularly washing, neutralization, obsessions, and checking symptoms), increased severity of BPD symptoms (i.e. BPD's thoughts, feelings and negative behaviors), greater motor and non-planning impulsivity and increased cognitive compulsivity.

Table 2: Comparison between OCD patients with vs. without BPD

SOCIO-DEMOGRAPHIC FEATURES	OCD w/ BPD (N=24)	OCD w/out BPD (N=86)	Statistical tests
Age	40.17 (11.3)	39.16 (12.8)	t=0.34; df=108; p=0.73
Sex			$\chi2$=1.91; p=0.16
Male	9 (37.5%)	46 (53.5%)	
Education			$\chi2$=19.2; p<0.001***
Basic	11 (47.8%)	8 (9.3%)	
Intermediate	4 (17.4%)	37 (43.0%)	
High	8 (34.8%)	41 (47.7%)	
Marital status			$\chi2$=2.82; p=0.42
Single	53 (61.6%)	12 (52.2%)	
Married	27 (31.4%)	7 (30.4%)	
Divorced	2 (2.3%)	2 (8.7%)	
Widowed	4 (4.7%)	2 (8.7%)	
Family history of OCD			$\chi2$=0.15; p=0.69
Positive	10 (41.7%)	32 (37.2%)	
Age at our first assessment	33.71 (10.72)	33.66 (12.07)	t=0.18; df=104; p=0.98
Age at first assessment ever	25.17 (8.92)	28.12 (12.99)	t=-1.02; df=102; p=0.31
Age at OCD onset	13.17 (8.39)	14.99 (8.80)	t=-0.90; df=107; p=0.36
Smoking status			$\chi2$=0.33; p=0.56

Yes	4 (16.7%)	19 (22.1%)	
Alcohol use			$\chi 2=1.10$; p=0.29
Yes	8 (33.3%)	39 (45.3%)	
COMORBIDITY			
Major depressive episode			
Current	13 (54.2%)	21 (24.4%)	$\chi 2=7.77$; p=0.005**
Past	17 (70.8%)	58 (67.4%)	$\chi 2=0.99$; p=0.75
Dysthymic disorder	7 (29.2%)	11 (12.8%)	P=0.06; Fisher's exact test
Bipolar I disorder	1 (4.2%)	3 (3.5%)	P=1.00; Fisher's exact test
Bipolar II disorder	3 (12.5%)	2 (2.3%)	P=0.06; Fisher's exact test
Alcohol dependence	2 (8.3%)	4 (4.7%)	P=0.61; Fisher's exact test
Alcohol abuse	3 (12.5%)	4 (4.7%)	P=0.17; Fisher's exact test
Non-alcoholic substance dependence	0 (0.0%)	4 (4.7%)	P=0.57; Fisher's exact test
Non-alcoholic substance abuse	2 (8.3%)	2 (2.3%)	P=0.20; Fisher's exact test
Panic disorder			
w/ Agoraphobia	9 (37.5%)	12 (14.0%)	P=0.01*; Fisher's exact test
w/out Agoraphobia	0 (0.0%)	5 (5.8%)	P=0.58; Fisher's exact test
Agoraphobia w/out panic	1 (4.2%)	5 (5.8%)	P=1.00; Fisher's exact test

Post-traumatic stress disorder	5 (20.8%)	8 (9.3%)	P=0.15; Fisher's exact test
Social Phobia	3 (12.5%)	14 (16.3%)	P=0.76; Fisher's exact test
Specific Phobia	10 (41.7%)	15 (17.4%)	$\chi 2=6.27$; p=0.01*
Generalized anxiety disorder	17 (19.8%)	4 (16.7%)	P=1.00; Fisher's exact test
Somatization disorder	1 (4.2%)	0 (0.0%)	P=0.21; Fisher's exact test
Hypochondria	2 (8.3%)	1 (1.2%)	P=0.11; Fisher's exact test
Body dysmorphic disorder	4 (16.7%)	10 (11.6%)	P=0.50; Fisher's exact test
Anorexia nervosa	2 (8.3%)	1 (1.2%)	P=0.11; Fisher's exact test
Bulimia nervosa	4 (16.7%)	3 (3.5%)	P=0.04*; Fisher's exact test
Binge eating disorder	5 (20.8%)	4 (4.7%)	P=0.02*; Fisher's exact test
Intermittent explosive disorder	0 (0.0%)	9 (10.5%)	P=0.20; Fisher's exact test
Kleptomania	4 (16.7%)	2 (2.3%)	P=0.02; Fisher's exact test
Pathological gambling	2 (8.3%)	2 (2.3%)	P=0.20; Fisher's exact test
Trichotillomania	3 (12.5%)	9 (10.5%)	P=0.72; Fisher's exact test
Oniomania	9 (37.5%)	15 (17.4%)	$\chi 2=4.42$; p=0.03*
Compulsive sexual behavior	10 (41.7%)	5 (5.8%)	P<0.01**; Fisher's exact test

Internet addiction	2 (8.3%)	6 (7.0%)	P=1.00; Fisher's exact test
Skin picking	9 (37.5%)	13 (15.1%)	P=0.02*; Fisher's exact test
Video-game	0 (0.0%)	2 (2.3%)	P=1.00; Fisher's exact test
Self-mutilation	5 (20.8%)	4 (4.7%)	P=0.02*; Fisher's exact test
Hoarding disorder	8 (33.3%)	23 (26.7%)	$\chi2$=0.40; p=0.52
OCD w/ hoarding symptoms	7 (29.2%)	5 (5.8%)	P=0.004**; Fisher's exact test
FOCI SYMPTOM CHECKLIST			
Obsessions			
Concerns with contamination or illness	12 (75.0%)	39 (63.9%)	$\chi2$=0.69; p=0.40
Over concern with order or arrangement	11 (68.8%)	34 (55.7%)	$\chi2$=0.88; p=0.34
Images of death or other horrible events	9 (56.2%)	41 (67.2%)	$\chi2$=0.66; p=0.41
Unacceptable religious or sexual thoughts	9 (56.2%)	32 (52.5%)	$\chi2$=0.07; p=0.78
Worries about fire, burglary or flooding	8 (50.0%)	18 (29.5%)	$\chi2$=2.38; p=0.12
Worries about causing an accident	3 (18.8%)	7 (11.5%)	P=0.42; Fisher's exact test
Worries about	6 (37.5%)	8 (13.1%)	P=0.06; Fisher's exact

spreading an illness			test
Worries about losing something valuable	8 (50.0%)	28 (45.9%)	$\chi2$=0.86; p=0.77
Worries about not being careful enough	10 (62.5%)	31 (50.8%)	$\chi2$=0.69; p=0.40
Fearing having an unwanted impulse	9 (56.2%)	23 (37.7%)	$\chi2$=1.79; p=0.18
Compulsions			
Washing, cleaning or grooming	12 (75.0%)	35 (57.4%)	$\chi2$=1.65; p=0.19
Checking	13 (81.2%)	39 (63.9%)	$\chi2$=1.73; p=0.18
Counting, arranging or evening-up	11 (68.8%)	30 (49.2%)	$\chi2$=1.95; p=0.16
Collecting useless objects	8 (50.0%)	25 (41.0%)	$\chi2$=0.42; p=0.51
Repeating routine actions	13 (81.2%)	32 (52.5%)	$\chi2$=4.32; p=0.04*
Needing to touch objects or people	10 (62.5%)	21 (34.4%)	$\chi2$=4.15; p=0.04*
Rereading or rewriting	12 (75.0%)	31 (50.8%)	$\chi2$=3.00; p=0.08
Somatic checking	10 (62.5%)	20 (32.8%)	$\chi2$=4.7; p=0.03*
Avoiding colors or names	7 (43.8%)	25 (41.7%)	$\chi2$=0.02; p=0.88
Needing to “confess” or reassure	14 (87.5%)	37 (61.7%)	$\chi2$=3.81; p=0.05*
SEVERITY OF SYMPTOMS			

BDI	24.54 (13.30)	15.09 (10.69)	t=3.62; df=108; p<0.001***
BAI	22.73 (16.43)	15.29 (11.69)	t=1.99; df26.8; p=0.05*
OCI-R	33.04 (17.87)	20.13 (13.77)	t=3.74; df=107; p<0.001***
Washing	4.83 (4.23)	2.95 (3.69)	Z=-1.97; p=0.04*
Hoarding	4.43 (4.47)	2.60 (3.29)	Z=-1.45; p=0.14
Symmetry	4.48 (4.33)	3.20 (3.74)	Z=-1.45; p=0.14
Neutralization	5.30 (4.25)	2.30 (2.74)	t=3.20; df=27.0; p=0.003**
Obsessions	7.91 (3.08)	5.49 (3.66)	t=3.20; df=40.2; p=0.003**
Checking	6.09 (4.57)	3.60 (3.77)	t=2.70; df=107; p=0.008**
Y-BOCS			
Obsessions	13.04 (5.03)	9.84 (5.22)	t=2.66; df=104; p=0.009**
Compulsions	13.04 (4.64)	8.79 (5.22)	t=3.59; df=104; p=0.001**
Total	26.08 (8.63)	18.74 (9.97)	t=3.26; df=104; p=0.001**
BIS			
Attention	21.00 (5.09)	18.88 (4.26)	Z=-1.87; p = 0.061
Motor	24.43 (5.03)	20.51 (5.29)	Z=-3.062; p=0.002**
Non-planning	30.09 (4.28)	27.94 (4.59)	Z=-2.078; p= 0.03*
Total	75.52 (10.13)	67.32 (10.81)	Z=-3.245; p= 0.001**
GRACS			
Behavioral compulsivity	13.48 (3.42)	12.14 (3.58)	Z=-1.896; p= 0.106

Cognitive compulsivity	15.39 (3.95)	13.73 (3.82)	Z=-2.016; p= 0.04*
Total	45.04 (9.31)	40.62 (8.80)	Z=-1.896; p= 0.058
BEST			
Thoughts and feelings	27.00 (8.59)	16.02 (6.51)	t=6.62; df=102; p<0.001***
Negative behaviors	9.91 (4.37)	5.83 (2.38)	t=5.89; df=102; p<0.001***
Poor positive behaviors	8.96 (2.80)	9.49 (3.05)	t=-0.75; df=102; p=0.45
Total			t=6.66; df=102; p<0.001***

Footnote: OCD=Obsessive-Compulsive Disorder; BPD=*Borderline* Personality Disorder; FOCI=Florida Obsessive-Compulsive Inventory; BDI=Beck Depression Inventory; BAI=Beck Anxiety Inventory; OCI-R=Obsessive-Compulsive Inventory-Revised; Y-BOCS=Yale-Brown Obsessive-Compulsive Symptoms; BIS=Barratt Impulsiveness Scale; GRACS=Grattan Compulsiveness Scale; BEST= *Borderline* Evaluation of Severity Over Time.

Patients with OCD with and without OCPD are compared in table 3. As seen in table 7, patients with OCD and OCPD are characterized by increased rates of hoarding disorder, bipolar disorder, and specific phobia. They also had greater frequency of unacceptable religious or sexual thoughts, of the need to "confess" or seek reassurance, and of the superstitious avoidance of certain colors or names (table 8). OCD patients with OCPD also displayed increased severity of hoarding and symmetry symptoms and, as expected, lower non-planning impulsivity and greater obsessional compulsivity than OCD patients without OCPD.

Table 3: Comparison between OCD patients with vs. without OCPD.

