UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL

FACULDADE DE MEDICINA

PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS MÉDICAS: PSIQUIATRIA

TESE DE DOUTORADO

PREVALÊNCIA DO TRANSTORNO OBSESSIVO-COMPULSIVO E DE SINTOMAS OBSESSIVO-COMPULSIVOS E QUALIDADE DE VIDA EM ADOLESCENTES

ANALISE DE SOUZA VIVAN

Orientador: Prof. Dr. ARISTIDES VOLPATO CORDIOLI

Porto Alegre, agosto de 2013.

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Tese apresentada ao Programa de Pós-Graduação em Ciências Médicas: Psiquiatria da Universidade Federal do Rio Grande do Sul como requisito parcial para obtenção do título de doutora em Psiquiatria.

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SUMÁRIO

LISTA DE ABREVIATURAS

ABIPEME	Associação Brasileira dos Institutos de Pesquisa de Mercado
BAI	Beck Anxiety Inventory
BDI-II	Beck Depression Inventory-II
CAPES	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior
CGI-S	Clinical Global Impression – Severity Scale
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th edition
DY-BOCS	Dimensional Yale-Brown Obsessive-Compulsive Scale
ECA	Epidemiological Catchment Area Study
FIPE	Fundo de Incentivo à Pesquisa e Eventos
HCPA	Hospital de Clínicas de Porto Alegre
ICC	Intraclass Correlation Coefficient
K-SADS-PL	Schedule for Affective Disorders and Schizophrenia for School Aged Children: Present and Lifetime Version
OCD	Obsessive-compulsive disorder
OCI-R	Obsessive-compulsive Inventory-Revised
OCS	Obsessive-compulsive symptoms
OMS	Organização Mundial da Saúde
QoL	Quality of Life
QV	Qualidade de Vida
SCID-TCIm	SCID: Structured Clinical Interview for DSM-IV Módulo para Transtorno de Controle de Impulsos
SD	Standard Deviation
SF-36	Medical Outcomes Survey 36-Item Short-Form Health Survey
SOC	Sintomas obsessivo-compulsivos
SPSS	Statistical Package for Social Sciences
TOC	Transtorno obsessivo-compulsivo
WHOQOL-BREF	World Health Organization Quality of Life Assessment – Abbreviated Veersion
WHOQOL-Group	World Health Organization Quality of Life Group
Y-BOCS	Yale-Brown Obsessive-Compulsive Scale

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RESUMO

Apesar do transtorno obsessivo-compulsivo (TOC) ser um transtorno mental grave, que causa acentuado sofrimento e interferência na vida, ele ainda é subdiagnosticado na população. Além disso, a prevalência de TOC e sintomas obsessivo-compulsivos (SOC) e o impacto na qualidade de vida (QV) de adolescentes ainda não foram suficientemente estudados. A presente tese é composta por dois estudos: 1) um levantamento de base populacional para investigar a prevalência de SOC e TOC em adolescentes, comparando características demográficas e clínicas entre os sexos; 2) uma comparação entre adolescentes com e sem TOC quanto à QV e associação entre os domínios de QV e características clínicas. Nossos resultados apontam prevalência de 3,3% de TOC e 18,3% de SOC na amostra estudada, com meninas apresentando taxas mais elevadas em comparação aos meninos. No entanto, apesar dos altos índices, apenas um reduzido número de adolescentes já havia sido diagnosticado com TOC anteriormente à pesquisa (9,3%) e um percentual ainda menor recebia tratamento para a doença (6,7%). Além disso, quando comparados a adolescentes sem o transtorno, o grupo com TOC apresentou maiores prejuízos em todos os domínios de QV. Também, a presença de sintomas depressivos demonstrou estar associada com pior QV. Esses achados nos permitem concluir que, apesar da alta prevalência, o TOC é subdiagnosticado e ainda pouco tratado em adolescentes, porém, causa impacto significativo na QV dos jovens, contribuindo para prejuízos em todos os domínios.

Palavras-chave: Transtorno obsessivo-compulsivo, sintomas obsessivo-compulsivos, epidemiologia, adolescentes, qualidade de vida.

ABSTRACT

Even though obsessive-compulsive disorder (OCD) is considered a severe mental illness, causing a high degree of suffering and significantly affecting patients' lives, the disorder remains underdiagnosed in the general population. Moreover, the prevalence of OCD and obsessive-compulsive symptoms (OCS) and their impact on the quality of life of adolescents have not been extensively studied. The present dissertation comprises two studies, namely: 1) a population-based study designed to investigate the prevalence of OCS and OCD among adolescents, comparing demographic and clinical characteristics according to gender; and 2) a comparison between adolescents with and without OCD in relation to quality of life and the association between clinical characteristics and domain-specific quality of life impairment. Our results revealed a prevalence of 3.3% of OCD and 18.3% of OCS in the sample assessed, with girls presenting higher prevalence rates when compared with boys. Notwithstanding, despite the high rates observed, only a limited number of adolescents had been diagnosed with OCD before the study (9.3%), and an even smaller group was under treatment for the disorder (6.7%). In addition, when compared with adolescents without OCD, the group with the disorder showed poorer scores in all quality of life domains assessed. Also, the presence of depressive symptoms showed an association with poorer quality of life. These findings suggest that, in spite of the high prevalence of OCD, the disorder is still underdiagnosed and undertreated among adolescents. In addition, our findings confirm the significant impact of OCD on the quality of life of young patients, affecting all related domains.

Keywords: Obsessive-compulsive disorder, obsessive-compulsive symptoms, epidemiology, adolescents, quality of life.

1 INTRODUÇÃO

O transtorno obsessivo-compulsivo (TOC), até a década de 80, era considerado raro, com estudos apontando prevalência de 0,05% da população. Foi apenas a partir de 1988, quando foram publicados os dados do ECA (Epidemiological Catchment Area Study), importante estudo epidemiológico americano, que começou-se a dar mais atenção ao TOC. Foram avaliadas mais de 18.500 pessoas em suas residências, em cinco diferentes comunidades americanas, e obteve-se como resultado uma prevalência de TOC ao longo da vida estimada entre 1,9% e 3,3% (Karno et al., 1988).

Desde então, diversas pesquisas vem abordando aspectos epidemiológicos e clínicos do TOC em adultos, no entanto, ainda são restritos os estudos com crianças e adolescentes. Porém, pesquisas nesta área mostram-se necessárias tendo em vista que mais de 50% dos pacientes referem o surgimento dos sintomas ainda na infância (Diler & Avci, 2002).

Quando não tratado, o TOC tende a se desenvolver de forma crônica ao longo dos anos, causando sofrimento e prejuízos significativos na vida dos indivíduos. Em crianças e adolescentes, os principais impactos são em relação à capacidade para desenvolver as rotinas diárias, relações familiares e sociais e desempenho acadêmico (Valderhaug & Ivarsson, 2005; Piacentini et al., 2003). Contudo, apesar do impacto na vida, crianças e adolescentes são levadas com pouca frequência para tratamento, pois costumam verbalizar seus sintomas apenas quando estes se encontram em nível grave ou incapacitante. O mais comum é que esta população busque tratamento para outro transtorno comorbido e, só então, quando questionada, irá revelar a presença de TOC (Cameron, 2007).

Tendo em vista o panorama atual de estudos envolvendo TOC e adolescência, a presente tese buscou estudar dados epidemiológicos e clínicos desta população, investigando a prevalência do TOC e de sintomas obsessivo-compulsivos (SOC), e também a qualidade de vida (QV) dos adolescentes que convivem com a doença. Este estudo traz como benefícios à sociedade e ao sistema de saúde pública o conhecimento a respeito das taxas de prevalência de TOC e SOC em adolescentes do ensino médio de Porto Alegre, assim como o entendimento do impacto do transtorno na QV desta população. Além disso, o processo de coleta de dados contribuiu para alertar escolas, estudantes e familiares sobre a doença, possibilitando assim o diagnóstico e tratamento precoce, buscando evitar, desta forma, a cronificação do TOC e os prejuízos decorrentes do transtorno.

2 REVISÃO DA LITERATURA

2.1 TRANSTORNO OBSESSIVO-COMPULSIVO

O TOC é caracterizado pela presença de obsessões e/ou compulsões. Obsessões são pensamentos, idéias, impulsos ou imagens, repetitivos e persistentes, que ocorrem de forma intrusiva e provocam ansiedade. Compulsões são comportamentos repetitivos ou atos mentais realizados com o objetivo de prevenir ou reduzir a ansiedade ou desconforto causado pelas obsessões (American Psychiatric Association, 2000).

Segundo a Organização Mundial da Saúde, o TOC é o quarto transtorno psiquiátrico mais comum, precedido apenas pela depressão, fobia social e abuso de substâncias. Está entre as dez maiores causas de incapacitação no mundo, sendo responsável por 2,2% da incapacitação por doenças em geral (Murray & Lopez, 1996).

É considerado um transtorno mental grave, de curso crônico, com freqüente flutuação na intensidade dos sintomas, sendo a possibilidade de remissão sem tratamento extremamente baixa. Causa sofrimento e interferência significativa na vida do indivíduo, com prejuízos, principalmente, nas relações sociais e familiares e no desempenho ocupacional. Pessoas com TOC tendem a ser divorciadas, desempregadas, de baixo nível sócio econômico e ainda costumam utilizar mais os serviços de saúde do que a população geral. O tempo gasto na realização dos rituais, o isolamento social e as desavenças familiares parecem também contribuir para o aumento do sofrimento e dos prejuízos na QV (Lack et al., 2009; Karno et al., 1988). Em crianças e adolescentes, os principais impactos são em relação à capacidade para desenvolver as rotinas diárias, relações familiares e sociais e desempenho acadêmico (Valderhaug & Ivarsson, 2005; Piacentini et al., 2003).

No entanto, apesar das marcadas interferências na capacidade de viver normalmente, o TOC ainda costuma ser subdiagnosticado. Estudo multicêntrico realizado no Brasil apontou que o tempo médio entre o início dos sintomas e a busca por tratamento em amostra de adultos pode chegar até 18,1 anos (Miguel et al., 2008). Isto pode acontecer pelo receio que muitos pacientes apresentam de expor seus sintomas por motivos relacionados à vergonha, na tentativa de evitar possíveis humilhações (Heyman et al., 2001; Presta et al., 2003). Além disso, Torres e Lima (2005) acrescentam outros fatores, como as crenças que muitos pacientes têm de que, ao verbalizarem suas obsessões, elas possam se tornar realidades, ou ainda, em

caso de obsessões de conteúdo sexual ou agressivo, eles possam ser vistos como loucos ou perigosos pelos outros.