SOCIO-DEMOGRAPHIC FEATURES	OCD w/ OCPD (N=23)	OCD w/out OCPD (N=87)	Statistical results
Age	41.52 (13.6)	38.82 (12.21)	t=0.92; df=108; p=0.35
Sex			$\chi 2$=0.49; p=0.48
Male	13 (56.5%)	42 (48.3%)	
Education			$\chi 2$=0.73; p=0.69
Basic	15 (17.4%)	4 (17.4%)	
Intermediate	34 (39.5%)	7 (30.4%)	
High	37 (43.0%)	12 (52.2%)	
Marital status			$\chi 2$=3.32; p=0.34
Single	53 (61.6%)	12 (52.2%)	
Married	24 (27.9%)	10 (43.5%)	
Divorced	3 (3.5%)	1 (4.3%)	
Widowed	6 (7.0%)	0 (0.0%)	
Family history of OCD			$\chi 2$=0.01; p=0.91
Positive	9 (39.1%)	33 (37.9%)	
Age at our first assessment	36.52 (11.59)	32.96 (11.72)	t=1.24; df=104; p=0.21
Age at first assessment ever	29.48 (14.55)	26.96 (11.61)	t=0.84=; df=102; p=0.40
Age at OCD onset	13.23 (9.82)	14.93 (8.43)	t=-0.81; df=107; p=0.41
Smoking status			P=1.0; Fisher's exact

			test
Yes	5 (21.7%)	18 (20.7%)	
Alcohol use			$\chi 2=0.15$; p=0.69
Yes	9 (39.1%)	38 (43.7%)	
COMORBIDITY			
Major depressive episode			
Current	8 (34.8%)	26 (29.9%)	$\chi 2=0.20$; p=0.80
Past	15 (62.5%)	60 (69.0%)	$\chi 2=0.11$; p=0.80
Dysthymic disorder	3 (13.0%)	15 (17.2%)	P=0.76; Fisher's exact test
Bipolar I disorder	3 (13.0%)	1 (1.1%)	P=0.02*; Fisher's exact test
Bipolar II disorder	2 (8.7%)	3 (3.4%)	P=0.28; Fisher's exact test
Alcohol dependence	1 (4.3%)	5 (5.7%)	P=1.00; Fisher's exact test
Alcohol abuse	1 (4.3%)	6 (6.9%)	P=1.00; Fisher's exact test
Non-alcoholic substance dependence	0 (0.0%)	4 (4.6%)	P=0.57; Fisher's exact test
Non-alcoholic substance abuse	0 (0.0%)	4 (4.6%)	P=0.57; Fisher's exact test
Panic disorder			
w/out Agoraphobia	1 (4.3%)	4 (4.6%)	P=1.00; Fisher's exact test
w/ Agoraphobia	7 (30.4%)	14 (16.1%)	P=0.14; Fisher's exact test
Agoraphobia	0 (0.0%)	6 (6.9%)	P=0.34; Fisher's

w/out panic			exact test
Post-traumatic stress disorder	2 (8.7%)	11 (12.6%)	P=1.00; Fisher's exact test
Social Phobia	5 (21.7%)	12 (13.8%)	P=0.34; Fisher's exact test
Specific Phobia	9 (39.1%)	16 (18.4%)	$\chi 2$=4.45; p=0.03*
Generalized anxiety disorder	6 (26.1%)	15 (17.2%)	P=0.37; Fisher's exact test
Somatization disorder	0 (0.0%)	1 (1.1%)	P=1.00; Fisher's exact test
Hypochondria	2 (8.7%)	1 (1.1%)	P=0.11; Fisher's exact test
Body dysmorphic disorder	4 (17.4%)	10 (11.5%)	P=0.48; Fisher's exact test
Anorexia nervosa	1 (4.3%)	2 (2.3%)	P=0.50; Fisher's exact test
Bulimia nervosa	0 (0.0%)	7 (8.0%)	P=0.34; Fisher's exact test
Binge eating disorder	3 (13.0%)	6 (6.9%)	P=0.39; Fisher's exact test
Intermittent explosive disorder	1 (4.3%)	8 (9.2%)	P=0.68; Fisher's exact test
Kleptomania	1 (4.3%)	5 (5.7%)	P=1.00; Fisher's exact test
Pathological gambling	0 (0.0%)	4 (4.6%)	P=0.57; Fisher's exact test
Trichotillomania	3 (13.0%)	9 (10.3%)	P=0.71; Fisher's exact test
Oniomania	4 (17.4%)	20 (23.0%)	P=0.77; Fisher's exact test

Compulsive sexual behavior	4 (17.4%)	11 (12.6%)	P=0.51; Fisher's exact test
Internet addiction	3 (13.0%)	5 (5.7%)	P=0.36; Fisher's exact test
Skin picking	3 (13.0%)	19 (21.8%)	P=0.55; Fisher's exact test
Video-game	1 (4.3%)	1 (1.1%)	P=0.37; Fisher's exact test
Self-mutilation	2 (8.7%)	7 (8.0%)	P=1.00; Fisher's exact test
Hoarding disorder	12 (52.2%)	19 (21.8%)	$\chi2$=8.27; p=0.004**
OCD w/ hoarding symptoms	2 (8.7%)	10 (11.5%)	P=1.00; Fisher's exact test
FOCI SYMPTOM CHECKLIST			
Obsessions			
Concerns with contamination or illness	11 (64.7%)	40(66.7%)	$\chi2$=0.02; p=0.88
Over concern with order or arrangement	12 (70.6%)	33 (55.0%)	$\chi2$=1.32; p=0.25
Images of death or other horrible events	11 (64.7%)	39 (65.0%)	$\chi2$=0.001; p=0.98
Unacceptable religious or sexual thoughts	5 (29.4%)	36 (60.0%)	$\chi2$=4.97; p=0.02*
Worries about	5 (29.4%)	21 (35.0%)	$\chi2$=0.18; p=0.66

fire, burglary or flooding			
Worries about causing an accident	1 (5.9%)	9 (15.0%)	P=0.44; Fisher's exact test
Worries about spreading an illness	2 (11.8%)	12 (20.0%)	P=0.72; Fisher's exact test
Worries about losing something valuable	11 (64.7%)	25 (41.7%)	$\chi2$=2.82; p=0.09
Worries about not being careful enough	10 (58.8%)	31 (51.7%)	$\chi2$=0.27; p=0.60
Fearing having an unwanted impulse	5 (29.4%)	27 (45.0%)	$\chi2$=1.32; p=0.25
Compulsions			
Washing, cleaning or grooming	10 (58.8%)	37 (61.7%)	$\chi2$=0.04; p=0.83
Checking	10 (58.8%)	42 (70.0%)	$\chi2$=0.75; p=0.38
Counting, arranging or evening-up	12 (70.6%)	29 (48.3%)	$\chi2$=2.63; p=0.10
Collecting useless objects	10 (58.8%)	23 (38.3%)	$\chi2$=2.27; p=0.13
Repeating routine actions	9 (52.9%)	36 (60.0%)	$\chi2$=0.27; p=0.60
Needing to touch objects or people	7 (41.2%)	24 (40.0%)	$\chi2$=0.008; p=0.93
Rereading or rewriting	11 (64.7%)	32 (53.3%)	$\chi2$=0.69; p=0.40

Somatic checking	5 (29.4%)	25 (41.7%)	$\chi 2=0.83$; p=0.36
Avoiding colors or names	3 (17.6%)	29 (49.2%)	$\chi 2=5.37$; p=0.02*
Needing to "confess" or reassurance	8 (47.1%)	43 (72.9%)	$\chi 2=3.98$; p=0.04*
SEVERITY OF SYMPTOMS			
BDI	17.87 (10.01)	16.97 (12.41)	t=0.32; df=108; p=0.74
BAI	12.57 (9.90)	18.01 (13.65)	t=-1.78; df=104; p=0.07
OCI-R	28.22 (15.54)	21.42 (15.35)	t=1.88; df=107; p=0.06
Washing	3.83 (4.07)	3.22 (3.83)	Z=-0.96; p=0.33
Hoarding	4.70 (4.26)	2.53 (3.32)	Z=-2.5; p=0.01*
Symmetry	5.52 (4.05)	2.92 (3.67)	Z=-3.1; p=0.002**
Neutralization	3.13 (3.46)	2.88 (3.31)	Z=-0.35; p=0.72
Obsessions	5.17 (3.05)	6.22 (3.81)	Z=-1.2; p=0.20
Checking	5.57 (4.56)	3.74 (3.81)	Z=-1.7; p=0.08
Y-BOCS			
Obsessions	11.29 (4.73)	10.39 (5.47)	t=-0.13; df=104; p=0.89
Compulsions	9.62 (4.96)	9.79 (5.50)	t=0.25; df=104; p=0.80
Total	20.90 (9.12)	20.28 (10.40)	t=0.69; df=104; p=0.44
BIS			
Attention	18.14 (3.62)	19.65 (4.69)	Z= -1.568; p= 0.117
Motor	19.76 (4.84)	21.78 (5.56)	Z= -1.355; p= 0.175

Non-planning	25.71 (4.61)	29.10 (4.36)	Z=-2.786; p= 0.005**
Total	63.62 (10.43)	70.53 (10.95)	Z=-2.480; p=0.01*
GRACS			
Behavioral Compulsivity	14.00 (3.80)	12.04 (3.42)	Z=-2.203; p=0.02*
Cognitive Compulsivity	15.00 (3.84)	13.88 (3.90)	Z=-1.198; p= 0.231
Total	44.08 (9.53)	39.06 (7.86)	Z=-2.606; p= 0.009**

Footnote: OCD=Obsessive-Compulsive Disorder; OCPD=Obsessive-Compulsive Personality Disorder; FOCI=Florida Obsessive-Compulsive Inventory; BDI=Beck Depression Inventory; BAI=Beck Anxiety Inventory; OCI-R=Obsessive-Compulsive Inventory-Revised; Y-BOCS=Yale-Brown Obsessive-Compulsive Symptoms; BIS=Barratt Impulsiveness Scale; GRACS=Grattan Compulsiveness Scale; BEST= *Borderline* Evaluation of Severity Over Time.

The comparison of OCD patients with and without SPD is depicted in table 4. Patients with OCD and SPD displayed a trend to be in contact with mental health services at an earlier age than those with OCD without SPD. They also had greater rates of comorbid bipolar disorder and increased severity of both depression and obsessive-compulsive symptoms (particularly hoarding and neutralization symptoms). As predicted, OCD patients with SPD also endorsed greater rates of other lower order OCD behaviors, i.e. repetition of routine actions and the need to touch objects or people. In terms of impulsive-compulsive traits, OCD patients with SPD exhibited lower non-planning impulsivity and greater cognitive compulsivity than OCD patients without SPD.

Table 4: Comparison between socio-demographic features of OCD patients with vs. without SPD

SOCIO-DEMOGRAPHIC FEATURES	OCD w/ SPD (N=15)	OCD w/out SPD (N=95)	Statistical results

Age	40.73 (11.96)	39.17 (12.65)	Z=-0.47; p=0.63
Sex			$\chi 2$=.69, p=0.40
Male	9 (60.0%)	46 (48.4%)	
Education			$\chi 2$=2.5; p=0.28
Basic	4 (26.7%)	15 (16.0%)	
Intermediate	7 (46.7%)	34 (36.2%)	
High	4 (26.7%)	45 (47.9%)	
Marital status			$\chi 2$=.49; p=0.17
Single	54 (57.4%)	11 (73.3%)	
Married	32 (34.0%)	2 (13.3%)	
Divorced	4 (4.5%)	0 (0.0%)	
Widowed	4 (4.3%)	2 (13.3%)	
Family history of OCD			$\chi 2$=.17; p=0.67
Positive	5 (33.3%)	37 (38.9%)	
Age at our first assessment	35.77 (10.77)	33.38 (11.88)	Z=-0.78; p=0.43
Age at first assessment ever	21.77 (7.37)	28.29 (12.59)	Z=-1.69; p=0.09
Age at OCD onset	15.47 (10.55)	14.45 (8.44)	Z=-0.07; p=0.94
Smoking status			P=0.51; Fisher's exact test
Yes	4 (26.7%)	19 (20.0%)	
Alcohol use			$\chi 2$=.79; p=0.37
Yes	8 (53.3%)	39 (41.1%)	
COMORBIDITY			
Major depressive episode			
Current	4 (26.7%)	30 (31.6%)	P=1.00; Fisher's

			exact test
Past	11 (73.3%)	64 (67.4%)	P=0.77; Fisher's exact test
Dysthymic disorder	2 (13.3%)	16 (16.8%)	P=1.00; Fisher's exact test
Bipolar I disorder	3 (20.0%)	1 (1.1%)	P=0.008**; Fisher's exact test
Bipolar II disorder	2 (13.3%)	3 (3.2%)	P=0.13; Fisher's exact test
Alcohol dependence	1 (6.7%)	5 (5.3%)	P=1.00; Fisher's exact test
Alcohol abuse	2 (13.3%)	5 (5.3%)	P=2.43; Fisher's exact test
Non-alcoholic substance dependence	0 (0.0%)	4 (4.2%)	P=1.00; Fisher's exact test
Non-alcoholic substance abuse	0 (0.0%)	4 (4.2%)	P=1.00; Fisher's exact test
Panic disorder			
w/out Agoraphobia	0 (0.0%)	5 (5.3%)	P=1.00; Fisher's exact test
w/ Agoraphobia	6 (40.0%)	15 (15.8%)	P=0.38; Fisher's exact test
Agoraphobia w/out panic	2 (13.3%)	4 (4.2%)	P=0.18; Fisher's exact test
Post-traumatic stress disorder	2 (13.3%)	11 (11.6%)	P=1.00; Fisher's exact test
Social Phobia	2 (13.3%)	15 (15.8%)	P=1.00; Fisher's exact test
Specific Phobia	1 (6.7%)	24 (25.3%)	P=1.00; Fisher's

			exact test
Generalized anxiety disorder	2 (13.3%)	19 (20.0%)	P=1.00; Fisher's exact test
Somatization disorder	0 (0.0%)	1 (1.1%)	P=1.00; Fisher's exact test
Hypochondria	0 (0.0%)	3 (3.2%)	P=1.00; Fisher's exact test
Body dysmorphic disorder	2 (13.3%)	12 (12.6%)	P=1.00; Fisher's exact test
Anorexia nervosa	0 (0.0%)	3 (3.2%)	P=1.00; Fisher's exact test
Bulimia nervosa	2 (13.3%)	5 (5.3%)	P=1.00; Fisher's exact test
Binge eating disorder	1 (6.7%)	8 (8.4%)	P=1.00; Fisher's exact test
Intermittent explosive disorder	2 (13.3%)	7 (7.4%)	P=0.35; Fisher's exact test
Kleptomania	1 (6.7%)	5 (5.3%)	P=1.00; Fisher's exact test
Pathological gambling	0 (0.0%)	4 (4.2%)	P=1.00; Fisher's exact test
Trichotillomania	1 (6.7%)	11 (11.6%)	P=1.00; Fisher's exact test
Oniomania	4 (26.7%)	20 (21.1%)	P=0.73; Fisher's exact test
Compulsive sexual behavior	3 (20.0%)	12 (12.6%)	P=0.42; Fisher's exact test
Internet addiction	1 (6.7%)	7 (7.4%)	P=1.00; Fisher's exact test
Skin picking	1 (6.7%)	21 (22.1%)	P=0.29; Fisher's

			exact test
Video-game	0 (0.0%)	2 (2.1%)	P=1.00; Fisher's exact test
Self-mutilation	2 (13.3%)	7 (7.4%)	P=1.00; Fisher's exact test
Hoarding disorder	6 (40.0%)	25 (26.3%)	P=0.35; Fisher's exact test
OCD w/ hoarding symptoms	3 (20.0%)	9 (9.5%)	P=0.21; Fisher's exact test
FOCI SYMPTOM CHECKLIST			
Obsessions			
Concerns with contamination or illness	7 (70.0%)	44 (65.7)	P=1.00; Fisher's exact test
Over concern with order or arrangement	6 (60.0%)	39 (58.2%)	P=1.00; Fisher's exact test
Images of death or other horrible events	8 (80.0%)	42 (62.7%)	P=0.47; Fisher's exact test
Unacceptable religious or sexual thoughts	7 (70.0%)	34 (50.7%)	P=0.32; Fisher's exact test
Worries about fire, burglary or flooding	2 (20.0%)	24 (35.8%)	P=0.48; Fisher's exact test
Worries about causing an accident	3 (30.0%)	7 (10.4%)	P=0.11; Fisher's exact test

Worries about spreading an illness	2 (20.0%)	12 (17.9%)	P=1.00; Fisher's exact test
Worries about losing something valuable	7 (70.0%)	29 (43.3%)	P=0.17; Fisher's exact test
Worries about not being careful enough	6 (60.0%)	35 (52.2%)	P=0.74; Fisher's exact test
Fearing having an unwanted impulse	7 (70.0%)	25 (37.2%)	P=0.08; Fisher's exact test
Compulsions			
Washing, cleaning or grooming	7 (70.0%)	44 (65.7%)	P=1.00; Fisher's exact test
Checking	7 (70.0%)	45 (67.2%)	P=1.00; Fisher's exact test
Counting, arranging or evening-up	6 (60.0%)	35 (52.2%)	P=0.74; Fisher's exact test
Collecting useless objects	7 (70.0%)	26 (38.8%)	P=0.09; Fisher's exact test
Repeating routine actions	9 (90.0%)	36 (53.7%)	P=0.03*; Fisher's exact test
Needing to touch objects or people	8 (80.0%)	23 (34.3%)	P=0.01*; Fisher's exact test
Rereading or rewriting	6 (60.0%)	37 (55.2%)	P=1.00; Fisher's exact test

Somatic checking	6 (60.0%)	24 (35.8%)	P=0.17; Fisher's exact test
Avoiding colors or names	6 (60.0%)	26 (39.4%)	P=0.30; Fisher's exact test
Needing to "confess" or reassurance	6 (60.0%)	45 (68.2%)	P=0.72; Fisher's exact test
SEVERITY OF SYMPTOMS			
BDI	25.00 (12.30)	15.92 (11.43)	Z=-2.69; p=0.007**
BAI	18.53 (13.95)	16.55 (12.99)	Z=-0.82; p=0.41
OCI-R	29.20 (16.46)	21.84 (15.27)	Z=-1.75; p=0.08
Washing	4.00 (3.79)	3.24 (3.89)	Z=-1.10; p=0.27
Hoarding	4.53 (3.83)	2.74 (3.55)	Z=-1.99; p=0.04*
Symmetry	4.60 (3.88)	3.29 (3.88)	Z=-1.29; p=0.19
Neutralization	4.60 (3.50)	2.67 (3.24)	Z=-2.30; p=0.02*
Obsessions	7.20 (3.07)	5.81 (3.74)	Z=-1.37; p=0.17
Checking	4.60 (3.79)	4.05 (4.07)	Z=-0.72; p=0.46
Y-BOCS			
Obsessions	13.92 (4.62)	10.10 (5.27)	Z=-2.51; p=0.01*
Compulsions	13.46 (3.82)	9.24 (5.37)	Z=-2.75; p=0.006**
Total	27.38 (7.04)	19.43 (10.13)	Z=-2.71; p=0.007**
BIS			
Attention	20.25 (5.86)	19.23 (4.34)	Z=-0.5; p=0.617
Motor	20.50 (5.53)	21.49 (5.48)	Z=-0.719; p=0.472
Non-planning	26.00 (4.93)	28.73 (4.48)	Z=-2.031; p=0.04*
Total	66.75 (13.17)	69.45 (10.91)	Z=-1.064; p=0.287
GRACS	N= 12	N = 90	
Behavioral Compulsivity	14.83 (2.82)	12.12 (3.55)	Z=-2.389; p=0.01*

Cognitive Compulsivity	14.75 (3.41)	14.02 (3.96)	Z=-0.491; p= 0.624
Total	46.00 (9.06)	41.03 (8.95)	Z=-1.451; p= 0.147

Footnote: OCD=Obsessive-Compulsive Disorder; SPD=Schizotypal Personality Disorder; FOCI=Florida Obsessive-Compulsive Inventory; BDI=Beck Depression Inventory; BAI=Beck Anxiety Inventory; OCI-R=Obsessive-Compulsive Inventory-Revised; Y-BOCS=Yale-Brown Obsessive-Compulsive Symptoms; BIS=Barratt Impulsiveness Scale; GRACS=Grattan Compulsiveness Scale; BEST= *Borderline* Evaluation of Severity Over Time.

DISCUSSION

Borderline personality disorder

Most of the predictions we made on the impact of BPD in OCD patients proved to be accurate. Patients with OCD and BPD seem to have a worse clinical picture than regular OCD patients [49] The fact that OCD patients with BPD exhibit lower educational levels than their OCD counterparts without BPD is consistent with the literature on BPD. In fact, some studies have suggested that particular BPD symptoms, such as impulsivity and affective instability, may lead to impairment in academic or occupational achievements [50]. Also, as predicted, we found that OCD patients with BPD displayed greater rates of specific mood, anxiety, and eating disorders [51, 52]. In addition, the reportedly increased prevalence of conditions characterized by impulsive-compulsive features (i.e. oniomania, compulsive sexual behavior, skin picking, and self-mutilation) in our OCD patients with BPD may be the ultimate result of a synergistic combination of prototypical compulsive (OCD) and impulsive (BPD) disorders and their propensity towards other non-OCD and non-BPD excessive behaviors.

As predicted, OCD patients with BPD also had greater rates of specific compulsive symptoms, including those involving obvious interpersonal interactions (such as the need to touch objects or other people and to “confess” or seek reassurance). This

finding is consistent with a focus of major concern among patients with BPD, namely their dysfunctional and unstable interpersonal relationships. *Nevertheless, we could not determine*, at this point, whether BPD alters the OCD phenotype, leading patients to express their OCD symptoms on interpersonal domains, or whether OCD symptoms affecting interpersonal relationships contributes independently to increase the rates of BPD in these patients. In terms of severity of symptoms, the fact that OCD patients with BPD had greater severity of depressive, anxiety, and all obsessive-compulsive symptoms, with the exception of symmetry and hoarding, differentiates it from OCD with OCPD, as we will see below.

Finally, OCD patients with BPD were characterized by greater motor and non-planning impulsivity and increased cognitive compulsivity. Whilst the findings regarding the presence of increased BIS-11 scores [53] [including greater motor [54, 55] and non-planning impulsivity [55] were already described in BPD patients, it is interesting to note that specific aspects of compulsivity traits, as measured by the GCS, were also reported in OCD patients with BPD. According to the latter instrument, individuals with OCD and co-occurring BPD displayed a greater inability to dismiss thoughts as compared to OCD patients without BPD. Whether this is related to OCD- or BPD-related cognitions is still unclear. However, our findings of increased scores on thoughts and feeling dimensions of the BEST among BPD patients suggest that the *latter alternative is more* likely.

Obsessive-compulsive personality disorder

Patients with OCD and OCPD were characterized by increased rates of hoarding disorder, bipolar disorder, and specific phobia. The fact that hoarding disorder was associated with OCPD is consistent with several studies showing increased presence and/or severity of hoarding symptoms in OCPD patients [5, 8-13, 56]. Understandably, it has been argued that this association merely reflects overlapping diagnostic criteria for hoarding disorder and for OCPD. Although Frost et al [57] found that the rate of co-occurring OCPD in individuals with hoarding disorder

dropped from 29.5% to 18.4% after hoarding was removed from the DSM-IV diagnostic criteria for OCPD, our observation that OCPD was associated with hoarding disorder even when hoarding wasn't considered a criteria for OCPD suggests that there is some real and important connections between both conditions.

Previous studies did not report that bipolar disorder and social phobia prevalence tend to be increased in OCD patients with OCPD. Nevertheless, there is some evidence that OCPD may be the most common PD diagnosed in bipolar disorder samples [58, 59]. One study suggested that OCD patients with OCPD who were admitted to day or day-night units were at an increased risk of developing bipolar in the long-term [60]. In contrast, individuals with specific phobia are among the ones with less frequent PD-related pathology [61].

Patients with OCD and OCPD also had greater frequency of unacceptable religious or sexual thoughts, of the need to "confess" or seek reassurance, and of the superstitious avoidance of certain colors or names. The association between sexual obsessions and OCPD traits had already been reported [12, 62]. In fact, there might be some sort of circularity in this finding since scrupulosity (an OCPD criteria) might actually conceptually overlap with sexual and religious obsessions. Conceivably, since patients with OCPD tend to exhibit very strict moral values, they may not tolerate normative religious or sexual thoughts, and thus display compulsive confessions and reassurance seeking. From the psychodynamic point-of-view, OCD patients with sexual thoughts may be particularly prone to the so called "isolation", expressing affect in a highly controlled or stilted fashion, and being uncomfortable in the presence of others who are emotionally expressive [1].

Despite the fact that the presence of hoarding symptoms was excluded as a criterion for the diagnosis of OCPD in this study, the severity of hoarding remained significantly associated with OCD patients with OCPD, thus suggesting that there might be a genuine relationship between both conditions. We concur that splitting hoarding from OCPD may lead to better patient management. However, this

approach should not detract the clinician from searching for hoarding behaviors in individuals with OCD who also display OCPD. However, we cannot exclude the possibility that the association between OCPD and symmetry symptoms is due to symptom content overlap. Future studies should assess whether there is any benefit in having a construct of OCPD excluding perfectionism (and, as a consequence, symmetry symptoms). It would also be interesting to evaluate the value of the remaining OCPD symptoms as core features of the PD.

We are not aware of any previous study showing a BIS-11 profile consistent with lower non-planning impulsivity among OCD patients with OCPD. Nevertheless, using a neurocognitive task (the Intertemporal Choice Titration), Pinto et al [63] found that OCPD subjects, with or without comorbid OCD, had greater ability to forego small immediate rewards for larger delayed rewards than OCD patients and healthy control subjects. However, in contrast, other studies reported an increased rate of OCPD among patients referred and self-referred to specialized clinics for aggression problems [64]. Thus, it is possible that the level of impulsivity in OCPD samples may also be subject to some sort of selection bias. Finally, the fact that OCD patients with OCPD showed greater OCD-related compulsivity than those without OCPD is consistent with several studies suggesting that OCPD may be a marker of OCD severity [8, 10, 56].