Somado a isto, a heterogeneidade das manifestações clínicas do TOC podem também dificultar o diagnóstico adequado da doença. Diferentes subgrupos de sintomas são propostos na literatura e vem sendo estudados, pois muitas vezes apresentam características clínicas, curso, aspectos neurofisiológicos, neuropsicológicos, cognitivos e resposta a tratamentos distintos. (Leckman et al., 2007).

Entretanto, apesar das obsessões e compulsões serem as principais características do TOC, elas também podem estar presentes em outros transtornos psiquiátricos ou até mesmo em pessoas sem diagnóstico psiquiátrico. Porém, pouco se sabe sobre a prevalência destes sintomas e como eles se comportam ao longo do tempo. Ainda não é claro se a presença de SOC na infância e adolescência seria um preditor de TOC ao longo da vida (Fullana et al., 2009).

2.2 EPIDEMIOLOGIA DO TOC

Estudos epidemiológicos conduzidos em diferentes países nas últimas décadas apontam taxas de prevalência que variam de 0,3% (Andrade et al., 2002) a 3,2% (Canino et al., 1987) em amostras de adultos. No Brasil, foi desenvolvido um estudo multicêntrico em áreas urbanas que apresentou prevalência do TOC de 0,7% a 2,1% (Almeida-Filho et al., 1992). Na análise dos dados relativos a Porto Alegre, a prevalência alcançou 2,5% (Busnello et al., 1993).

Apesar do aumento de pesquisas investigando a prevalência do TOC em adultos, estudos epidemiológicos ainda são pouco desenvolvidos com populações de crianças e adolescentes. Todavia, sabe-se que, frequentemente, os sintomas iniciam ainda na infância ou adolescência e persistem ao longo da vida, apresentando curso crônico quando não tratado (Micali et al., 2010; Geller et al., 2006). A média de idade do início das obsessões e das compulsões é de 13,6 e 13,2 anos, respectivamente (Miguel et al., 2008).

Dentre os estudos desenvolvidos com participantes desta faixa-etária, os resultados apontam que crianças mais novas tendem a apresentar taxas de prevalência menores em comparação a estudos com adolescentes. Levantamento realizado com crianças e adolescentes de 5 à 15 anos encontrou prevalência de 0,25%, com aumento nas idades mais avançadas

(Heyman et al., 2001). Por outro lado, pesquisas com adolescentes mais velhos apontam taxas de até 4.2% (Douglass et al., 1995; Yoldascan et al., 2009).

Quanto à diferença de prevalência entre os sexos, na idade adulta o TOC costuma aparecer em igualdade entre homens e mulheres, no entanto, em relação ao início dos sintomas, mais precocemente nos homens. Desta forma, a prevalência em crianças e adolescentes pode apresentar números superiores em meninos (Del-Porto, 2001; Rassmussen & Eisen, 1992). No que se refere à classe sócio-econômica, alguns estudos não epidemiológicos sugerem nível sócio-econômico mais alto em pacientes com TOC, especialmente crianças. Porém, este dado pode representar um viés de pesquisa no que tange à busca por tratamento. Por outro lado, investigações epidemiológicas não demonstram diferença significativa quanto à situação sócio-econômica (Fontenelle e Hasler, 2008).

Quanto a dados epidemiológicos sobre SOC, eles ainda são escassos, tendo em vista que a maioria dos estudos apenas investiga a prevalência do transtorno propriamente dito. Contudo, algumas pesquisas com adolescentes que investigaram estes sintomas apontam taxas que variam de 11,2% (Shams et al., 2011) a 26% (Okasha et al., 2001).

2.3 COMORBIDADES

Estudos têm demonstrado que grande parte dos pacientes com TOC apresentam comorbidades psiquiátricas. Pesquisas realizadas com adolescentes demonstram altos índices de comorbidades, chegando até 85% (Canals et al., 2012; Heyman et al., 2001; Douglass et al., 1995).

Os transtornos que parecem ocorrer com maior frequência em adolescentes com TOC são o transtorno depressivo maior e os transtornos de ansiedade (Torres & Lima, 2005). Estudos apontam taxas de depressão de até 62% (Douglass et al., 1995) e transtorno de ansiedade generalizada de até 55% (Canals et al., 2012). Além destes, outros transtornos de ansiedade com alta prevalência são a fobia social e o transtorno de pânico (Douglass et al., 1995; Canals et al., 2012)

Além dos transtornos citados, também são comuns transtornos de tique, transtornos disruptivos e transtornos de controle de impulsos (Diler & Avci, 2002; Valleni-Basile et al., 1994; Douglass et al, 1995; Masi et al., 2010; Grant et al., 2010).

2.4 QUALIDADE DE VIDA

Qualidade de vida é um conceito subjetivo e multidimensional, que indica a sensação de bem-estar experimentada pelo sujeito, e não apenas seu estado de saúde.

Embora não exista uma definição universal, o conceito de QV tende a incluir aspectos como bem-estar psicológico, satisfação com a vida, funcionamento social e desempenho, condições de vida e apoio social (Niederauer, 2007; Torresan et al., 2008).

No início da década de 90, a Organização Mundial de Saúde (OMS) reuniu um grupo de especialistas, que se tornou referência sobre o assunto, com o objetivo de definir o conceito de QV e construir um instrumento para sua avaliação. O World Health Organization Quality of Life group (WHOQOL group) definiu qualidade de vida como a percepção do indivíduo de sua posição na vida, no contexto da cultura e sistema de valores nos quais ele vive e em relação aos seus objetivos, expectativas, padrões e preocupações. Para a avaliação da QV, foi proposto um instrumento que levou em consideração o caráter multidimensional do conceito, incluindo fatores relacionados à saúde física, psicológica, relações sociais e meio ambiente (Fleck et al., 2000). Cada um dos domínios citados investiga diversas facetas, conforme segue:

(1) Domínio físico: dor e desconforto; energia e fadiga; sono e repouso; mobilidade; atividades da vida cotidiana; dependência de medicação ou de tratamentos; capacidade de trabalho;
(2) Domínio psicológico: sentimentos positivos; pensar, aprender, memória e concentração; auto-estima; imagem corporal e aparência; sentimentos negativos; espiritualidade/religião/crenças pessoais;
(3) Relações sociais: relações pessoais; suporte (apoio) social; atividade sexual;
(4) Meio ambiente: segurança física e proteção; ambiente no lar; recursos financeiros; cuidados de saúde e sociais; oportunidades de adquirir novas informações e habilidades; participação e oportunidades de recreação/lazer; ambiente físico (poluição/ruído/trânsito/clima); transporte.

2.5 QUALIDADE DE VIDA NO TOC

A presença dos sintomas, o sofrimento e os prejuízos advindos do TOC podem também impactar na QV dos indivíduos com a doença. Tendo em vista a natureza crônica do transtorno, os anos vividos com os sintomas tendem a causar consequências em diversas áreas de vida, como auto-estima, bem-estar subjetivo, desempenho acadêmico e profissional, relações familiares e sociais e atividades de lazer. Nos casos de maior gravidade do transtorno, pode acarretar, inclusive, na incapacidade para a realização de atividades de vida diária (Torresan et al., 2008). Como sugerido por Eisen et al. (2006), a gravidade dos sintomas parece interferir na QV. Estudo realizado pelos autores, desenvolvido com 197 adultos com TOC, demonstrou correlação entre todos os domínios de QV e a gravidade do TOC. Indivíduos que atingiram escore total na escala Y-BOCS igual ou maior do que 20 pontos apresentaram significativamente maior prejuízo na QV do que aqueles com escore menor que 20 pontos.

Outra alarmante consequência do transtorno refere-se às taxas de ideação e tentativa de suicídio. Levantamento de base populacional realizado na Grã Bretanha demonstra que, entre os entrevistados com TOC, 63,5% havia apresentado ideação suicida e 25,7% havia tentado o suicídio em algum momento na vida (Torres et al., 2006). No Brasil estes números são inferiores, no entanto ainda preocupantes: 46% dos pacientes referiram ideação suicida e 10% tentativa de suicídio. (Torres et al., 2007).

Quando comparados a outros grupos de pacientes, estudos apontam que adultos com TOC podem apresentar escores de QV inferiores. Em relação a controles da comunidade, o prejuízo costuma ser evidenciado em todos os domínios (Stengler-Wenzke et al., 2006; Bobes et al., 2001; Eisen et al., 2006). Pesquisas comparando pacientes com TOC a outros pacientes, como depressivos, dependentes de heroína, esquizofrênicos e pacientes com doenças físicas, também apontam prejuízo no grupo com TOC, porém, isto nem sempre se reflete em todas as dimensões (Stengler-Wenzke et al., 2006, Bobes et al., 2001).

Apesar do importante impacto na QV evidenciado em adultos com TOC, estudos com crianças e adolescentes ainda são restritos. Dados relativos a esta faixa etária sugerem o impacto na QV como consequência da presença de transtornos psiquiátricos (Bastiaansen et al., 2005). Pesquisa realizada com 310 crianças e adolescentes com diferentes transtornos psiquiátricos aponta que os participantes com transtornos de ansiedade (incluindo 4 pacientes com TOC) apresentaram escores mais baixos em relação ao domínio psicossocial e emocional

quando comparados com indivíduos com outros diagnósticos ou sem a presença de qualquer psicopatologia (Bastiaansen et al., 2004).

Na investigação da QV em crianças e adolescentes com TOC, Lack et al. (2009) avaliaram 62 jovens, entre 8 e 17 anos, e encontraram achados que corroboram com dados obtidos em adultos, sugerindo importante efeito negativo dos sintomas do TOC na QV. No entanto, o estudo apresenta escores de QV na percepção do jovem em comparação à visão dos pais, e não apresenta comparação com populações distintas.

3 OBJETIVOS

3.1. OBJETIVO GERAL

Estimar a prevalência de transtorno obsessivo-compulsivo e sintomas obsessivo-compulsivos em adolescentes do Ensino Médio de escolas de Porto Alegre.

3.2. OBJETIVOS ESPECÍFICOS

1. Estimar a prevalência de comorbidades psiquiátricas em adolescentes com TOC.
2. Comparar características demográficas e clínicas dos adolescentes com TOC de acordo com o gênero.
3. Comparar adolescentes com e sem TOC quanto à qualidade de vida.
4. Investigar a associação entre qualidade de vida e características clínicas nos adolescentes com TOC.

4 ARTIGOS

4.1 ARTIGO 1

OBSESSIVE-COMPULSIVE SYMPTOMS AND OBSESSIVE-COMPULSIVE DISORDER IN ADOLESCENTS: A POPULATION-BASED STUDY

SINTOMAS OBSESSIVO-COMPULSIVOS E TRANSTORNO OBSESSIVO-COMPULSIVO EM ADOLESCENTES: UM ESTUDO DE BASE POPULACIONAL

Analise de Souza Vivan, Lidiane Rodrigues, Guilherme Wendt, Mônica Giaretton Bicca, Daniela Tusi Braga, Aristides Volpato Cordioli

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Obsessive-compulsive symptoms and obsessive-compulsive disorder in adolescents: a population-based study

Sintomas obsessivo-compulsivos e transtorno obsessivo-compulsivo em adolescentes: um estudo de base populacional

Running title: OCS and OCD in adolescents

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Abstract

Objectives: To estimate the prevalence of obsessive-compulsive symptoms (OCS) and disorder (OCD) among adolescents and to describe OCD characteristics according to gender.