Schizotypal personality disorder

We found a trend suggesting that combined SPD and OCD psychopathology is associated with an earlier treatment seeking age and increased severity of OCD. This finding is in agreement with previous studies reporting that OCD patients with SPD tended to be younger [21] and were less likely to be married [21]. Somewhat unpredictably, however, we also found that OCD patients with SPD exhibited increased rates of bipolar disorder, but not of schizophrenia. In fact, the association between schizotypal features and bipolar disorder was already described [65, 66]. We speculate that SPD may increase the risk of co-occurring bipolar disorder as an

alternative expression for psychosis in OCD samples, given the lower propensity of the latter patients toward the development of schizophrenia [67, 68]. Admittedly, it is also possible that interviewers were biased to diagnose bipolar disorder rather than schizophrenia in OCD patients with psychotic symptoms, given the reported negative association between OCD and SRD.

Our prediction that OCD patients with SPD endorsed greater rates of lower order repetitive behaviors (such as the need to touch objects or people) was partially supported. In fact, some studies have suggested that conditions that bear some resemblance with SPD, such as autism spectrum disorders, were associated with non-complex repetitive behaviors, including hoarding, touching, tapping, or rubbing, and self-damaging or self-mutilating behavior [23]. In one study with undergraduate students, Dinsdale and coworkers [69] reported common and strong positive loadings for two of the Autism Spectrum Quotient subscales (social skills and communication) and four of the Schizotypal Personality Questionnaire-Brief Revised subscales (social anxiety, constricted affect, eccentric behavior, and ideas of reference). This finding suggests that much of the research on autism in OCD may potentially have some overlap with SPD. The fact that our patients with OCD and SPD also exhibited greater severity of hoarding is also consistent with the latter assumption.

Previous studies have associated SPD in OCD to comorbid major depression [21], post-traumatic stress disorders [21], substance use disorders [21, 22], panic disorder and specific phobia [22], and to no particular diagnosis [70]. Similarly to some [21], but not all [22, 70] studies, we found that OCD patients with SPD displayed increased severity of depressive symptoms. Brakoulias et al [21] has suggested that patients with SPD, lacking social skills, may be more exposed to interpersonal stressors and thus, to depressive symptoms.

Admittedly, a number of features reported to differ between OCD with vs. OCD without OCPD were also found in the comparisons between OCD with vs. OCD

without SPD, i.e. greater rates of bipolar disorder, increased prevalence or severity of hoarding symptoms, decreased non-planning impulsivity and increased OCD-related compulsivity in the comorbid groups. While these findings may reflect the fact that some OCPD patients also had SPD (see table 1), there is a substantial clinical overlap between both conditions. For instance, clinicians have long recognized the frequent association between symmetry (an OCPD symptom) with magic thoughts (an SPD symptom). The Y-BOCS checklist, for instance, allows raters to classify the need for symmetry and exactness accompanied or not by magical thinking (e.g., concerned that another will have an accident unless things are in the right place). Thus, some degree of redundancy may be found when comparing these constructs vis-à-vis OCD patients that do not display them.

Our study has some limitations. Importantly, despite assessing more than 100 OCD patients, we were unable to *recruit sufficient numbers*to (i) allow reliable comparisons between patients with and without a "pure" PD and (ii) compare patients with and without APD. In fact, all APD patients in our sample had comorbid BPD. Although some epidemiological studies have suggested a connection between APD and OCD [71, 72], our findings suggest that, in treatments-seeking samples, this relationship may not hold true. In spite of these limitations, our results suggest that three of the most common and impairing PDs are frequently reported in treatment seeking OCD patients and seem to impact their clinical expression. These finding highlights the importance of assessing the presence of PDs in these samples, as they are frequently associated with increased treatment resistance and with worse outcomes [73].

DISCLOSURE

LF. Fontenelle is a member of the WHO ICD Revision Working Group on the Classification of Obsessive-Compulsive Related Disorders, reporting to the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders. The views expressed in this article are those of the authors and, except as

specifically noted, do not represent the official policies or positions of the International Advisory Group, the Working Group on Obsessive-Compulsive Related Disorders, or the WHO.

FINANCIAL SUPPORT

LF. Fontenelle is currently receiving the grant #303846/2008-9 from Conselho Nacional de Desenvolvimento Científico e Tecnológico and the grant # E-26/103.252/2011 from and Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro. M. Yücel is currently receiving a National Health and Medical Research Council of Australia (NHMRC) Grant # 1021973.

1 APA: Diagnostic and statistical manual of mental disorders: Dsm-5. Amer Psychiatric Pub Incorporated, 2013.

2 Baer L, Jenike MA: Personality disorders in obsessive compulsive disorder. Psychiatr Clin North Am 1992;15:803-812.

3 Torres AR, Moran P, Bebbington P, Brugha T, Bhugra D, Coid JW, Farrell M, Jenkins R, Lewis G, Meltzer H, Prince M: Obsessive-compulsive disorder and personality disorder: Evidence from the british national survey of psychiatric morbidity 2000. Soc Psychiatry Psychiatr Epidemiol 2006;41:862-867.

4 Baer L, Jenike MA, Ricciardi JN, 2nd, Holland AD, Seymour RJ, Minichiello WE, Buttolph ML: Standardized assessment of personality disorders in obsessive-compulsive disorder. Arch Gen Psychiatry 1990;47:826-830.

5 Ricciardi JN, Baer L, Jenike MA, Fischer SC, Sholtz D, Buttolph ML: Changes in dsm-iii-r axis ii diagnoses following treatment of obsessive-compulsive disorder. Am J Psychiatry 1992;149:829-831.

6 Pena-Garijo J, Edo Villamon S, Melia de Alba A, Ruiperez MA: Personality disorders in obsessive-compulsive disorder: A comparative study versus other anxiety disorders. ScientificWorldJournal 2013;2013:856846.

7 Albert U, Maina G, Forner F, Bogetto F: Dsm-iv obsessive-compulsive personality disorder: Prevalence in patients with anxiety disorders and in healthy comparison subjects. Compr Psychiatry 2004;45:325-332.

8 Gordon OM, Salkovskis PM, Oldfield VB, Carter N: The association between obsessive compulsive disorder and obsessive compulsive personality disorder: Prevalence and clinical presentation. Br J Clin Psychol 2013;52:300-315.

9 Starcevic V, Berle D, Brakoulias V, Sammut P, Moses K, Milicevic D, Hannan A: Obsessive-compulsive personality disorder co-occurring with obsessive-compulsive disorder: Conceptual and clinical implications. Aust N Z J Psychiatry 2013;47:65-73.

10 Lochner C, Serebro P, van der Merwe L, Hemmings S, Kinnear C, Seedat S, Stein DJ: Comorbid obsessive-compulsive personality disorder in obsessive-compulsive disorder (ocd): A marker of severity. Prog Neuropsychopharmacol Biol Psychiatry 2011;35:1087-1092.

11 Garyfallos G, Katsigiannopoulos K, Adamopoulou A, Papazisis G, Karastergiou A, Bozikas VP: Comorbidity of obsessive-compulsive disorder with obsessive-compulsive personality disorder: Does it imply a specific subtype of obsessive-compulsive disorder? Psychiatry Res 2010;177:156-160.

12 Coles ME, Pinto A, Mancebo MC, Rasmussen SA, Eisen JL: Ocd with comorbid ocpd: A subtype of ocd? J Psychiatr Res 2008;42:289-296.

13 Eisen JL, Coles ME, Shea MT, Pagano ME, Stout RL, Yen S, Grilo CM, Rasmussen SA: Clarifying the convergence between obsessive compulsive personality disorder criteria and obsessive compulsive disorder. J Pers Disord 2006;20:294-305.

14 Diaferia G, Bianchi I, Bianchi ML, Cavedini P, Erzegovesi S, Bellodi L: Relationship between obsessive-compulsive personality disorder and obsessive-compulsive disorder. Compr Psychiatry 1997;38:38-42.

15 Poyurovsky M: Clozapine in treatment-refractory obsessive-compulsive disorder with comorbid schizotypal personality disorder. Isr J Psychiatry Relat Sci 2008;45:219-220.

16 Stanley MA, Turner SM, Borden JW: Schizotypal features in obsessive-compulsive disorder. Compr Psychiatry 1990;31:511-518.

17 Jenike MA, Baer L, Minichiello WE, Schwartz CE, Carey RJ, Jr.: Coexistent obsessive-compulsive disorder and schizotypal personality disorder: A poor prognostic indicator. Arch Gen Psychiatry 1986;43:296.

18 Sanislow CA, Little TD, Ansell EB, Grilo CM, Daversa M, Markowitz JC, Pinto A, Shea MT, Yen S, Skodol AE, Morey LC, Gunderson JG, Zanarini MC, McGlashan TH: Ten-year stability and latent structure of the dsm-iv schizotypal, *borderline*, avoidant, and obsessive-compulsive personality disorders. J Abnorm Psychol 2009;118:507-519.

19 Leichsenring F, Leibing E, Kruse J, New AS, Leweke F: *Borderline* personality disorder. Lancet 2011;377:74-84.

20 Skodol AE, Bender DS, Morey LC, Clark LA, Oldham JM, Alarcon RD, Krueger RF, Verheul R, Bell CC, Siever LJ: Personality disorder types proposed for dsm-5. J Pers Disord 2011;25:136-169.

21 Brakoulias V, Starcevic V, Berle D, Milicevic D, Hannan A, Viswasam K, Mann K: The clinical characteristics of obsessive compulsive disorder associated with high levels of schizotypy. Aust N Z J Psychiatry 2014;48:852-860.

22 Sobin C, Blundell ML, Karayiorgou M: Phenotypic differences in early- and late-onset obsessive-compulsive disorder. Compr Psychiatry 2000;41:373-379.

23 McDougle CJ, Kresch LE, Goodman WK, Naylor ST, Volkmar FR, Cohen DJ, Price LH: A case-controlled study of repetitive thoughts and behavior in adults with autistic disorder and obsessive-compulsive disorder. Am J Psychiatry 1995;152:772-777.

24 Anagnostou E, Chaplin W, Watner D, Silverman JM, Smith CJ, Zagursky K, Kryzak LA, Corwin TE, Feirsen N, Tanel N, Hollander E: Factor analysis of repetitive behaviors in autism as measured by the y-bocs. J Neuropsychiatry Clin Neurosci 2011;23:332-339.

25 Chapman LJ, Chapman JP, Numbers JS, Edell WS, Carpenter BN, Beckfield D: Impulsive nonconformity as a trait contributing to the prediction of psychotic-like and schizotypal symptoms. J Nerv Ment Dis 1984;172:681-691.

26 Yamamoto H, Tsuchida H, Nakamae T, Nishida S, Sakai Y, Fujimori A, Narumoto J, Wada Y, Yoshida T, Taga C, Fukui K: Relationship between severity of

obsessive-compulsive symptoms and schizotypy in obsessive-compulsive disorder. Neuropsychiatr Dis Treat 2012;8:579-583.

27 Fontenelle LF, Mendlowicz MV, Versiani M: Impulse control disorders in patients with obsessive-compulsive disorder. Psychiatry Clin Neurosci 2005;59:30-37.

28 Lovato L, Ferrao YA, Stein DJ, Shavitt RG, Fontenelle LF, Vivan A, Miguel EC, Cordioli AV: Skin picking and trichotillomania in adults with obsessive-compulsive disorder. Compr Psychiatry 2012;53:562-568.

29 Matsunaga H, Kiriike N, Matsui T, Oya K, Okino K, Stein DJ: Impulsive disorders in japanese adult patients with obsessive-compulsive disorder. Compr Psychiatry 2005;46:43-49.

30 Paris J: The nature of *borderline* personality disorder: Multiple dimensions, multiple symptoms, but one category. J Pers Disord 2007;21:457-473.

31 Storch EA, Jones AM, Lack CW, Ale CM, Sulkowski ML, Lewin AB, De Nadai AS, Murphy TK: Rage attacks in pediatric obsessive-compulsive disorder: Phenomenology and clinical correlates. J Am Acad Child Adolesc Psychiatry 2012;51:582-592.

32 Sebastian A, Jacob G, Lieb K, Tuscher O: Impulsivity in *borderline* personality disorder: A matter of disturbed impulse control or a facet of emotional dysregulation? Curr Psychiatry Rep 2013;15:339.

33 Fontenelle LF, Oostermeijer S, Harrison BJ, Pantelis C, Yucel M: Obsessive-compulsive disorder, impulse control disorders and drug addiction: Common features and potential treatments. Drugs 2011;71:827-840.

34 Starcevic V, Brakoulias V: New diagnostic perspectives on obsessive-compulsive personality disorder and its links with other conditions. Curr Opin Psychiatry 2014;27:62-67.

35 Fineberg NA, Sharma P, Sivakumaran T, Sahakian B, Chamberlain SR: Does obsessive-compulsive personality disorder belong within the obsessive-compulsive spectrum? CNS Spectr 2007;12:467-482.

36 O'Neill ML, Nenzel ME, Caldwell W: Intrusive thoughts and psychopathy in a student and incarcerated sample. Journal of behavior therapy and experimental psychiatry 2009;40:147-157.

37 Grant JE: Co-occurrence of personality disorders in persons with kleptomania: A preliminary investigation. The journal of the American Academy of Psychiatry and the Law 2004;32:395-398.

38 Pfohl B, Blum N, Zimmerman M: Structured interview for dsm-iv personality. American Psychiatric Publishing, 1997.

39 Del-Ben CM, Vilela JAA, Crippa JAdS, Hallak JEC, Labate CM, Zuardi AW: Confiabilidade da "entrevista clínica estruturada para o dsm-iv - versão clínica" traduzida para o português. Revista Brasileira de Psiquiatria 2001;23:156-159.

40 Nordsletten AE, Fernández de la Cruz L, Pertusa A, Reichenberg A, Hatch SL, Mataix-Cols D: The structured interview for hoarding disorder (sihd): Development, usage and further validation. Journal of Obsessive-Compulsive and Related Disorders 2013;2:346-350.

41 Storch EA, Kaufman DA, Bagner D, Merlo LJ, Shapira NA, Geffken GR, Murphy TK, Goodman WK: Florida obsessive-compulsive inventory: Development, reliability, and validity. Journal of clinical psychology 2007;63:851-859.

42 Cunha JA: Manual da versão em português das escalas beck. São Paulo, Casa do Psicólogo, 2001.

43 Pfohl B, Blum N, St John D, McCormick B, Allen J, Black DW: Reliability and validity of the *borderline* evaluation of severity over time (best): A self-rated scale to measure severity and change in persons with *borderline* personality disorder. Journal of personality disorders 2009;23:281-293.

44 Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischmann RL, Hill CL, Heninger GR, Charney DS: The yale-brown obsessive compulsive scale. I. Development, use, and reliability. Archives of general psychiatry 1989;46:1006-1011.

45 Goodman WK, Price LH, Rasmussen SA, Mazure C, Delgado P, Heninger GR, Charney DS: The yale-brown obsessive compulsive scale. Ii. Validity. Archives of general psychiatry 1989;46:1012-1016.

46 Souza FP, Foa EB, Meyer E, Niederauer KG, Cordioli AV: Psychometric properties of the brazilian portuguese version of the obsessive-compulsive inventory - revised (oci-r). Rev Bras Psiquiatr 2011;33:137-143.

47 Patton JH, Stanford MS, Barratt ES: Factor structure of the barratt impulsiveness scale. Journal of clinical psychology 1995;51:768-774.

48 Mataix-Cols D, Frost RO, Pertusa A, Clark LA, Saxena S, Leckman JF, Stein DJ, Matsunaga H, Wilhelm S: Hoarding disorder: A new diagnosis for dsm-v? Depression and anxiety 2010;27:556-572.

49 Hermesh H, Shahar A, Munitz H: Obsessive-compulsive disorder and *borderline* personality disorder. Am J Psychiatry 1987;144:120-122.

50 Bagge C, Nickell A, Stepp S, Durrett C, Jackson K, Trull TJ: *Borderline* personality disorder features predict negative outcomes 2 years later. Journal of abnormal psychology 2004;113:279-288.

51 Zimmerman M, Mattia JI: Axis i diagnostic comorbidity and *borderline* personality disorder. Comprehensive psychiatry 1999;40:245-252.

52 Skodol AE, Gunderson JG, Pfohl B, Widiger TA, Livesley WJ, Siever LJ: The *borderline* diagnosis i: Psychopathology, comorbidity, and personality structure. Biological psychiatry 2002;51:936-950.

53 Wilson ST, Stanley B, Oquendo MA, Goldberg P, Zalsman G, Mann JJ: Comparing impulsiveness, hostility, and depression in *borderline* personality disorder and bipolar ii disorder. The Journal of clinical psychiatry 2007;68:1533-1539.

54 Fossati A, Barratt ES, Carretta I, Leonardi B, Grazioli F, Maffei C: Predicting *borderline* and antisocial personality disorder features in nonclinical subjects using measures of impulsivity and aggressiveness. Psychiatry research 2004;125:161-170.

55 Jacob GA, Gutz L, Bader K, Lieb K, Tuscher O, Stahl C: Impulsivity in *borderline* personality disorder: Impairment in self-report measures, but not behavioral inhibition. Psychopathology 2010;43:180-188.

56 Wetterneck CT, Little TE, Chasson GS, Smith AH, Hart JM, Stanley MA, Bjorgvinsson T: Obsessive-compulsive personality traits: How are they related to ocd severity? Journal of anxiety disorders 2011;25:1024-1031.

57 Frost RO, Steketee G, Tolin DF: Comorbidity in hoarding disorder. Depression and anxiety 2011;28:876-884.

58 Altindag A, Yanik M, Nebioglu M: Comorbid personality disorders in subjects with bipolar i disorder. International journal of psychiatry in clinical practice 2006;10:33-37.

59 Casas-Barquero N, Garcia-Lopez O, Fernandez-Arguelles P, Camacho-Larana M: Clinical variables and implications of the personality on the outcome of bipolar illness: A pilot study. Neuropsychiatric disease and treatment 2007;3:269-275.

60 Thomsen PH, Jensen J: Obsessive-compulsive disorder: Admission patterns and diagnostic stability. A case-register study. Acta psychiatrica Scandinavica 1994;90:19-24.

61 Sanderson WC, Wetzler S, Beck AT, Betz F: Prevalence of personality disorders among patients with anxiety disorders. Psychiatry research 1994;51:167-174.

62 Siev J, Baer L, Minichiello WE: Obsessive-compulsive disorder with predominantly scrupulous symptoms: Clinical and religious characteristics. Journal of clinical psychology 2011;67:1188-1196.

63 Pinto A, Steinglass JE, Greene AL, Weber EU, Simpson HB: Capacity to delay reward differentiates obsessive-compulsive disorder and obsessive-compulsive personality disorder. Biological psychiatry 2014;75:653-659.

64 Villemarette-Pittman NR, Stanford MS, Greve KW, Houston RJ, Mathias CW: Obsessive-compulsive personality disorder and behavioral disinhibition. J Psychol 2004;138:5-22.

65 Heron J, Jones I, Williams J, Owen MJ, Craddock N, Jones LA: Self-reported schizotypy and bipolar disorder: Demonstration of a lack of specificity of the kings schizotypy questionnaire. Schizophrenia research 2003;65:153-158.

66 Mahon K, Perez-Rodriguez MM, Gunawardane N, Burdick KE: Dimensional endophenotypes in bipolar disorder: Affective dysregulation and psychosis proneness. Journal of affective disorders 2013;151:695-701.

67 Goodwin DW, Guze SB, Robins E: Follow-up studies in obsessional neurosis. Archives of general psychiatry 1969;20:182-187.

68 de Haan L, Dudek-Hodge C, Verhoeven Y, Denys D: Prevalence of psychotic disorders in patients with obsessive-compulsive disorder. CNS spectrums 2009;14:415-417.

69 Dinsdale NL, Hurd PL, Wakabayashi A, Elliot M, Crespi BJ: How are autism and schizotypy related? Evidence from a non-clinical population. PloS one 2013;8:e63316.

70 Poyurovsky M, Faragian S, Pashinian A, Heidrach L, Fuchs C, Weizman R, Koran L: Clinical characteristics of schizotypal-related obsessive-compulsive disorder. Psychiatry research 2008;159:254-258.

71 Hollander E, Greenwald S, Neville D, Johnson J, Hornig CD, Weissman MM: Uncomplicated and comorbid obsessive-compulsive disorder in an epidemiologic sample. Depression and anxiety 1996;4:111-119.

72 Kolada JL, Bland RC, Newman SC: Epidemiology of psychiatric disorders in edmonton. Obsessive-compulsive disorder. Acta psychiatrica Scandinavica Supplementum 1994;376:24-35.

73 Coplan JD, Tiffon L, Gorman JM: Therapeutic strategies for the patient with treatment-resistant anxiety. The Journal of clinical psychiatry 1993;54 Suppl:69-74.

5.CONSIDERAÇÕES FINAIS

O artigo**"Correlates of *Borderline,* Obsessive – Compulsive and Schizotypal Personality Disorders in Obsessive- Compulsive Disorder"**comprovou que os transtornos de personalidade são diagnósticos prevalentes em pacientes diagnosticados com TOC (52,7% da amostra), resultado que corrobora publicações prévias (PENA- GAJIDO et al., 2013; WETTERNECK et al.,2011; MATSUNAGA et al., 2005). Não obstante, nessa mesma amostra, os pacientes também preencheram critérios para mais de um transtorno de personalidade.

Com relação às características sociodemográficas, ter um transtorno de personalidade comórbido significa menos anos de estudo, principalmente se este for o transtorno de personalidade *borderline*. Essa constatação condiz com a literatura (BAGGE et al., 2004)*,* devido à alta impulsividade desse transtorno, à instabilidade emocional, o que resulta em prejuízo acadêmico e ocupacional. Além disso, nas características clínicas, indivíduos diagnosticados com TOC e com transtorno de personalidade *borderline* apresentam mais comorbidade com transtornos de humor, ansiosos, alimentares e de controle de impulso.

Pelas características clínicas, esses pacientes apresentam mais sintomatologia depressiva, ansiosa, obsessivo–compulsiva e sintomas mais graves do transtorno de personalidade *borderline*, como comportamentos autodestrutivos e ideação suicida. Além disso, demonstram mais impulsividade motora, ou seja, agem**,** muitas vezes**,** sem pensar. Tais características sugerem que a comorbidade deverá ocasionar maior disfuncionalidade nas relações interpessoais desses pacientes.

A associação entre TOC, TPOC e colecionismo é relatada na maioria dos estudos como uma sobreposição entre os critérios diagnósticos, o que aumenta a prevalência de TPOC em pacientes diagnosticados com TOC (FROST et al., 2011; FINEBERG et al., 2007; GARYFALLOS et al., 2010). Entretanto, este

estudo sugere que o transtorno de colecionamento é associado ao TPOC por outros mecanismos desconhecidos que não a sobreposição entre os critérios diagnósticos.

Testes neurocognitivos demonstraram que indivíduos com transtorno de personalidade obsessivo–compulsivopossuem capacidade para adiar pequenasrecompensas imediatas em virtude de recompensas maiores a longo prazo (PINTO et al., 2014). Baseado nesse fato, este estudo foi o primeiro a analisara escala de impulsividade de Barratt, impulsividade não planejada nos pacientes com TOC comórbidos ao transtorno de personalidade obsessivo–compulsivo. Pacientes com ambos os diagnósticos apresentavam menores escores de impulsividade não planejada. Quanto maior escore alcançado nessa subescala, maior a falta de planejamento para ações futuras; logo esses pacientes apresentaram mais autocontrole e mais complexidade cognitiva (MEULE et al., 2013; STANFORD et al.,2009).Por conseguinte, quando o transtorno de personalidade obsessivo–compulsivo encontrava-se associado ao TOC**,** os pacientes apresentaram maior compulsividade obsessiva. Sendo assim, o transtorno de personalidade**,** quando presente, agregou gravidade ao TOC (GORDON et al., 2013; LOCHNER et al., 2011; WETTERNECK et al., 2011).

Outra questão interessante abordada neste estudo relaciona-se ao transtorno de personalidade esquizotípico e ao transtorno de humor bipolar. Considera-se que o mais provável éque o transtorno de personalidade esquizotípico aumente a vulnerabilidade para o diagnóstico de bipolaridade, e diminua a probabilidade de novos casos de esquizofrenia em pacientes diagnosticados com TOC (HAAN et al., 2009).

Logo, os transtornos de personalidade interferem na expressão clínica do TOC, agravam a sintomatologia obsessiva - compulsiva e pioram a adesão ao tratamento. Entretanto, apesar de todos esses achados**,**não é possível afirmar se os transtorno de personalidade alteram o fenótipo do TOC por aumento da expressão dos sintomas obsessivos-compulsivos nos domínios dos transtornos

de personalidade ou se os sintomas obsessivos-compulsivos afetam as relações interpessoais,contribuindo para a piora do transtorno de personalidade.

Com este trabalho, espera-se uma melhor compreensão sobre o impacto dos transtornos de personalidade no TOC, como também contribuir para a discussão do tema e talvez guiar as próximas pesquisas direcionadas a populações específicas.