Methods: Participants were selected by cluster sampling at seven high-schools in southern Brazil. In the first stage, 2,323 students were screened for OCS; in the second stage, adolescents scoring ≥21 on the OCI-R scale were individually interviewed. OCD diagnosis was established using a semi-structured interview (K-SADS-PL).

Results: The past-month estimated prevalence of OCS was 18.3%, and the point estimated prevalence of OCD, 3.3%. Girls showed higher scores (OCS: 24.8 vs. 14.4%; OCD: 4.9 vs. 1.4%; $p<0.001$). Only 9.3% of OCD adolescents had been diagnosed and 6.7% received treatment. The most frequent/severe DY-BOCS dimensions were miscellaneous (86.7%; mean score 6.3±3.8) and symmetry (85.3%; 5.9±3.8). Female OCD adolescents predominantly showed depression ($p=0.032$), and male adolescents, tic disorders ($p=0.006$).

Conclusions: OCD is underdiagnosed in adolescents, and few are treated. Future studies should investigate the relationship between OCS and the onset of OCD.

Keywords: Obsessive-compulsive disorder; obsessive-compulsive symptoms; adolescents; epidemiology; gender.

Resumo

Objetivos: Estimar a prevalência de sintomas obsessivo-compulsivos (SOC) e transtorno obsessivo-compulsivo (TOC) em adolescentes e investigar características dos jovens com TOC conforme o gênero.

Métodos: Utilizou-se do método de amostragem aleatória por conglomerados, em que participaram sete escolas de ensino médio de Porto Alegre, sul do Brasil. No primeiro estágio, 2.323 estudantes foram rastreados para SOC; no segundo estágio, aqueles que apresentaram escores ≥21 na escala OCI-R foram entrevistados individualmente. O diagnóstico de TOC foi estabelecido através de entrevista semiestruturada, com a utilização do K-SADS-PL.

Resultados: A prevalência estimada de SOC no último mês foi de 18,3%, e a prevalência pontual de TOC, 3,3%. Adolescentes do sexo feminino mostraram escores mais altos (SOC: 24,8 vs. 14,4%; TOC: 4,9 vs. 1,4%; p<0,001). Apenas 9,3% dos adolescentes com TOC já haviam sido diagnosticados, e 6,7% recebiam tratamento. As dimensões de sintomas mais frequentes/graves na DY-BOCS foram miscellaneous (86,7%; escore médio 6,3±3,8) e symmetry (85,3%; 5,9±3,8). Meninas com TOC demonstraram predominantemente depressão (p=0,032), e meninos com TOC apresentaram mais transtornos de tique (p=0.006).

Conclusões: O TOC é um transtorno comum em adolescentes, mas poucos recebem tratamento para a doença. Estudos futuros devem investigar a relação entre SOC e o desenvolvimento de TOC.

Palavras-chave: Transtorno obsessivo-compulsivo; sintomas obsessivo-compulsivos; adolescentes; epidemiologia; gênero.

Introduction

Obsessive-compulsive disorder (OCD) is characterized by obsessions and/or compulsions. Obsessions are recurrent, intrusive, unwanted thoughts, images, or urges that cause marked anxiety or distress. Compulsions are repetitive ritualistic behaviors or mental acts performed to prevent or reduce anxiety or distress.[1] OCD is a chronic disorder that negatively affects the lives of patients: people with the disorder tend to be divorced and unemployed, to have a low socioeconomic status, and to more often use health care services when compared with the general population. The great amounts of time spent performing rituals and engaging in family discord seem to further contribute toward patient suffering and a poor quality of life.[2,3]

Until the 1980s, OCD was considered to be a rare condition, with studies estimating prevalence rates as low as 0.05%. In 1988, the Epidemiological Catchment Area Study (ECA) reported a lifetime prevalence of OCD between 1.9 and 3.3%.[3] Since then, several epidemiological studies have recorded variable prevalence rates, ranging from 0.3 to 3.2% in adult populations.[4,5]

In addition to affecting adults, OCD also interferes with the lives of children and adolescents. In over 50% of adults with OCD, the onset of symptoms occurred in childhood.[6] The prevalence of OCD among children and adolescents has been found to be much higher than initially thought, reaching up to 4% in some populations.[7] Furthermore, it has been suggested that late adolescence is a period of increased vulnerability to the development of OCD.[7]

Despite the extensive literature on OCD, the prevalence of the disorder in children and adolescents is not well established. In addition to the limited number of population-based studies designed to investigate the prevalence of OCD in adolescents, the findings available are diverse and somewhat conflictive, probably as a result of heterogeneous study designs, sample characteristics, different recruitment and evaluation settings, use of different diagnostic instruments, and variable technical expertise of interviewers.[8] Moreover, OCD prevalence rates usually refer only to the full-blown version of the disorder, not taking into consideration the relevant role of subsyndromal obsessions and compulsions,[8] or obsessive-compulsive symptoms (OCS). To the authors' knowledge, no previous study has assessed OCS and OCD specifically among adolescent students in Brazil. With regard to gender, whereas OCD similarly affects adult males and females, with a slight female predominance, in childhood and adolescence prevalence tends to be higher among male individuals, possibly as a result of an earlier disease onset in boys.[9]

The clinical manifestations of OCD are very heterogeneous, with significant symptomatic variations. Patients often present more than one type of symptom. For example, in adolescents with OCD, the symptoms most frequently observed are contamination and aggressive obsessions and cleaning and checking compulsions.[6,10] In this sense, a great deal of effort has been devoted to developing dimensional models that can help improve OCD diagnosis and treatment. However, up to the present moment, no consensus has been reached with regard to the dimensions comprising the disorder.

Early-onset OCD tends to present a higher incidence of comorbidities, especially tic disorders, attention deficit hyperactivity disorder, and disruptive disorders.[11] The presence of comorbidities may increase the severity of symptoms and significantly affect the prognosis of patients with OCD.[12]

The objectives of this study were: 1) to estimate the prevalence of OCS and OCD in a sample of adolescent students; and 2) to investigate demographic and clinical characteristics of subjects with OCD according to gender.

Methods

This study was approved by the Research Ethics Committee of Hospital de Clínicas de Porto Alegre, Porto Alegre, RS, Brazil. All patients and guardians received an informed dissent form; those who did not wish to be included in the research were required to sign and return the form to the investigators.

Participants and procedures

Participants were recruited using cluster sampling. Our cluster comprised seven (five public, two private) high schools located in the municipality of Porto Alegre, southern Brazil. According to 2008 School Census results published by the State of Rio Grande do Sul Education Department, the total number of high school students in the city at the time of the study was 40,378. Sample size was calculated taking into consideration a 0.6% absolute error, a 95% confidence level, and a OCD prevalence of 2%. As a result, minimum sample size was determined at 1,989 students.

This two-stage epidemiological study was conducted between May 2009 and August 2011, with a focus on the prevalence of OCS and OCD and on sociodemographic and clinical variables. In the first stage of the study, a total of 2,323 students were screened for OCS. All participants attended a 15-minute lecture delivered by a trained psychologist and were asked

to complete a demographic form and the Obsessive-Compulsive Inventory – Revised (OCI-R).

After screening, adolescents who obtained an OCI-R score equal to or greater than 21 (n=424) were interviewed individually for the establishment of OCD diagnosis. The cut-off point of the American/original version of the scale (≥21) was used because no cut-off has been established for Brazilian populations.[13] Presence of a parent or guardian was mandatory at this stage.

Simultaneously, a sample of adolescents (n=150) with OCI-R scores below 21 was randomly selected and interviewed to confirm the absence of OCD. This measure was taken to control for the quality of responses (false-negative results) and also because we did not know how Brazilian adolescents would respond to the cut-off score of the American version.

Interviews were conducted either at a university hospital (Hospital de Clínicas de Porto Alegre) or at the adolescent's home. In order to avoid dropouts, participants who refused to attend the interviews in person were interviewed by telephone. Of these, only one was diagnosed with OCD, but refused to participate in the study. All participants diagnosed with OCD were evaluated with regard to demographic and clinical characteristics. Also, all students diagnosed with OCD in the study were offered treatment (cognitive-behavioral group therapy).

In order to guarantee a standardized application of instruments, experienced psychologists were trained by the principal investigator, who had previously undergone training and participated in the data collection of a large multicenter study on OCD conducted in Brazil.[14] Also, each professional participated in at least three assessments, followed by discussions regarding the application process and data agreement. All protocols were extensively revised by the lead investigator, so as to detect possible flaws or inconsistencies (whenever necessary, the adolescent was re-interviewed).

In the second stage of the study, 74 adolescents were diagnosed with OCD in the group of interviewees with OCI-R scores equal to or greater than 21. Two other adolescents were identified as having false-negative diagnoses (i.e., scored <21 but were diagnosed with OCD during the interview), and one adolescent dropped out, resulting in a final sample of 75 subjects with OCD. Figure 1 describes the participation of subjects in the study.

Insert Figure 1 here

The total initial sample (2,323 subjects) was aged 14 to 17 years; 1,235 adolescents (53.2%) were female. Overall mean age was 15.6±1.0 years. The 75 participants diagnosed with OCD had a mean age of 16.2±1.1 years and they were predominantly female (n=59, 78.7%).

Measures

Screening instruments

Obsessive-Compulsive Inventory – Revised (OCI-R)

OCI-R is a revision of the original scale OCI, developed to assess the presence and severity of different OCS.[13] The self-report OCI-R includes 18 statements that should be rated from 0 (not at all) to 4 (extremely). The scale was translated and adapted into Brazilian Portuguese and presented psychometric properties similar to those of the original version, with good internal consistency (Cronbach's alpha=0.83) and a significant association with Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) results ($r=0.47$; $p<0.001$).[15]

Assessment instruments

Sociodemographic form

Sociodemographic data were collected using a questionnaire specifically designed for the present study. Socieconomic status was assessed according to criteria of the Brazilian Association of Market Research Institutes (Associação Brasileira dos Institutos de Pesquisa de Mercado, ABIPEME).

Schedule for Affective Disorders and Schizophrenia for School Aged Children: Present and Lifetime Version (K-SADS-PL)

The Brazilian version of the K-SADS-PL was used to confirm diagnosis of OCD and to identify the presence of comorbidities. The K-SADS-PL is a semi-structured psychiatric interview designed to assess psychiatric disorders in children and adolescents aged 6 to 18 years, according to criteria of the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV).[1] This version had its content equivalence confirmed in relation to the original instrument and has shown excellent psychometric properties, including inter-examiner and test-retest agreement (kappa=0.87-1.00).[16]

Structured Clinical Interview for DSM-IV (SCID-TCIm)

This semi-structured interview was designed to diagnose disorders included in axes I and II of the DSM-IV. We used only the module focusing on impulse control disorders (SCID-TCIm),[17] once the K-SADS-PL does not assess this type of disorder. A multicenter study carried out in Brazil using the SCID-TCIm showed inter-examiner reliability rates as high as 96%.[14]

Yale-Brown Obsessive-Compulsive Scale (Y-BOCS)

This instrument was used to assess the severity of OCS. The scale includes 10 items, five for obsessions and five for compulsions. Each item can be rated from 0 (none) to 4 (extreme) in relation to time, impairment, frequency, control, and discomfort. The scale is widely used worldwide and has good psychometric properties, with good inter-rater reliability (ICC=0.98) and internal consistency (Cronbach's alpha ranging from 0.88 to 0.91).[18]

Clinical Global Impression – Severity Scale (CGI-S)

The CGI-S was used to assess the clinician's overall impression of the severity of different psychiatric disorders. The scale includes 7 items for the assessment of each disorder, which may range from 1 (normal or no symptom) to 7 (extremely severe symptoms).[19] The CGI scale is a well-established research rating tool applicable to all psychiatric disorders.

Dimensional Yale-Brown Obsessive-Compulsive Scale (DY-BOCS)

The DY-BOCS allows to assess six different symptom dimensions, including obsessions and compulsions (aggression, sexual/religious, symmetry, contamination, hoarding, and miscellaneous). The severity of each dimension can be assessed independently with regard to time, level of anxiety, and interference with daily life. Scores may range from 0 to 5 (maximum of 15 points per dimension). The total impact of symptoms can also be quantified, at a maximum score of 30. The scale has been translated into Brazilian Portuguese and presented good inter-rater reliability (ICC>0.98) and internal consistency (Cronbach's alpha=0.9). Moreover, the convergent validity of the scale has shown excellent correlation with the Y-BOCS ($r=0.82$; $p<0.001$).[20]

Beck Anxiety Inventory (BAI)

This instrument assesses the presence and severity of anxiety symptoms. It includes 21 statements that describe anxiety symptoms and can be rated from 0 (not at all) to 3 (severely)

with regard to symptom severity. Beck inventories available in Brazilian Portuguese present good psychometric properties, with Cronbach's alpha accuracy rates ranging between 0.88 and 0.93. The scale has also shown correlation with the State-Trait Anxiety Inventory, with a significant relationship for both Trait Anxiety ($r=0.78$; $p<0.001$) and State Anxiety ($r=0.76$; $p<0.001$).[21]

Beck Depressive Inventory-II (BDI-II)

The BDI-II was used to assess depressive symptoms. This instrument includes 21 statements, with scores ranging from 0 to 3, which reflect increasing levels of severity for each symptom. The revised version, translated and adapted into Brazilian Portuguese, showed good psychometric performance in a sample of adolescents, with good internal consistency (Cronbach's alpha = 0.86) and construct validity.[22]

Statistical analysis

Continuous variables were expressed as means ± standard deviation, and categorical variables, as absolute and relative frequencies. Means were compared using the Student *t* test for independent samples; Fisher's exact or Pearson's chi-square tests were used to compare proportions. Significance was set at 5% ($p\leq0.05$). Data were stored and analyzed in the Statistical Package for Social Sciences (SPSS) software version 17.0.

Results

Prevalence

Overall past month estimated prevalence of OCS (OCI-R score ≥ 21) was 18.3%, and it was higher in girls (24.8%) than in boys (14.4%) ($p<0.001$). Overall point prevalence of OCD was estimated at 3.3%, again with higher scores for girls (4.9 vs. 1.4%) ($p<0.001$). Figure 2 shows the distribution of OCS and OCD according to gender.

Insert Figure 2 here

Sociodemographic and clinical features of students with OCD

The 75 participants diagnosed with OCD were predominantly white (85.3%) and came from different socioeconomic classes. Mean age at the onset of symptoms was 9.7±3.4 years, and at the onset of the disorder, 13.8±2.4 years. Only 7 participants (9.3%) were aware of

their diagnosis, and only 5 (6.7%) had received treatment for OCD. Also, 20% of the participants had attempted suicide at least once, and 9.3% presented current suicidal ideation.

The following mean scores were obtained with the different diagnostic instruments employed: Y-BOCS, 21.1±4.1; CGI, 3.8±0.7; BAI, 17.8±10.9; and BDI-II, 20.8±11.5. BDI-II scores showed the only significant difference between girls and boys, with girls scoring higher (p=0.032) (Table 1).

Insert Table 1 here

Symptom dimensions

According to the results of the DY-BOCS, the most frequent symptom dimensions in our sample of students with OCD were miscellaneous (86.7%) and symmetry (85.3%). These two dimensions were also the ones with the highest scores, namely 6.3±3.8 for miscellaneous and 5.9±3.8 for symmetry. The mean global score of the DY-BOCS was 16.9±5.0. No significant differences were observed between boys and girls (Table 2).

Insert Table 2 here

Comorbidities

Most participants (56%) presented at least one comorbid disorder in addition to OCD (mean ± standard deviation: 1.0±1.1). The comorbidities most commonly reported were major depressive disorder (17.3%), generalized anxiety disorder (12%), specific phobia (9.3%), and skin picking (9.3%). Only tic disorders showed significant sex differences: they were present in 6.7% of the whole sample of OCD individuals, however significantly more frequent in boys (25%) than in girls (1.7%) (p=0.006). Table 3 lists all the comorbidities found in our sample of OCD students.

Insert Table 3 here

Discussion

The past month prevalence of OCS in our sample of high school students was 18.3%, very similar to the rate reported in a previous American study that assessed 3,283 adolescents and found an OCS rate of 19%.[23] Another investigation undertaken in Egypt and involving secondary school and university students found a higher prevalence of OCS, of 26.2%; that

study included adolescents and young adults aged up to 24 years.[24] Conversely, other studies have reported lower rates, for example 11.2% among Iranian adolescents,[25] or 12.3% in an Italian study assessing an exclusively male sample.[26] However, none of the above-mentioned studies used the OCI-R as a screening tool, which may probably have contributed to the differences observed. Another important factor to be considered is related to the definition of OCS. Different attempts have been made to define OCS, and the only consensus among the definitions available is related to the severity of symptoms, i.e., symptoms should not be severe enough to meet OCD criteria.

With regard to the current prevalence of OCD among adolescents, the rate found in our study (3.3%) is close to the findings reported by Zohar et al.[27] and Valleni-Basile et al.,[23] who found rates of 3.6 and 3%, respectively. Both studies assessed adolescents only, and Valleni-Basile et al.[23] also adopted a two-stage approach, using K-SADS to diagnose OCD. Notwithstanding, other authors have described slightly higher rates, of up to 4.2%.[28,29] The latter studies were designed to investigate the presence of OCD in the past year and lifetime OCD, respectively (both included college students), and the age of participants was higher than in our sample. Other studies, in turn, have reported lower rates, e.g. the first epidemiological study on the prevalence of OCD among adolescents, by Flament et al.,[30] which estimated a 1% prevalence of the disorder at the time of evaluation. However, Flament et al. used a smaller sample (356 adolescents), and diagnosis was established using DSM-III criteria.[30]

With regard to the prevalence of OCS and OCD in boys vs. girls, a significantly higher number of girls was found in the two groups ($p<0.001$). Differently from previous studies conducted with children, in which boys showed higher rates of OCD than girls, research focusing on adolescent tends to find similar results for males and females, for both OCD and OCS.[23,25] Notwithstanding, one previous study has also found higher prevalence rates among girls, similarly to our study: Van Grootheest et al. assessed adolescent twins aged 12, 14, and 16 years, and found a higher prevalence of OCS in girls aged 14 ($p<0.001$) and 16 years ($p<0.001$); 12-year old adolescents, in turn, did not show gender differences ($p=0.54$).[31] One factor that remains underinvestigated and that may potentially influence OCS and OCD findings is the role of female sex hormones. After menarche, the prevalence of females diagnosed with OCD strongly increases, suggesting a potential role of these hormones in the development of the disorder. Labad et al.,[32] while assessing the relationship between events of the female reproductive cycle and OCD, found that OCD onset occurred in the same year as menarche in 22% of the individuals assessed. Mean age at menarche in the Brazilian

population is known to be around 13.2 years,[33] which suggests that most of the girls included in our study had already menstruated.

Our adolescents had a mean age of 9.7 years at the onset of OCS and of 13.8 years at the onset of OCD. However, strikingly, only 9.3% were aware of their condition, and only 6.7% had already sought treatment. This result is compatible with the long time often elapsed between the onset of symptoms and the search for assistance, as long as 18.1 years in an adult sample.[14] Another important finding in our sample relates to the suffering caused by OCD, which may potentially have accounted for suicidal ideation and suicide attempt results. In our sample, 20% of the adolescents with OCD showed lifetime suicide attempts, and 9.3% showed current suicidal ideation. These findings are in accordance with previous studies that have shown suicide rates as high as 27% and current suicidal ideation rates of up to 28% in patients with OCD.[34] The high rates of comorbidity between OCD and major depressive disorder described in the literature and observed in our sample may explain, at least in part, the high levels of suicide attempts and suicidal ideation found in these populations.

The symptom dimensions with the greatest frequency and severity in our group of adolescents with OCD were miscellaneous and symmetry. This finding is similar to that of Rosário-Campos et al.,[20] who found higher prevalence and severity results for the dimensions symmetry (86%, mean 6.7±3.9), followed by miscellaneous (85%, mean 6.2±3.8). Conversely, some previous studies involving children and adolescents suggest that the obsessions most commonly observed in this age group include contamination and aggressive thoughts, whereas the most frequent compulsions are cleaning and checking rituals.[6,10,24,28] This diversity of results possibly reflects the use of different instruments for the collection of data. In particular, except for the DY-BOCS, the authors of the present study are not aware of other scales covering the miscellaneous dimension. Only Rosário-Campos et al. have referred the use of the DY-BOCS.[20]

With regard to symptom dimensions, no significant differences were observed between sexes, contradicting other studies involving children and adolescents. Mataix-Cols et al.,[10] for example, found a higher frequency of sexual obsessions in boys and of hoarding rituals in girls. Although our findings also showed a stronger presence of the sexual/religious dimension in boys and of hoarding in girls, similarly to those authors, the small number of subjects diagnosed with OCD in our study may have influenced the absence of significant differences between males and females. Masi et al.,[11] in turn, observed that the dimensions related with ordering and symmetry were more common among males, whereas contamination and cleaning were more frequent in females. Torresan et al.[35] found significant

differences with regard to sexual, religious and symmetry obsessions, in addition to mental rituals: all were more frequent in boys. Differences across studies probably reflect differences in methodological aspects, e.g., sample selection, instrument used, and patient age (the study by Torresan et al.,[35] for example, included adults).