REFERÊNCIAS

ANSELL,E.B., PINTO,A., EDELEN,M.O., MARKOWITZ,J.C. et al. The association of personality disorders with the prospective7-yearcourse of anxiety disorders**. Psychol Med. 2011; 41, 1019–28.**

APA:**Diagnostic and statistical manual of mental disorders.**5. ed. Amer Psychiatric Pub Incorporated, 2013.

____. Diagnostic and statistical manual of mental disorders: DSM – IV – TR.4. ed. text rev. 2000.

____. Diagnostic and statistical manual of mental disorders: DSM - IV.4ed. 1994.

BAER,L., JENIKE,M.A.Personality Disorders in Obsessive–Compulsive Disorder. **PSYCHIATRY CLIN NORTH AM.** 1992; 15 (4): 803-12.

BAGGE C, NICKELL A., STEPP S., DURRETT C., JACKSON, K., TRULL T. J.*Borderline* Personality Disorder Features Predict Negative Outcomes 2 years later. **J ABNORM PSYCHOL.** 2004**;** 113(2): 279 – 88.

BLOM, R. M., KOETER, M., VAN DEN BRINK, W., DE GRAAF, R., TEN HAVE, M., DENYS, **D.** Co-occurrence of obsessive-compulsive disorder and substance use disorder in the general population. **ADDICTION.** 2011; 106 (12): 2178- 85. doi:10**.**1111/j.1360-0443.2011.03559.x.

BRAKOULIAS**,** V., STARCEVIC, V., BERLE, D., MILLCEVIC, D., HANNAN,D.**,** VISWASAM K, MANN K.The Clinical Characteristics of Obsessive- Compulsive Disorder Associated with High Level oh Schizotypy**. AUST N Z J PSYCHIATRY.** 2014; 90 (48): 852-60.

CALVO,R., LÁZARO L., CASTRO–FORNIELES, J., FONT, E., MORENO, A., TORO, J.Obsessive-compulsive personality disorder traits and personality dimensions in parents of children with obsessive-compulsive disorder. **EUR PSYCHIATRY.** 2009; 24 (3): 201-6.

COLESM. E**.,**PINTO, A., MANCEBO, M. C. RASMUSSEN, S. A., EISEN, J. L**.** OCD with comorbid OCPD: a subtype of OCD?**J PSYCHIATR RES.** 2008; 42, 289–96.

DE HAAN, L., DUDEK–HODGE, C., VERHOEVEN, Y., DENYS, D.Prevalence of Psychotic Disorders in Patients with Obsessive–Compulsive Disorder. **CNS SPECTR.** 2009**;** 14 (8): 415-7**.**

DIAFERIA, G., BIANCHI, I., BIANCHI, M L., CAVEDINI, P., ERZEGOVESI, S., BELLODI, L**.** Relationship between obsessive–compulsivepersonality and obsessive–compulsive disorder.**COMPR PSYCHIATRY.**1997; 38:38–42

EISEN, J. L., COLES, M.E., SHEA MT, PAGANO M.E., STOUT R.L., YEN S., GRILO C.M.,RASMUSSENS.A**.**Clarifying the convergence between obsessive compulsive personality disorder criteria and obsessive compulsive disorder.**J PERS DISORD.**2006; 20: 294–305

ETTELT,S., RUHRMANN,S., BARNOW,S., BUTHZ,F., HOCHREIN,A., MEYER,K., KRAFT,S., RECK,C., PUKROP,R.,KLOSTERKÖTTER,J.,FALKAI,P.,MAIER, W., WAGNER, M., FREYBERGER, H. J.,GRABE, H. J.Impulsiveness in obsessive–compulsive disorder: results from a family study. **ACTA PSYCHIATR SCAND.** 2007**;**115: 41–47

FINEBERG N.A., SHARMA P., SIVAKUMARAN T., SAHAKIAN B., CHAMBERLAIN S. Does Obsessive – Compulsive Personality Disorder Belong

Within the Obsessive – Compulsive Spectrum? **CNS SPECTR.**2007;12(6):467-474,477-482.

FINEBERG, N.A., POTENZA, M.N., CHAMBERLAIN, S.R., BERLIN, H.A., MENZIES. L., BECHARA A.et al.Probing compulsive and impulsive behaviors, from animal models to endophenotypes: a narrative review.**NEUROPSYCHOPHARMACOLOGY.**2010; 35: 591 – 604.

FONTENELLE L.F., Grant J.E.Hoarding Disorder: a New Diagnostic Category in ICD – 11 ?**REV BRAS PSIQUIATR.** 2014; 36 (suppl 1): 28 – 39.

FONTENELLE, L.F., HASLER, G.The analytical epidemiology of obsessive – compulsive disorder: risk factors and correlates.**PROG NEUROPSYCHOPHARMACOL BIOL PSYCHIATRY.**2008; 32 (1): 1 – 15.

FONTENELLE, J.M., SANTANA, L.S., LESSA, L.R., VICTORIA, M.S., MENDLOWICZ, M.V., FONTENELLE, L. F.The concept of insight in patients with obsessive–compulsive disorder. **REV BRAS PSIQUIATR.**2010; 32: 77 – 82.

FROST, R.O., STEKETEE, G., TOLIN, D.F.Comorbidity in hoarding disorder.**DEPRESS ANXIETY.** 2011; 28(10): 876–884.

FRIBORG**,**O., MARTINUSSEN**,** M., KAISER**,** S**.,** ØVERGARD**,** K. T**.,** ROSENVINGE**,** J. H**.** Comorbidity of personality disorders in anxiety disorders: a meta-analysis of 30 years of research. **J AFFECT DISORD.** 2013**;** 145 (2):143**-**55**.**

GARYFALLOS, G., KATSIGIANNOPOULOS, K., ADAMOPOULOU**,** A**.,** PAPAZISIS, G., KARASTERGIOU, A.,BOZIKAS, V. P.Comorbidity of obsessive–compulsive disorder with obsessive–compulsive personality disorder: Does it imply a specific subtype of obsessive – compulsive disorder? **PSYCHIATRY**

RES. 2010; 177 (1-2): 156 -60. doi: 10.1016/j.psychres.2010.01.006. Epub 2010 Feb 16.

GELLER, D.A**. Obsessive-compulsive and spectrum disorders in children and adolescents. PSYCHIATR CLIN NORTH AM.**2006; 29:353-70.

GENG, F., XU, T., WANG, Y. et al.Developmental trajectories of schizotypal personality disorder-like behavioural manifestations: a two-year longitudinal prospective study of college students.**BMC PSYCHIATRY.** 2013; 13: 323. doi:10.1186/1471-244X-13-323

GORDON, O.M., SALKOVSKIS, P.M., OLDFIELD, V. B., CARTER, N.The association between obsessive compulsive disorder and obsessive compulsive personality disorder: prevalence and clinicalpresentation.**BR J CLIN PSYCHOL.** 2013**;** 52 00 (3): 3-15**.**

GRANT**,** J.E**.**Obsessive – Compulsive Disorder.**N ENGL J MED.** 2014**;** 371**:** 7.

GRISHAM, J.R., FULLANA, M.A., MATAIX-COLS, D., MOFFITT, T.E., CASPI, A., POULTON, R**.** Risk Factors Prospectively associated with adult obsessive-compulsive symptom dimensions and obsessive-compulsive disorder. **PSYCHOL MED.** 2011**;**41 (12): 2495 – 506. DOI: 10.1017/S0033291711000894

HUANG L.C., HWANG T.J., HUANG G.H., HWU H.G**.** Outcome of Obsessive – Compulsive Disorder with Schizotypal Features: A Pilot Study.**J FORMOS MED ASSOC.** 2011; 110 (2): 85 – 92**.**

HOLLANDER, E**.** Obsessive – Compulsive Disorder: the Hidden Epidemic.**J CLIN PSYCHIATRY.** 1997; 58 (12): 3-6.

HUH, M.J., SHIM, G., KWON, J. S**.** The impact of personality traits on ratings of obsessive-compulsive symptoms.**PSYCHIATRY INVESTIG.**2013; 10 (3): 259-65.

JAKUBOVSKI, E., PIT TENGER, C., TORRES, A.R., FONTENELLE**,** L.F., ROSARIO, M.C., FERRÃO, Y.A., MATHIS, M.A., MIGUEL, E.C., BLOCH, M**.**H**.** Dimensional correlates of poor insight of obsessive-compulsive disorder**. PROG NEUROPSYCHOPHARMACOL BIOL PSYCHIATRY.** 2011; 35: 1677 – 81.

KASHYAP, H., FONTENELLE, L.F., MIGUEL, E.C., FERRÃO, Y.A., TORRES, A. R., SHAVITT, R.G.,FERREIRA-GARCIA, R., ROSÁRIO, M.C., YÜCEL, M.'Impulsive compulsivity' in obsessive-compulsive disorder: A phenotypic marker of patients with poor clinical outcome.**J PSYCHIAT RES.** 2012; 46 (9): 1146 – 52.

LEICHSENRING. F., LEIBING, E., KRUSE, J., NEW. A. S., LEWEKE, F.*Borderline* Personality Disorder. **LANCET.** 2011; 377 9759): 74-84.

LOCHNER, C., SEREBRO, P., VAN DER MERWE, L., HEMMINGS, S., KINNEAR, C., SEEDAT, S., STEIN, D. J.Comorbidobsessive-compulsivepersonalitydisorder in obsessive-compulsivedisorder (OCD): a marker of severity.**PROG NEUROPSYCHOPHARMACOL BIOL PSYCHIATRY.**2011; 35 (4): 1087-92. doi: 10.1016/j.pnpbp.2011.03.006.

MATHIS, M.A., ALVARENGA, P., FUNARO, G., TORRESAN, R.C., MORAES, I., TORRES, A.R., ZILBERMAN, M.L., HOUNIE, A.G. Gender Differences in Obssessive - Compulsive Disorder: a Literature Review. **REV. BRAS**. **PSIQ**. 2011; 33 (4): 390-9.

MAUREX, L., ZABOLI, G., ÖHMAN, A., ASBERG, M., LEOPARDI, R.The serotonin transporter gene polymorphism (5-HTTLPR) and affective symptoms among women diagnosed with *borderline* personality disorder.**EURPSYCHIATRY**2010; 25 (1): 19 – 25**.**

MATSUNAGA, H., KIRIIKE, N., MATSUI, T., OYA K, OKINO K, STEIN DJ**.** Impulsive disorders in japonese adult patients with obsessive- compulsive disorder.**COMP PSYCHIATRY.** 2005; 46 (1): 43 – 9.

McKAY, D., ANDOVER, M.Should nonsuicidal self-injury be a putative obsessive-compulsive related condition? A critical appraisal.**BEHAVMODIF.**2012; 36 (1): 3 – 17.

MEULE, A**.** Impulsivity and Overeating: a closer look at the subscales of the Barratt Impulsiveness Scale.**FRONT PSYCHOL.** 2013; 4 (177): 1-4.

MILAD, M.R., RAUCH, S.L.Obsessive-compulsive disorder: beyond segregated cortico-striatal pathways. **TRENDS COGN SCI**2012;16 (1) :43-51.

NARAYANASWAMY, J.C., VISWANATH, B., VESHNAL CHERIAN, A., BADA MATH, S., KANDAVEL, T., JANARDHAN REDDY, Y. C.Impact of age of onset of illness on clinical phenotype in OCD.**PSYCHIATRY RES**2012;200 (2 -3):554-9.

NEWTON-HOWES, G., TYRER, P., ANAGNOSTAKIS, K., COOPER, S., BOWDEN-JONES, O., WEAVER, T. The prevalence of personality disorder, its comorbidity with mental state disorders, and its clinical significance in community mental health teams. **SOC PSYCHIATRY PSYCHIATR EPIDEMIOL.**2010; 45 (4):453 – 60.

NESTADT, G., DI, C. Z., RIDDLE, M. A., GRADOS, M. A., GREENBERG, B. D., FYER, A. J., et al**.**Obsessive-compulsive disorder: subclassification based on comorbidity.**PSYCHOL MED.**2009**;** 39 (9): 1491–1501**.**

OKASHA, A., OMAR, A. M., LOTAIEF, F., GHANEM, M., SEIF, E. L., DAWLA, A., OKASHA. T. Comorbidity Axis I and Axis II Diagnoses in a Sample of Egyptian Patients with Neurotic Disorders.**COMPR PSYCHIATRY.** 1996; 37 (2): 95 – 101**.**

ORGANIZAÇÃO MUNDIAL DE SAÚDE.**Classificação de Transtornos Mentais e de Comportamento da CID-10: Descrições Clínicas e Diretrizes Diagnósticas.** Porto Alegre: Artes Médicas, 1993.