Comorbidities with OCD were found in 56% of our sample. This rate is compatible with the literature, in which rates ranging from 51.7 to 85% can be found.[6,24,28,36] Major depressive disorder was the most prevalent comorbidity (17.3%), as also observed previously for children and adolescents.[6,23,28] With regard to impulse control disorders, skin picking was the most frequent one (9.3%). Grant et al. assessed the presence of impulse control disorders in children and adolescents with OCD and also pointed to skin picking as the most prevalent disorder in their sample (12.8%).[37]

In the analysis of comorbidities according to gender, tic disorders were found to be more prevalent in boys ($p=0.006$), with no significant differences for the other disorders assessed. Other studies involving children and adolescents have also observed a higher prevalence of tic disorders in boys.[11,35,38] Conversely, one study has reported a higher frequency of attention deficit hyperactivity disorder in boys,[38] and another has observed more simple phobias, anorexia, compulsive buying, and skin picking in girls.[35] We believe that the small number of boys included in our sample may have affected our results, failing to reveal other significant associations.

Although we did not find differences between genders with regard to major depressive disorder, significant differences were found in the analysis of depressive symptoms with BDI-II, with higher scores among girls. Another study involving patients with OCD aged 10 to 72 years found similar results with BDI.[35] Considering previous evidence of significant differences for depression between genders,[39,40] a larger sample could probably have yielded similar results. Also, the scores obtained with BDI-II could reflect the presence of depressive symptoms secondary to OCD, rather than major depressive disorder according to DSM-IV.

The present study used a large population-based sample, from different socioeconomic levels, in the first stage of investigation (screening). We used a validated screening instrument, proven to possess adequate psychometric properties; in addition, individual diagnostic interviews were conducted by experienced health care professionals. Nevertheless, one important limitation of our study was the small number of participants with OCD included in the second stage. As a result, although some of the comparisons between genders suggested the presence of trends, no statistically significant differences were observed.

Conclusions

Our findings allow to conclude that OCD is a common – but still underdiagnosed – psychiatric disorder among adolescents, and that only a small portion of patients receive adequate treatment. An increased availability of information campaigns directed to this age group would probably allow the early identification and treatment of the disease, contributing toward symptom relief and a better prognosis. Another important finding was the high prevalence of OCS. It remains unclear whether OCS represent an early stage of the clinical development of OCD, working as a predictor of the full-blown disorder, or whether it is a similar condition, however unrelated with the development of OCD. Longitudinal studies are warranted to investigate these hypotheses.

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Table 1. Sociodemographic and clinical features of students with obsessive-compulsive disorder according to gender

Variables	Total (n=75)	Boys (n=16)	Girls (n=59)	p
Age (years) – Mean ± SD	16.2±1.1	16.3±0.7	16.1±1.2	0.570*
Skin color – n (%)				1.000**
White	64 (85.3)	14 (87.5)	50 (84.7)	
Non-white	11 (14.7)	2 (12.5)	9 (15.3)	
Socioeconomic class – n (%)				0.825***
A/B	38 (50.6)	9 (56.3)	29 (49.2)	
C/D	37 (49.4)	7 (43.8)	30 (50.8)	
Age at onset of OCS – Mean ± SD	9.7±3.4	9.6±3.7	9.7±3.3	0.970*
Age at onset of OCD – Mean ± SD	13.8±2.4	14.3±1.8	13.6±2.6	0.299*
Prior knowledge of OCD – n (%)	7 (9.3)	2 (12.5)	5 (8.5)	0.637**
Previous treatment – n (%)	5 (6.7)	1 (6.3)	4 (6.8)	1.000**
Suicide attempt – n (%)	15 (20.0)	3 (18.8)	12 (20.3)	1.000**
Suicidal ideation (current) – n (%)	7 (9.3)	2 (12.5)	5 (8.5)	0.637**
Y-BOCS – Mean ± SD	21.1±4.1	20.4±3.0	21.3±4.4	0.429*
Obsessions	10.1±2.4	9.9±1.9	10.2±2.5	0.728*
Compulsions	10.9±2.8	10.4±2.6	11.1±2.8	0.378*
CGI – Mean ± SD	3.8±0.7	3.8±0.8	3.9±0.7	0.636*
BAI – Mean ± SD	17.8±10.9	14.8±8.9	18.7±11.4	0.205*
BDI-II – Mean ± SD	20.8±11.5	16.1±8.7	22.1±11.9	0.032*

BAI = Beck Anxiety Inventory; BDI-II = Beck Depressive Inventory-II; CGI = Clinical Global Impression; OCS = obsessive-compulsive symptoms; OCD = obsessive-compulsive disorder; SD = standard deviation; Y-BOCS = Yale-Brown Obsessive-Compulsive Scale.

* Student's t test; ** Fisher's exact test; *** Chi-square test.

Table 2. Symptom dimensions (frequency and DY-BOCS scores) according to gender

Variables	Total (n=75)	Boys (n=16)	Girls (n=59)	p
Frequency – n (%)				
Aggression	51 (68)	12 (75)	39 (66.1)	0.708*
Sexual/Religious	35 (46.7)	9 (56.3)	26 (44.1)	0.559*
Symmetry	64 (85.3)	12 (75)	52 (88.1)	0.233**
Contamination	48 (64)	11 (68.8)	37 (62.7)	0.879*
Hoarding	56 (74.7)	12 (75)	44 (74.6)	1.000**
Miscellaneous	65 (86.7)	14 (87.5)	51 (86.4)	1.000**
DY-BOCS Scores – Mean ± SD				
Global Score	16.9±5.0	16.4±5.0	17.0±5.1	0.711***
Aggression	4.8±4.2	5.4±3.9	4.6±4.2	0.475***
Sexual/Religious	2.9±3.7	4.2±4.5	2.5±3.4	0.102***
Symmetry	5.9±3.8	4.7±3.8	6.2±3.8	0.162***
Contamination	4.4±4.0	4.9±3.9	4.3±4.0	0.543***
Hoarding	4.1±3.3	3.1±2.5	4.3±3.5	0.111***
Miscellaneous	6.3±3.8	5.3±3.4	6.5±3.9	0.257***

DY-BOCS = Dimensional Yale-Brown Obsessive-Compulsive Scale; SD = standard deviation.
* Chi-square test; ** Fisher's exact test; *** Student's t test.

Table 3. Comorbidities with obsessive-compulsive disorder according to gender

Variables	Total (n=75)	Boys (n=16)	Girls (n=59)	p
Presence of any comorbid disorder – n (%)	42 (56.0)	9 (56.3)	33 (55.9)	1.000*
No. of comorbidities – Mean ± SD	1.0±1.1	1.3±1.3	0.9±1.0	0.250**
Affective disorders	16 (21.3)	3 (18.8)	13 (22.0)	1.000***
Major depressive disorder	13 (17.3)	1 (6.3)	12 (20.3)	0.276***
Bipolar disorder	3 (4.0)	2 (12.5)	1 (1.7)	0.113***
Anxiety disorders	19 (25.3)	4 (25.0)	15 (25.4)	1.000***
Specific phobia	7 (9.3)	0 (0.0)	7 (11.9)	0.334***
Social phobia	3 (4.0)	1 (6.3)	2 (3.4)	0.519***
Panic disorder	2 (2.7)	1 (6.3)	1 (1.7)	0.383***
Generalized anxiety disorder	9 (12,0)	2 (12.5)	7 (11.9)	1.000***
Post-traumatic stress disorder	2 (2.7)	1 (6.3)	1 (1.7)	0.383***
Impulse control disorders	16 (21.3)	4 (25.0)	12 (20.3)	0.735***
Trichotillomania	5 (6.7)	2 (12.5)	3 (5.1)	0.288***
Skin picking	7 (9.3)	2 (12.5)	5 (8.5)	0.637***
Kleptomania	1 (1.3)	0 (0.0)	1 (1.7)	1.000***
Impulsive-compulsive buying disorder	1 (1.3)	0 (0.0)	1 (1.7)	1.000***
Impulsive-compulsive internet usage disorder	3 (4.0)	1 (6.3)	2 (3.4)	0.519***
Video game use disorder	2 (2.7)	0 (0.0)	2 (3.4)	1.000***
Attention deficit hyperactivity disorder	6 (8.0)	2 (12.5)	4 (6.8)	0.602***
Tic disorders	5 (6.7)	4 (25.0)	1 (1.7)	0.006***
Chronic tic disorder	3 (4.0)	3 (18.8)	0 (0.0)	0.008***
Tourette's disorder	2 (2.7)	1 (6.3)	1 (1.7)	0.383***
Other disorders	4 (5.3)	1 (6.3)	3 (5.1)	1.000***

SD = standard deviation.
* Chi-square test; ** Student's t test; *** Fisher's exact test.

Figure legends:

Figure 1. Flowchart showing the participation of subjects throughout the study

Figure 2. Distribution of obsessive-compulsive symptoms and disorder according to gender