PENA–GARIJO, J., VILAMÓN, S.E., ALBA, A.M., RUIPÉREZ, M. A.Personality Disorders in Obsessive-Compulsive Disorder: A Comparative Study versus Other Anxiety Disorders.**SCIENTIFICWORLDJOURNAL.** 2013. http://dx.doi.org/10.1155/2013/856846

PINTO, A., STEINGLASS, J. E., GREENE, A. L., WEBER, E. U., SIMPSON, H. B. Capacity to Delay Reward Differentiates Obsessive – Compulsive Disorder and Obsessive – Compulsive Personality Disorder.**BIOL PSYCHIATRY.** 2014; 75 (8): 653-9**.**

PINTO, A., LIEBOWITZ, M.R., FOA, E.B., BLAIR SIMPSON, H.Obsessive - Compulsive Personality Disorder as a Predictor of Exposure and Ritual Prevention Outcome for Obsessive Compulsive Disorder.**BEHAV RES THER.**2011; 49(8): 453–458. doi:10.1016/j.brat.2011.04.004.

PINTO, A., MANCEBO, M. C., EISEN, J. L., PAGANO, M. E., RASMUSSEN, S. A.The Brown Longitudinal Obsessive - Compulsive Study: clinical features and symptoms of the sample at intake.**J CLIN PSYCHIATRY.** 2006;67:703-711.

PIRAS, F., PIRAS F, CALTAGIRONE, C., SPALLETTA, G.**. Brain circuitries of obsessive - compulsive disorder: a systematic review and meta-analysis of diffusion tensor imaging studies. NEUROSCI BIOBEHAV REV**2013;37 (10 Pt 2): 2856-77.

POYUROVSKY M, FARAGIAN S, PASHINIAN A, HEIDRACH L, FUCHS C, WEIZMAN R, KORAN L**.** Clinical Characteristics of Schizotypal – Related Obsessive – Compulsive Disorder.**PSYCH RESEARCH.**2008; 159 (1-2): 254 – 8.

POYUROVSKY, M., KORAN, L.M.Obsessive – compulsive disorder (OCD) with schizotypy vs. Schizophrenia with OCD: diagnostic dilemmas and therapeutic implications.**J PSYCHIATR RES.** 2005; 39 (4): 399 – 408.

RUSCIO, A.M., STEIN, D.J., CHIU, W.T., KESSLER, R.C.The Epidemiology of Obsessive-Compulsive Disorder in the National Comorbidity Survey Replication. **MOL PSYCHIATRY.**2010; 15(1): 53 – 63.

SANISLOW, C.A. , LITTLE, T.D., ANSELL, E.B., GRILO, C.M., DAVERSA, M., MARKOWITZ, J.C., PINTO, A., SHEA, M.T., YEN, S., SKODOL, A. E., MOREY, L. C., GUNDERSON, J. G., ZANARINI, M. C., MCGLASHAN, T. H.Ten-year stability and latent structure of the DSM-IV schizotypal, *borderline*, avoidant, and obsessive-compulsive personality disorders.**J ABNORM PSYCHOL.** 2009;118 (3):507-519**.**

SKODOL, A.E., BENDER, D.S., MOREY, L.C., CLARK, L.A., OLDHAM, J. M., ALARCON, R. D., KRUEGER, R. F., VERHEUL, R., BELL, C. C., SIEVER, L. J.Personality disorder types proposed for DSM-5.**J PERS DISORD.**2011;25 (2):136-169.

SKODOL, A.E., OLDHAM, J.M., HYLER, S.E., STEIN, D.J., HOLLANDER, E., GALLAHER, P.E., LOPEZ, A. E.Patterns of anxiety and personality disorder comorbidity. **J PSYCHIAT RES.** 1995; 29 (5): 361-74.

SKODOL, A. E.., GUNDERSON, J. G., MCGLASHAN, T. H. et al. Functional impairment in patients with schizotypal, *borderline*, avoidant, or obsessive - compulsive personality disorder. **AM J PSYCHIATRY.** 2002; 159 (2): 276–283

SIBRAVA, N.J., BOISSEAU, C.L., MANCEBO, M.C., EISEN, J.L., RASMUSSEN, S.A.Prevalence and clinical characteristics of mental rituals in a longitudinal clinical sample of obsessive-compulsive disorder.**DEPRESS ANXIETY.** 2011; 28 (10): 892-8.

SOETEMAN, D.I., HAKKAART-VAN ROIJEN, L., VERHEUL, R., BUSSCHBACH, J. J. V. The economic burden of personality disorders in mental health care. **J CLIN PSYCHIATRY.** 2008; 69 (2): 259-65.

STANFORD, M.S., MATHIAS, C.W., DOUGHERTHY, D.M., LAKE, S.L., ANDERSON, N.E., PATTON, J.H. Fifty Years of the Barratt Impulsiveness Scale: An Update and Review.**PERSONALITY AND INDIVIDUAL DIFFERENCES.**2009; 47 (2) : 385-95.

STARCEVIC, V., BRAKOULIAS, V.Newdiagnosticperspectives on obsessive-compulsivepersonalitydisorder and its links with otherconditions.**CURR OPIN PSYCHIATRY.** 2014; 27 (1): 62-7. DOI: 10.1097/YCO.0000000000000030.

STARCEVIC, V., BERLE, D., BRAKOULIAS, V., SAMMUT, P., MOSES. K., MILICEVIC, D., HANNAN, A.Obsessive – compulsive personality disorder co-occurring with obsessive – compulsive disorder: conceptual and clinical implications.**AUST N Z J PSYCHIATRY.** 2013; 47 (1): 65-73.

TALLIS F AND SHAFFRAN R.Schizotypal personality and obsessive compulsive disorder.**CLIN PSYCHOL PSYCHOTHERAPY.** 1997; 4: 172–178.

TAYLOR S, ASMUNDSON GJG, JANG KL. Etiology of Obsessive – Compulsive Symptoms and Obsessive – Compulsive Personality Traits: Common Genes, Mostly Different Environments.**DEPRESS ANXIETY.** 2011; 28: 863-9.

TORRES, A.R., SHAVITT, R.G., TORRESAN, R.C., FERRÃO, Y.A., MIGUEL, E. C., FONTENELLE, L. F. Clinical features of pure obsessive - compulsive disorder. **COMPR PSYCHIATRY**2013; 54 (7): 1042-52.

TORRES, A. R., MORAN, P. et al.Obsessive-compulsive disorder and personality disorder: evidence from the British National Survey of Psychiatric Morbidity 2000. **SOC PSYCHIATRY PSYCHIATR EPIDEMIOL.**2006; 41 (11): 862-7.

VAN GROOTHEEST, D.S., CATH, D.C., BEEKMAN, A.T., BOOMSMA, D.I. Twin studies on obsessive-compulsive disorder: a review.**TWIN RES HUM GENET**2005;8:450-8.

VICTORIA, M.S. & FONTENELLE, L.F. A construção de um novo instrumento para avaliar correlatos implícitos dos sintomas do transtorno obsessivo-compulsivo: primeira versão do Teste de Associação Implícita.**REV PSIQ CLÍN.** 2010; 37 (5): 189 – 94.

WETTERNECK C.T., LITTLE T.E., CHASSON G.S., SMITH A.H., HART J.M., STANLEY M.A., BJÖRGVINSSON T.Obsessive-compulsive personality traits: How are they related to OCD severity?**J ANXIETY DISORDERS.**2011; 25 (8): 1024-31.

WU, K.D., CLARK, L.A., WATSON, D.Relations between obsessive–compulsive disorder and personality: Beyond Axis I–Axis II comorbidity.**J ANXIETY DISORDERS.**2006; 20 (6): 695–717.

YAMAMOTO, H., TSUCHIDA, H., NAKAMAE, T. et al.Relationship between severity of obsessive-compulsive symptoms and schizotypy in obsessive-compulsive disorder. **NEUROPSYCHIATR DIS TREAT.**2012;8: 579.

ANEXO A: ESCALA DE COMPULSIVIDADE DE GRATTAN

Instruções: Isto é um teste para medir a forma como você pensa e age. Leia atensiosamente cada afirmação e selecione a resposta apropriada. Não gaste muito tempo em nenhuma afirmação. Responda honesta e rapidamente.

	Raramente/ Nunca	As Vezes	Frequentemente	Sempre/ quase Sempre
É muito difícil tomar decisões.				
Eu me preocupo com os detalhes				
Eu fico preso/emperrado em um pensamento.				
Eu tenho comportamentos que poderiam ser considerados excessivos.				
Eu monitoro muito as coisas em determinadas circunstâncias.				
Eu acho difícil resistir a pensamentos que eu não quero.				
Eu sou uma pessoa rígida/inflexível.				
Eu tenho pensamentos persistentes				
Eu me sinto responsável quando as coisas dão errado				
Eu fico incomodado com lugares públicos ou potencialmente não higiênicos				

Anexo B: Artigo publicado na Revista The Psychiatric Quaterly em Junho de 2013

Delusional Misidentification Syndromes in Obsessive–Compulsive Disorder

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Published online: 26 August 2012

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Abstract Delusional misidentification syndromes (DMS) have been rarely reported in patients with conditions other than schizophrenia-related disorders, diffuse brain disease (dementia) and focal neurological illness. In this report, we describe DMS (i.e. Capgras and Fregoli syndromes) in two patients with severe and treatment resistant obsessive– compulsive disorder (OCD), one with paranoid personality disorder (PPD) and the other with a pervasive developmental disorder (PDD) not otherwise specified. While our findings highlight an interesting phenomenon (the occurrence of DMS in OCD), it is

presently unclear whether this association is rare or underreported. Misidentification syndromes might be the ultimate result of a combination of obsessive fears and preexisting cognitive bias/deficits, such as mistrustfulness (in PPD) or poor theory of mind (in PDD).

Keywords Obsessive–compulsive disorder □ Delusions □ Capgras syndrome □ Psychopathology

Introduction

Patients with obsessive–compulsive disorder (OCD) have been classically described as displaying a high level of insight in relation to their own obsessions or compulsions. However, there is a growing recognition that a significant proportion of patients with OCD may be partially or totally unable to recognize their irrationality [1]. In such cases, the symptoms have been best classified as overvalued ideas or delusions, respectively [2]. However, since there is almost no information on the overlap between the content of OCD- related cognitions (e.g. aggressive, sexual, religious, and contamination themes) and psychotic disorders-related delusions (e.g. persecutory, jealous, erotomanic, somatic and grandiose themes), the existence of a continuum between OCD and delusional or psychotic disorders remains elusive.

Delusional misidentification syndromes (DMS) are conditions in which a patient repeatedly misidentifies persons, places, objects, or events [3]. They are relatively rare psychopathologic phenomena, occurring in about 4 % of patients with functional psychosis [4]. The most common form of DMS is Capgras syndrome, i.e. the ‘‘hypoidentification’’ (non-recognition) of familiar persons, who the patient believes have been replaced by ‘‘doubles’’ or imposters [3, 5]. There are, however, other less common DMS, e.g. the ‘‘hyperidentification’’ (recognition) of well known persons (usually a persecutor) among people in the environment (i.e. Fregoli syndrome), who might also interchange with each other (i.e. intermetamorphosis), or transform into the patient’s self (i.e. syndrome of subjective doubles) [5]. The diagnosis of DMS is more than a mere exercise of

academic interest, given its association with violent behavior [6, 7] or even homicide [8].

Misidentification syndromes have been rarely reported in patients with primary non- psychotic conditions [9, 10]. We are only aware of the report of a 35 year-old married woman with lifelong OCD who had incapacitating doubts about whether her husband, her parents, her cat, and even the city that she lived in had been replaced by identical- appearing duplicates [11]. Of note, this patient's OCD was resistant to ‘‘antipsychotics, antidepressants, and multiple courses of electroconvulsive therapy’’, and recurred even after two neurosurgical procedures (i.e. cingulotomies). In the present paper, we aimed at contributing to the literature by describing two additional patients who developed DMS (Capgras and Fregoli syndromes) during the course of severe and treatment resistant OCD.

Case Reports

Mrs. A, a 20 year-old married secretary with OCD and paranoid personality disorder (PPD), began exhibiting obsessions with aggressive content and repeating rituals at age 10. At that time, she was concerned about her parents' safety and had to touch objects three to seven times to ‘‘undo evil’’. Concurrently, Mrs. A also exhibited motor tics (including echopraxia), which disappeared during adolescence. While a current diagnosis of OCD was confirmed using the structured clinical interview for DSM-IV axis I disorder (SCID), PPD was diagnosed on clinical grounds (e.g. Mrs. A described that people always want to deceive her). At age 17, she started to fear that she had asked different men to have sex with her and had been contaminated with HIV and/or hepatitis. When leaving a room, she would pay careful attention to other people's emotional expressions and statements to ensure that no sexual contact had taken place.

Two years after the birth of her only son, Mrs. A started to obsess about his safety. Spe- cifically, she feared having made a ‘‘deal’’ that involved donating him for sexual practices or having him kidnapped after minor arguments with friends, coworkers, or doorkeepers, among others. She started to suspect that someone

had substituted her son with an identical clone to bamboozleher.Althoughshewasnot100 %suremostoftime,occasionallyshefeltlike‘‘i twas real’’. This would lead her to spend hours daily checking his body for minor scars, so that she could confirm that her baby was actually her son. Her score on the Yale–Brown obsessive– compulsive scale was 38 (minimum—0; maximum—40). Major depressive disorder was present. MRI scan and organic work-up were normal. Although showing an initial response to high dose serotonin reuptake inhibitors (SRI) and cognitive-behavioral therapy, and remaining under treatment on a long-term basis, Mrs. A OCD eventually relapsed. This time, however, her OCD and Capgras syndrome proved to be treatment resistant to different high-dose SRI potentiated with several strategies (including different atypical antipsychotics).

Mr. B, a 30 year-old single men with high school education, OCD and a pervasive developmental disorder (PDD) not otherwise specified, sought treatment for fearing being raped by a gang of sexual abusers. As a kid, he used to have no friends, to walk in circles, to stutter, and to display frequent outbursts of rage towards family members. His mother reported that Mr. B started to show symptoms consistent with OCD, i.e. turning light switches off using his elbow, at age 9. While current OCD diagnosis was confirmed using the SCID, PDD was diagnosed on clinical grounds, based on qualitative impairments in social interaction and odd prosody.

Since late adolescence, Mr. B repeatedly asked family members, including mother, father, and sister, whether they had witnessed him having any type of sexual intercourse with strangers. Concurrently, he started to fear that one abuser was disguised to appear as different family members to reassure him that he was not at any risk of sexual abuse (while, in fact, he thought he was at risk). Violence against his mother and sister was common, particularly when they refused to provide reassurance or, more recently, when Mr. B’s concerns regarding the abuser’s disguise became more intense, reaching a delu- sional level. However, after assaulting his mother and sister-in-law, he would generally

show regret and full insight regarding the absurdity of his symptoms, arguing that they were illogical but uncontrollable. His Y-BOCS score was 39. Mr. B displayed mild depressive symptoms but did not fulfill criteria for a current major depressive disorder and did not have a history of mania. Despite a history of positive and short-lived response to lithium carbonate (prescribed by another clinician for aggressiveness), Mr. B's more recent clinical picture (dominated by OCD and Fregoli syndrome) proved to be treatment resistant to several high dose SRIs augmented by atypical antipsychotics.

Discussion

Our findings highlight an interesting phenomenon, i.e. the occurrence of DMS among patients with OCD. Although it is presently unclear whether these conditions are rare or actually underreported in OCD, our report adds to the current discussion regarding the existence of a continuum between obsessions and delusions or, alternatively, between OCD and psychotic disorders. In fact, although the rates of DMS in OCD are unknown, the distinctiveness of our series raises a range of diagnostic, etiological, and management issues, which we discuss below.

From a diagnostic point of view, we believe that our patients exhibited obsessional variants of DMS. Both of our patients displayed fluctuating levels of insight towards their OCD symptoms, a phenomenon that has been systematically described in OCD [12]. Further, while it could be argued that the co-occurrence of DMS and OCD represents a chance association, we feel there are reasons to believe in a continuum between these conditions. For instance, DMS could be conceptualized as an understandable progression of contamination (Mrs. A) and sexual/aggressive (Mr. B) obsessions facilitated by premorbid conditions, such as PPD and PDD, respectively [13]. Also, both OCD and Capgras syndrome have been characterized by failures to generate or experience ‘‘feelings of knowing’’ [14] or ‘‘rightness’’ [15], thus suggesting some sort of phenomenological overlap between these conditions. Interestingly, there

are previous reports of OCD patients displaying a fear of turning into someone or something else or taking on unwanted characteristics [16], a phenomenon that could be considered an obsessional variant of ‘‘reverse intermetamorphosis’’, a rare type of DMS [17].

From an etiological perspective, it is difficult to conjecture on the mechanisms through which some patients with OCD might develop misidentification syndromes. However, in our particular cases, DMS might have resulted from a combination of obsessive fears and pre- existing cognitive bias/deficits, such as mistrustfulness (in PPD) or poor theory of mind (in PDD). It is interesting that autism (a PDD) has been associated with increased rates of PPD in OCD patients [18]. Accordingly, while paranoid tendencies might have shaped OCD symptoms in one case [19, 20], damaged egocentric representations of familiar persons (and its replacement by OCD-related representations) might have played a role in the other [21].

While face recognition deficits are intrinsic to the concept of DMS [3], it is also remarkable that emotional facial recognition deficits have been noted in DMS (i.e. Capgras syndrome [22]), PDD [23], and OCD [24]. For instance, in one study, patients with high- functioning autism were found to be less accurate at processing a range of basic emotional expressions, particularly disgust, anger and surprise [25] whilst in another investigation, 33 % of OCD patients were impaired in their ability to recognize disgust expressions [24]. Therefore, one could speculate that these conditions may exist on continuum of severity or that there is an overlapping facial recognition deficit linking them.

Our patients raise important questions in terms of therapeutic management. Although poor insight OCD has been reported to improve after conventional treatment with SRIs [20, 26], our cases have shown resistance to several trials of SRIs augmented or not with antipsychotics. Accordingly, it is unclear whether DMS lead to increased treatment resistance or, in contrast, results from a chronic and refractory OCD condition. In fact, while cluster A personality disorders

(including PPD) have been described as predictors of treatment resistance in OCD [27], DMS, poor theory of mind and belligerence might have led to increased ‘‘family accommodation’’, a phenomenon that has been associated with poorer response to pharmacotherapy and cognitive-behavioral treatment in OCD [28].

In summary, we have described what we believe is a rare complication of patients with severe and treatment resistant OCD. Future studies should be performed to identify (i) prevalence rates of Capgras syndrome and other DMS in OCD; (ii) the OCD phenotype generally associated with DMS, and (iii) what are the neurobiological mechanisms asso- ciated with DMS along different non-psychotic psychiatric conditions.

Acknowledgments Prof. Leonardo Fontenelle was supported by grants from Fundac¸a˜o de Apoio a Pesquisa do Estado do Rio de Janeiro (FAPERJ and Conselho Nacional de Desenvolvimento Cient´ıfico e Tecnoo´gico (CNPq). Prof. Christos Pantelis was supported by a National Health and Medical Research Council (NHMRC) Senior Principal Research Fellowship and NHMRC Program Grants.

Conflict of interest All authors, with exception of Dr. Serra-Pinheiro, declare that they have no conflict of interest. Dr. Serra-Pinheiro has served as consultant for SIRE and received academic support for medical meetings from SIRE, Eli-lilly, Novartis and Janssen.

References

1. Fontenelle JM, Santana Lda S, Lessa Lda R, Victoria MS, Mendlowicz MV, Fontenelle LF: The concept of insight in patients with obsessive-compulsive disorder. The Revista Brasileira de Psiquiatria 32(1):77–82, 2010.

2. Kozak MJ, Foa EB:. Obsessions, overvalued ideas, and delusions in obsessive-compulsive disorder. Behaviour Research and Therapy 32(3):343–353, 1994

3. Feinberg TE, Roane DM: Delusional misidentification. Psychiatric Clinics of North America 28(3):665–83, 78–79, 2005. doi:10.1016/j.psc.2005.05.002

4. Kirov G, Jones P, Lewis SW: Prevalence of delusional misidentification syndromes. Psychopathology 27(3–5):148–149, 1994

5. Christodoulou GN, Margariti M, Kontaxakis VP, Christodoulou NG: The delusional misidentification syndromes: strange, fascinating, and instructive. Current Psychiatry Reports 11(3):185–189, 2009

6. Edelstyn NM, Oyebode F: A review of the phenomenology and cognitive neuropsychological origins of the Capgras syndrome. International Journal of Geriatric Psychiatry 14(1):48–59, 1999. doi: 10.1002/(SICI)1099-1166(199901)14:1\48::AID-GPS891[3.0.CO;2-0

7. Bourget D, Whitehurst L: Capgras syndrome: a review of the neurophysiological correlates and pre- senting clinical features in cases involving physical violence. The Canadian Journal of Psychiatry 49(11):719-725, 2004

8. Casu G, Cascella N, Maggini C. Homicide in Capgras' syndrome. Psychopathology 27(6):281–284, 1994.

9. Nilsson R, Perris C: The Capgras syndrome: a case report. Acta Psychiatrica Scandinavica 221:53–58, 1971

10. Kimura S: Review of 106 cases with the syndrome of Capgras. Bibl Psychiatry 164:121–130, 1986

11. Stein RM, Lipper S: An obsessional variant of capgras symptom: a case report. Bulletin of the Menninger Clinic 52(1):52–57, 1988

12. Brakoulias V, Starcevic V: The characterization of beliefs in obsessive-compulsive disorder. Psychiatric Quarterly 82(2):151–61, 2011. doi:10.1007/s11126-010-9157-8

13. Jaspers K. General psychopathology. Maryland: JHU Press; 2007.

14. Szechtman H, Woody E: Obsessive-compulsive disorder as a disturbance of security motivation. Psychological Review 111(1):111–127, 2004. doi:10.1037/0033-295X.111.1.111

15. Mangan B: Sensation's ghost: The non-sensory ''fringe'' of consciousness. Psyche 7:18, 2001

16. Volz C, Heyman I: Case series: transformation obsession in young people with obsessive–compulsive disorder (OCD). Journal of the American Academy of Child & Adolescent Psychiatry 46(6):766–772, 2007. doi:10.1097/chi.0b013e3180465a2e

17. Hanin B, Perlow M, Ben-Daniel N, Itzhaki S: Reverse intermetamorphosis—A rare misidentification phenomenon. Israel Journal of Psychiatry & Related Sciences ;31(4):296–299, Israel Journal of Psychiatry & Related Sciences

18. Bejerot S, Nylander L, Lindstrom E: Autistic traits in obsessive–compulsive disorder. Nordic Journal of Psychiatry 55(3):169–176, 2001. doi:10.1080/08039480152036047

19. Insel TR, Akiskal HS: Obsessive–compulsive disorder with psychotic features: a phenomenologic analysis. American Journal of Psychiatry 143(12):1527–1533, 1986

20. Alonso P, Menchon JM, Segalas C, Jaurrieta N, Jimenez-Murcia S, Cardoner N, et al.: Clinical implications of insight assessment in obsessive-compulsive disorder. Comprehensive Psychiatry 49(3):305–312, 2008. doi:10.1016/j.comppsych.2007.09.005

21. Hirstein W: The misidentification syndromes as mindreading disorders. Cognitive Neuropsychiatry 15(1):233–260, 2010. doi:10.1080/13546800903414891

22. Breen N, Caine D, Coltheart M. The role of affect and reasoning in a patient with a delusion of misidentification. Cognitive Neuropsychiatry 7(2):113–137, 2002. doi:10.1080/13546800143000203

23. Weigelt S, Koldewyn K, Kanwisher N: Face identity recognition in autism spectrum disorders: A review of behavioral studies. Neuroscience & Biobehavioral Reviews 36(3):1060–1084, 2011. doi: 10.1016/j.neubiorev.2011.12.008

24. Corcoran KM, Woody SR, Tolin DF: Recognition of facial expressions in obsessive–compulsive dis- order. Journal of Anxiety Disorders 22(1):56–66, 2008. doi:10.1016/j.janxdis.2007.01.003

25. Law Smith MJ, Montagne B, Perrett DI, Gill M, Gallagher L: Detecting subtle facial emotion recog- nition deficits in high-functioning Autism using dynamic stimuli of varying intensities. Neuropsycho- logia 48(9):2777–2781, 2010. doi:10.1016/j.neuropsychologia.2010.03.008

26. Matsunaga H, Kiriike N, Matsui T, Oya K, Iwasaki Y, Koshimune K, et al.: Obsessive-compulsive disorder with poor insight. Comprehensive Psychiatry 43(2):150–157, 2002

27. Hansen B, Vogel PA, Stiles TC, Gotestam KG: Influence of co-morbid generalized anxiety disorder, panic disorder and personality disorders on the outcome of cognitive behavioural treatment of obses- sive-compulsive disorder. Cognitive Behaviour Therapy 36(3):145–155, 2007. doi:10.1080/16506070701259374

28. Lebowitz ER, Panza KE, Su J, Bloch MH: Family accommodation in obsessive-compulsive disorder. Expert Review of Neurotherapeutics 12(2):229–238, 2012. doi:10.1586/ern.11.200