Figure 1

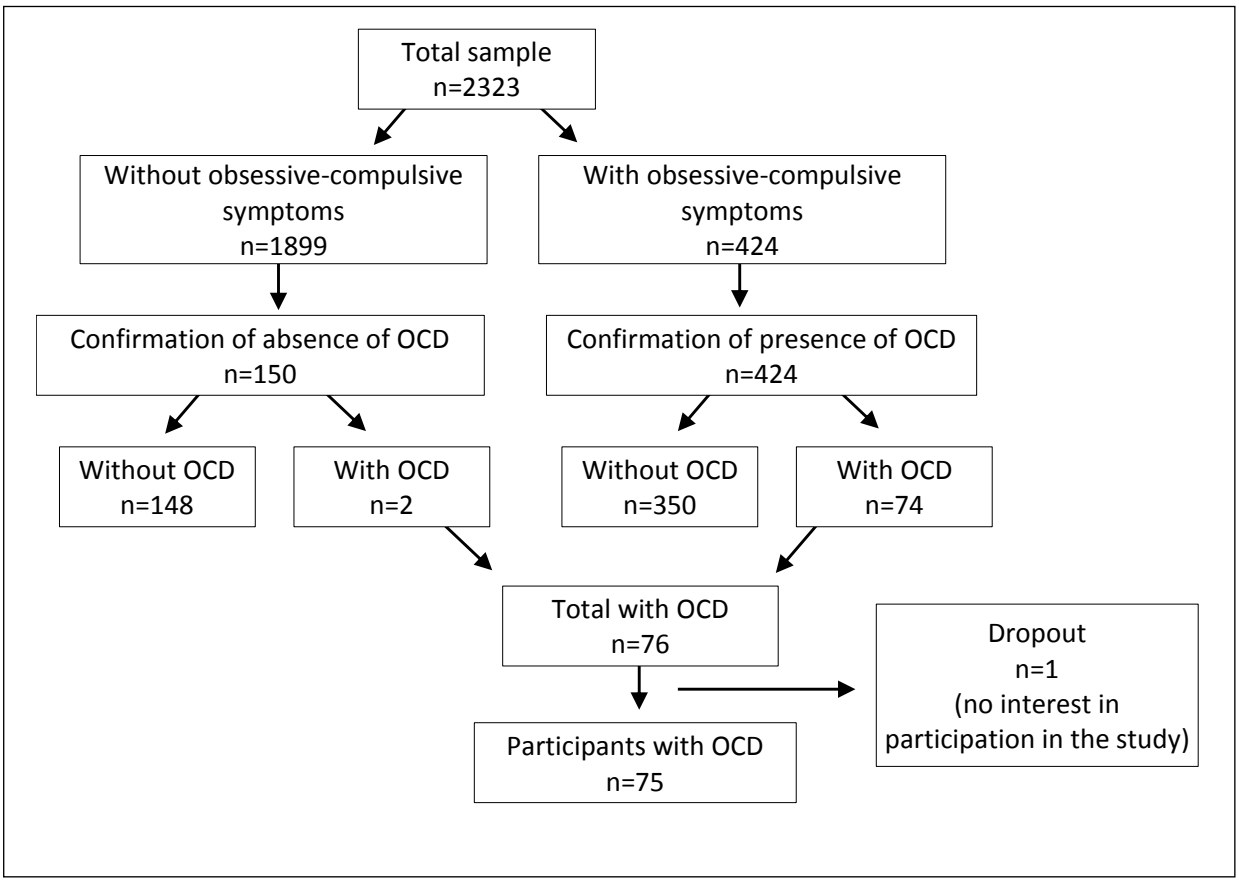
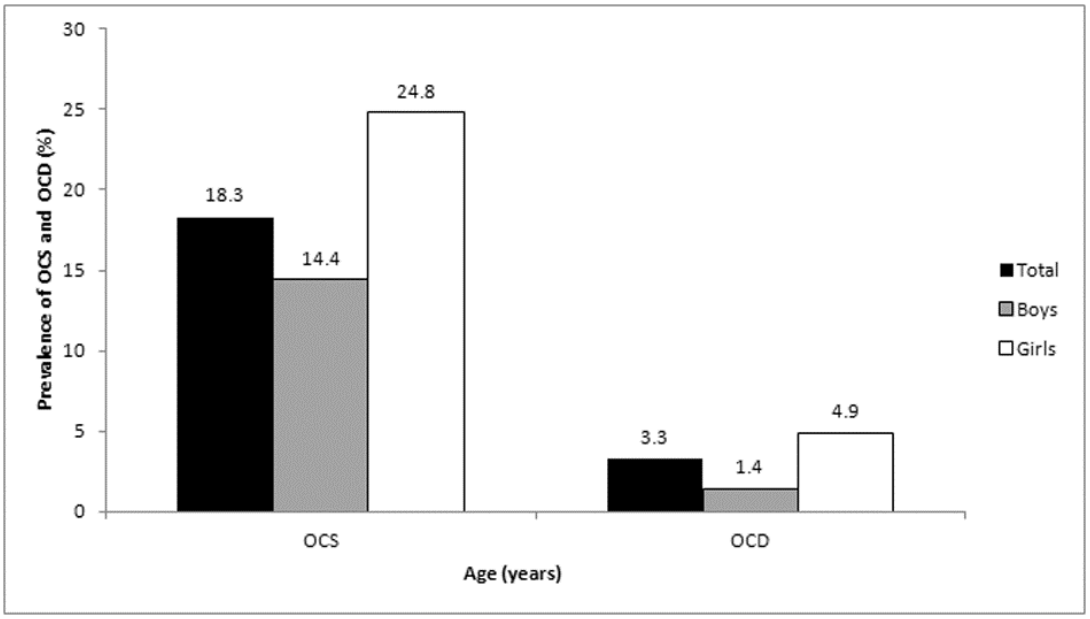

Total sample
n=2323
Without obsessive-compulsive symptoms
n=1899
With obsessive-compulsive symptoms
n=424
Confirmation of absence of OCD
n=150
Confirmation of presence of OCD
n=424
Without OCD
n=148
With OCD
n=2
Without OCD
n=350
With OCD
n=74
Total with OCD
n=76
Dropout
n=1
(no interest in participation in the study)
Participants with OCD
n=75

Figure 2


30
25
20
15
10
5
0
Prevalence of OCS and OCD (%)
18.3
14.4
24.8
3.3
1.4
4.9
OCS
OCD
Age (years)
Total
Boys
Girls

4.2 ARTIGO 2

QUALITY OF LIFE IN ADOLESCENTES WITH OBSESSIVE-COMPULSIVE DISORDER

QUALIDADE DE VIDA EM ADOLESCENTES COM TRANSTORNO OBSESSIVO-COMPULSIVO

Analise de Souza Vivan, Lidiane Rodrigues, Guilherme Wendt, Mônica Giaretton Bicca, Aristides Volpato Cordioli

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Quality of life in adolescents with obsessive-compulsive disorder

Qualidade de vida em adolescentes com transtorno obsessivo-compulsivo

Running title: Quality of life in adolescents with OCD

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The authors have no other conflicts of interest to declare.

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Abstract

Objective: To compare adolescents with and without obsessive-compulsive disorder (OCD) with regard to quality of life and to investigate the association between quality of life and clinical characteristics.

Methods: Participants were recruited from an epidemiological study conducted at high schools in the city of Porto Alegre, southern Brazil. The sample comprised 75 adolescents with OCD and 150 without the disorder, aged between 14 and 18 years. Participants were assessed using the following instruments: Schedule for Affective Disorders and Schizophrenia for School Aged Children – Present and Lifetime Version (K-SADS-PL), Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), World Health Organization Quality of Life Assessment – Abbreviated Version (WHOQOL-BREF), Beck Anxiety Inventory (BAI), and Beck Depressive Inventory – II (BDI-II).

Results: The two groups showed significant differences in relation to depression symptoms, anxiety symptoms, and quality of life (all domains), with a poorer performance among adolescents with OCD when compared to those without the disorder. Stepwise regression analysis revealed a significant association between BDI-II scores and quality of life, in all domains.

Conclusions: Our findings suggest that adolescents with OCD, especially those with depression symptoms, have a poorer quality of life when compared with adolescents without OCD.

Keywords: Obsessive-compulsive disorder, quality of life, adolescents, depression symptoms.

Resumo

Objetivos: Comparar adolescentes com e sem transtorno obsessivo-compulsivo (TOC) quanto à qualidade de vida e investigar a associação entre qualidade de vida e características clínicas.

Método: Os participantes foram recrutados através de um estudo epidemiológico realizado em escolas de Porto Alegre, sul do Brasil. A amostra foi composta por 75 adolescentes com TOC e 150 adolescentes sem TOC, com idade entre 14 e 18 anos. Os participantes foram avaliados utilizando os seguintes instrumentos: Schedule for Affective Disorders and Schizophrenia for School Aged Children – Present and Lifetime Version (K-SADS-PL), Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), World Health Organization Quality of Life Assessment – Abbreviated Version (WHOQOL-BREF), Beck Anxiety Inventory (BAI) e Beck Depressive Inventory – II (BDI-II).

Resultados: Os grupos apresentaram diferenças significativas em relação a sintomas depressivos, sintomas de ansiedade e qualidade de vida (incluindo todos os domínios), sendo que o grupo com TOC apresentou pior desempenho em comparação com o grupo sem TOC. Após análise de regressão linear por método de *stepwise*, o escore no BDI-II demonstrou estar associado com qualidade de vida, apresentando resultado significativo em todos os domínios.

Conclusões: Os achados sugerem que adolescentes com TOC, especialmente aqueles com sintomas depressivos, apresentam prejuízo na qualidade de vida em comparação a adolescentes sem TOC.

Palavras-chave: Transtorno obsessivo-compulsivo, qualidade de vida, adolescentes, sintomas depressivos.

Introduction

Obsessive-compulsive disorder (OCD) is an anxiety disorder characterized by the presence of recurrent and persistent obsessions and/or of compulsions performed in an attempt to prevent or reduce anxiety.[1] According to the World Health Organization, OCD is the fourth most frequent psychiatric disorder, after depression, social phobia, and substance abuse. Moreover, OCD is among the 10 major causes of disability worldwide, accounting for 2.2% of cases of disability due to general disease.[2]

OCD usually has an early onset, with an estimated prevalence of up to 4.2% in different samples of young adults around the world.[3,4] In addition, as also reported for adults, comorbidities with other psychiatric disorders are very often observed in children and adolescents with OCD, with rates as high as 85%[5] and a predominance of suicidal ideation and suicide attempts.[6,7] When left untreated, OCD can evolve into a chronic condition, affecting different areas of life. In children and adolescents, the first signs of impairment are usually related to the performance of routine daily activities, maintenance of family and social relationships, and academic performance.[8,9]

In spite of the early onset and major suffering and impairment caused by the disease, several individuals do not seek treatment. In general, individuals with OCD show self-criticism toward their own symptoms, and therefore fear exposing the contents of their obsessions and describing the rituals they perform.[10,11] Moreover, many patients believe that verbalizing their obsessions will make them become true. Also, when sexual or aggressive obsessions are present, patients often fear being seen as crazy or dangerous by other people.[12] As a result, in many cases, OCD tends to remain untreated for several years (as long as 18.1 years in a previous study with an adult sample).[13]

As a consequence of the long years living with the disease, OCD ultimately affects the quality of life of patients, or their perception of subjective well-being. Even though there is no such thing as a global definition of quality of life, the concept usually includes aspects such as psychological well-being, satisfaction with life, social functioning and performance, life conditions, and social support.[14] Only a few studies have assessed quality of life in adolescents with OCD, but studies conducted with adults suggest that these patients present lower quality of life scores when compared with control groups, including healthy, depressive, and heroine-dependent controls.[15-18] One study involving children and adolescents has also suggested an important negative effect of OCD symptoms on quality of life.[19] This scarcity of data related to the quality of life of children and adolescents with OCD was the main motivation for the present study.

Therefore, the objectives of this study were 1) to compare adolescents with and without OCD with regard to quality of life, and 2) to investigate the association between quality of life and clinical characteristics, including obsessive-compulsive, depression, and anxiety symptoms.

Method

This study was approved by the Research Ethics Committee of Hospital de Clínicas de Porto Alegre, Porto Alegre, RS, Brazil. All patients and guardians participating in the sample selection phase (epidemiological study) received an informed dissent form; those who did not wish to be included in the research were required to sign and return the form to the investigators.

Participants and procedures

All participants were recruited from a population-based, epidemiological study conducted with high school students from the city of Porto Alegre, southern Brazil, designed to assess the prevalence of OCD and obsessive-compulsive symptoms in adolescents (publication of the results of the first study is currently under way). Seventy six adolescents with OCD were identified, but one refused to participate in the present experiment. The necessary number of controls was therefore calculated based on a sample of 75 participants with OCD. Taking into consideration a significance level of 5%, 80% power, a 1:2 ratio between cases and controls, a minimum odds ratio of 2.5, and a prevalence of 3%, a total minimum of 210 subjects was considered appropriate, namely 70 cases and 140 controls.

Total sample comprised 225 adolescents aged between 14 and 18 years: 75 had been diagnosed with OCD, and 150 did not have the disorder (control group). Subjects with OCD should meet the diagnostic criteria for the disorder according to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)[1] and score $\geq$ 16 on the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS). Controls were randomly selected among participants; they had to score < 21 on the scale used to screen for obsessive-compulsive symptoms (Obsessive Compulsive Inventory – Revised, OCI-R) and should not have a diagnosis of OCD.

Data were collected between May 2009 and August 2011. Adolescents were interviewed individually by previously trained psychologists at a university hospital (Hospital de Clínicas de Porto Alegre) or at their homes.

Measures

Schedule for Affective Disorders and Schizophrenia for School Aged Children: Present and Lifetime Version (K-SADS-PL)

The Brazilian version of the K-SADS-PL was used to confirm the diagnosis of OCD.[20] The K-SADS-PL is a semi-structured psychiatric interview designed to assess psychiatric disorders in children and adolescents aged 6 to 18 years according to DSM-IV criteria.[1]

Yale-Brown Obsessive-Compulsive Scale (Y-BOCS)

This instrument was used to assess the severity of obsessive-compulsive symptoms. The scale includes 10 items, five for obsessions and five for compulsions. Each item can be rated from 0 (none) to 4 (extreme) in relation to time, impairment, frequency, control, and discomfort.[21]

World Health Organization Quality of Life Assessment – Abbreviated Version (WHOQOL-BREF)

Quality of life was investigated using this instrument.[22] The scale comprises 26 questions, each one rated according to five levels of severity, covering four domains: physical health, psychological health, social relations, and environment. For each domain, scores may range from 0 to 100, with higher scores suggesting a better quality of life.

Beck Anxiety Inventory (BAI)

This instrument assesses the presence and severity of anxiety symptoms. It includes 21 statements that describe anxiety symptoms and can be rated from 0 (not at all) to 3 (severely) with regard to symptom severity.[23]

Beck Depressive Inventory-II (BDI-II)

The BDI-II was used to assess depression symptoms. This instrument includes 21 statements, with scores ranging from 0 to 3, which reflect increasing levels of severity for each symptom. The revised version, translated and adapted into Brazilian Portuguese by Goreinstein et al.,[24] was used in the present study.

Statistical analysis

Quantitative variables were expressed as mean and standard deviation, and categorical variables as absolute and relative frequencies. Means obtained for the two groups were compared using the t-test, and proportions using Pearson's chi-square test.

Associations among the scores of different scales in the group of adolescents with OCD were assessed using Pearson's linear correlation test. Multivariate models were used to control for confounding factors.

Considering OCD as the outcome, logistic regression was used and the risk estimated by odds ratio; considering quality of life scores as the outcome, linear regression analysis was used and the effect estimated by angle coefficient (b). A minimum p value of 0.20 was used as the criterion for inclusion in the multivariate model.

Significance was set at 5% ($p \leq 0.05$). All analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 18.0.

Results

Sample characteristics

The 75 adolescents with OCD were predominantly female (n=59, 78.7%); mean age was 16.2±1.1 years. Females also accounted for the majority of the 150 controls (n=90, 60%); mean age in this group was 16±1.0 years. The two groups were significantly different in relation to sex (p=0.008). Girls included in the study showed a 2.5 higher chance of developing OCD when compared with boys (OR=2.5; 95%CI: 1.3 to 4.7; p=0.006), even after adjustment for age.

With regard to the severity of obsessive-compulsive symptoms among participants with OCD, overall Y-BOCS scores showed a mean of 21.1±4.1, namely 10.1±2.3 for obsessions and 11.0±2.8 for compulsions.

Results obtained for all clinical characteristics, including quality of life scores (according to WHOQOL-BREF), anxiety symptoms (BAI), and depression symptoms (BDI-II), are shown in Table 1. The groups showed differences in all variables assessed, and not only in overall WHOQOL-BREF scores, but also in each of the domains comprising the scale. Results obtained for the different WHOQOL-BREF domains and the differences between groups are better illustrated in Figure 1.

Following multivariate regression analysis, adolescents with OCD showed, on average, 6.1 lower scores in overall quality of life when compared with adolescents without the disorder (b=-6,1; 95%CI: -11.1 to -1.1; p=0.016), regardless of sex.

Quality of life and clinical correlates

The following negative correlations were observed: a) between Y-BOCS Obsessive and Y-BOCS total scores and the physical and psychological domains; b) between BAI scores and overall quality of life scores plus the physical, psychological, and environment domains; and c) between BDI-II scores and all quality of life domains (Table 2). Other clinical characteristics, such as number of comorbidities and age at the onset of OCD, did not show significant association with quality of life scores.

Considering WHOQOL-BREF domains as dependent variables, stepwise regression analysis was used to assess the characteristics of adolescents with OCD. Independent variables were sociodemographic characteristics (sex and age) and clinical data (scores obtained on Y-BOCS, BAI, and BDI-II). Only BDI-II scores (depression symptoms) showed an association with quality of life, with significant results in all domains ($p<0.001$).

Discussion

The findings of the present study revealed that adolescents with OCD, in addition to the already known impairment and suffering caused by the disorder, also have their quality of life affected. When compared with adolescents without OCD, youngsters with the disorder showed significant differences in WHOQOL-BREF scores, both overall and in each domain. Negative correlations between WHOQOL-BREF scores and Y-BOCS, BAI, and BDI-II results were also observed.

Even though the impact of OCD on quality of life among adults is well documented, studies with adolescents are practically nonexistent. A study conducted in the Netherlands with subjects aged 8 to 18 years indicated that the presence of psychiatric disorders significantly interfered with the quality of life of children and adolescents. That study comprised a sample of 252 participants, of whom 50 presented anxiety disorders, but does not inform whether children and adolescents with OCD were present.[25] Another study has investigated quality of life in 310 children and adolescents with different psychiatric disorders. A total of 57 patients were assessed, with different anxiety disorders diagnosed, but only four had OCD. The study revealed that participants with anxiety disorders scored lower

on psychosocial health and emotional function when compared with individuals with other diagnoses or without any psychopathology.[26]

Conversely, studies involving adults are more frequent and have described specific characteristics of individuals with OCD. In line with our study, previous research has evidenced significant impairment in all quality of life domains in adults with OCD.[16,18,27] Other studies have observed impairment associated with some but not all quality of life domains, e.g., environment[17] and bodily pain,[15,28,29] areas assessed by the WHOQOL-BREF and the Medical Outcomes Survey 36-Item Short-Form Health Survey (SF-36), respectively.

The impact of OCD on the psychological health domain has been consistently shown in the literature and can possibly be understood based on some well-established impairments associated with the disease. For instance, it is currently well known that adolescents with OCD show high levels of psychiatric comorbidities and an increased presence of depression and anxiety symptoms.[5,30]

The social relationship domain has also been consistently shown in the literature to be strongly affected by OCD, especially with regard to family burden. As a rule, family members accommodate to obsessive-compulsive symptoms.[31] Moreover, rage attacks, exaggerated criticism, and family isolation are extremely common.[32,33] Symptoms also very often affect the patient's social interaction with peers, as a result of avoidance behaviors and rules that hamper events such as travelling, sleeping over a friend's place, or having a boy/girlfriend.

The environment domain has also been shown to be affected in adolescents with the disorder. Concerns with the environment are not only extremely common but also usually excessive, especially fear of dirt, contaminants, and germs. Concerns with personal and family safety are also very frequent and usually excessive (e.g., checking door locks, gas, electronic appliances).

In the physical health domain, sleep disturbances and difficulties performing daily life activities are common in patients with OCD, especially as a result of indecision and slowness. Even though the assessment of pain is included in this domain, this symptom is not common among individuals with OCD. Studies using the SF-36 scale, which specifically assesses bodily pain, did not find significant results in this area.[15,28,29]

Another important result of our study was a significant negative correlation between Y-BOCS Obsessions and Y-BOCS overall scores on the one hand and WHOQOL-BREF physical and psychological domains on the other. A previous study involving children and adolescents with OCD had already evidenced a negative correlation between Children's Y-BOCS scores and quality of life. When quality of life scores were assigned by parents,

significant correlations were observed in all domains; when rated by children and adolescents, significant correlations were also found in most domains, except physical health.[19]

Our findings revealed a significant relationship between BDI-II scores in adolescents with OCD and quality of life results. Among the clinical characteristics assessed, BDI-II scores showed the strongest correlation with all quality of life domains. Moreover, according to the stepwise regression analysis, depression symptoms were the only independent variable associated with quality of life, with a significant result in all domains. Similar data have been reported by previous studies conducted with adults.[29,34,35] These findings may be explained by the fact that, even though quality of life is considered a multifactorial construct, the different features analyzed by each of the domains are probably also present in the impairment associated with depression episodes, with a potential overlap between depression characteristics and the quality of life construct.

A previous study conducted with youngsters aged 7 to 20 years and designed to compare functional impairment in OCD patients with and without comorbidities with depressive disorders showed that those with comorbidities had more severe levels of functional impairment.[36] This relationship can also be analyzed using a causal model proposed by some investigators, where OCD would be a risk factor for the development of depression. Depression symptoms may therefore occur as a reaction to the high levels of anxiety, functional impairment, and suffering associated with a severe chronic and incapacitating condition such as OCD.[37]

Our study adds to the existing body of knowledge by revealing important data on the quality of life of adolescents with OCD, but some limitations should be taken into consideration while interpreting results. The fact that we used a population-based sample, on the one hand, is a strength of the study, but on the other it prevents our data from being extrapolated to other populations of outpatients or inpatients, with potentially more severe symptoms and, as a consequence, a poorer quality of life. Another limitation of our study was the cross-sectional evaluation of patients: participants were interviewed at only one occasion, which prevented us from assessing relationships between possible changes in the severity of OCD symptoms and changes in specific quality of life domains. Finally, the cross-sectional design of the study does not allow us to establish causal relationships between OCD and depression symptoms.

In summary, the findings of the present study contribute to improve our understanding of the quality of life of adolescents with OCD. Our results indicate that all quality of life domains were impaired in adolescents with OCD when compared with individuals without the

disorder. Moreover, the depression symptoms often present in subjects with OCD seem to be associated with a poorer quality of life in all the domains assessed. Future studies are warranted to further improve our knowledge of these issues, if possible with a longitudinal design and with a focus on the relationship between OCD, depression symptoms, and quality of life.

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Table 1. Clinical characteristics of adolescents with and without OCD (mean ± SD)

Variables	**With OCD (n=75)**	**Without OCD (n=150)**	**p***
WHOQOL-BREF			
Physical health	62.1±16.3	71.5 ± 14.3	<0.001
Psychological health	52.1±18.4	64.3±17.0	<0.001
Social relations	62.6±20.0	70.0±18.6	0.006
Environment	56.0±14.7	63.1±14.9	0.001
Overall	63.0±18.1	71.4±18.1	0.001
BAI	17.8±11.0	9.5±7.5	<0.001
BDI-II	20.8±11.5	12.6±9.7	<0.001

OCD = obsessive-compulsive disorder; WHOQOL-BREF = World Health Organization Quality of Life Assessment – Abbreviated Version; BAI = Beck Anxiety Inventory; BDI-II = Beck Depressive Inventory-II.
* t test.

Table 2. Pearson's correlation coefficient (r) between quality of life domains (WHOQOL-BREF) and clinical variables (scores obtained on Y-BOCS, OCI-R, BAI, and BDI-II) in adolescents with OCD

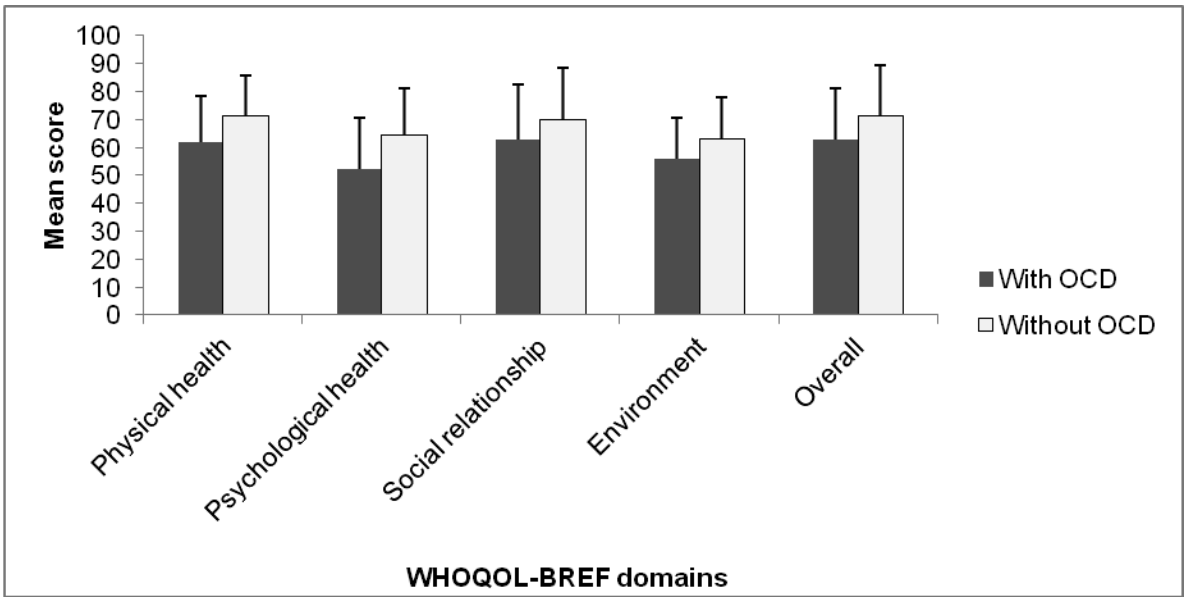
Variables	**WHOQOL Physical**	**WHOQOL Psychol**	**WHOQOL Social**	**WHOQOL Envir**	**WHOQOL Overall**
Y-BOCS					
Obsessions	-0.281*	-0.281*	0.114	0.020	-0.061
Compulsions	-0.101	-0.143	0.062	-0.053	0.017
Total	-0.227*	-0.247*	0.106	-0.024	-0.023
BAI	-0.340**	-0.345**	-0.110	-0.377**	-0.232*
BDI-II	-0.667***	-0.807***	-0.408***	-0.446***	-0.517***

WHOQOL-BREF = World Health Organization Quality of Life Assessment – Abbreviated Version; Y-BOCS = Yale-Brown Obsessive-Compulsive Scale; OCI-R = Obsessive Compulsive Inventory – Revised; BAI = Beck Anxiety Inventory; BDI-II = Beck Depressive Inventory-II; OCD = obsessive-compulsive disorder; Physical = physical health; Psychol = psychological health; Social = social relationship; Envir = environment.
* $p<0.05$; ** $p<0.01$; *** $p<0.001$.

Figure legend:

Figure 1. Quality of life (WHOQOL-BREF) in adolescents with and without OCD.

Figure 1


100
90
80
70
60
50
40
30
20
10
0
Mean score
Physical health
Psychological health
Social relationship
Environment
Overall
With OCD
Without OCD
WHOQOL-BREF domains

5 CONSIDERAÇÕES FINAIS

Assim como já evidenciado em estudos com adultos, a presente tese, através de seus achados, revela que o TOC também é um transtorno comum em adolescentes. Com base em um levantamento populacional, encontrou-se taxa elevada da doença em estudantes de ensino médio de escolas de Porto Alegre. No entanto, uma grande maioria dos jovens desconhecia sofrer do transtorno, e uma proporção ainda maior jamais havia buscado tratamento, o que revela a alarmante realidade a respeito da falta de diagnostico e tratamento adequado do TOC em nosso meio. Este dado possivelmente reflete uma lacuna na saúde pública brasileira no que se refere aos transtornos mentais, alertando-nos sobre a importância do investimento em campanhas educativas sobre a doença para esta população. Tendo em vista que o pico de incidência do TOC acontece nesta faixa etária, a informação sobre o transtorno poderá contribuir para a identificação dos sintomas ainda em nível inicial, estimulando a busca por atendimento especializado e o correto diagnóstico e, sobretudo, tratamento precoce. O TOC, quando não tratado, tende a ser crônico, podendo chegar a altos índices de incapacitação. Tem grande impacto na vida pessoal e da família, comprometendo o desempenho acadêmico, profissional, relações sociais e relacionamentos afetivos. Além disso, também representa um alto custo para o sistema de saúde, chegando a gastos de $8,4 bilhões em estimativas realizadas nos Estados Unidos, representando 5,7% do total gasto com transtornos mentais anualmente (DuPont et al., 1995). Desta forma, o tratamento precoce pode contribuir para a diminuição da ocorrência desses desfechos negativos na vida das pessoas, além de reduzir o impacto que esses indivíduos representam para o sistema de saúde e para suas famílias. Acredita-se ainda que o diagnóstico precoce do TOC e o atendimento apropriado poderão impedir que o transtorno se cronifique e acompanhe o indivíduo ao longo da vida, o que poderia ser verificado em futuros estudos de coorte.

Além disso, a taxa extremamente baixa de jovens com TOC que estavam realizando tratamento para a doença pode refletir no desconhecimento pessoal e também dos pais sobre o grande impacto que o transtorno pode causar na vida do sujeito e sua família. Esses baixos índices podem representar, também, as deficiências dos serviços de saúde, como a dificuldade de acesso ao atendimento, as falhas na identificação das manifestações do transtorno pelos profissionais de saúde, ou ainda o reduzido número de profissionais capacitados para o tratamento adequado do transtorno. Estudos adicionais poderiam esclarecer melhor as razões

desses fatos e apontar para políticas que pudessem ser elaboradas com a finalidade de eliminar essas possíveis causas, através de campanhas informativas para a população quanto às manifestações do TOC. Além disso, a educação de escolas e professores a respeito do transtorno, para o correto encaminhamento dos alunos com sinais da doença, como também a capacitação de profissionais da área da saúde mental para a identificação e tratamento precoce do TOC.

Nossos resultados também demonstraram o comprometimento dos adolescentes com TOC através dos altos índices de comorbidades apresentadas. Entre as mais prevalentes estão o transtorno depressivo maior e os transtornos de ansiedade, como o transtorno de ansiedade generalizada e a fobia específica. Na comparação entre os sexos, houve diferença de comorbidades apenas quanto aos transtornos de tiques, sendo significativamente mais prevalente nos meninos. No entanto, as meninas apresentaram maior presença de sintomas depressivos, porém este resultado não foi evidenciado em relação ao transtorno depressivo maior. Também não foram encontradas diferenças significativas entre os sexos em relação às dimensões de sintomas apresentadas pelos adolescentes com TOC. Acredita-se que o pequeno número amostral possa ter contribuído para estes resultados, e que o desenvolvimento de pesquisas futuras com a participação de mais adolescentes com a doença possa trazer novos dados sobre estas questões.

Outro importante achado refere-se à alta prevalência de SOC encontrada. A avaliação dos sintomas em nível subclínico representa um diferencial da presente pesquisa, tendo em vista o reduzido número de levantamentos que investigam este quadro, principalmente na faixa etária estudada. Assim como o diagnóstico de TOC foi significativamente mais presente em meninas da amostra, também foi evidenciada esta relação quanto aos sintomas subclínicos. Dados relativos a taxas de SOC necessitam ser mais amplamente estudados, pois ainda não está claro, na literatura, se estes sintomas representam um maior risco de desenvolvimento de TOC no futuro ou são apenas uma condição similar, entretanto, não preditora de TOC. Estudos adicionais, utilizando delineamento longitudinal, poderão contribuir para o esclarecimento destas questões.

O estudo ainda se propôs a avaliar o impacto do TOC na QV dos participantes. Pesquisas sobre este tema são encontradas com amostra de adultos, no entanto muito menos frequentes em grupos de crianças ou adolescentes. Apesar de contarmos com uma amostra de base populacional, o que pode representar um grupo de indivíduos com TOC de menor gravidade quando comparado a amostras clínicas, foi evidenciado importante prejuízo em relação a QV. Quando comparados a indivíduos sem TOC, todos os domínios de QV

investigados estavam prejudicados nos jovens com a doença. Além disso, os sintomas depressivos também se mostraram associados com pior QV. Contudo, o delineamento transversal do estudo não nos permite inferir a natureza e causalidade da relação entre TOC, sintomas depressivos e QV.

Por fim, apesar de o estudo contar com um grande número amostral na fase epidemiológica, o pequeno número de participantes com TOC representa uma limitação da presente pesquisa. Desta forma, para avanços na área e melhor entendimento dos achados apontados, são necessárias pesquisas futuras com adolescentes, com maior número amostral. Além disso, pesquisas com delineamento longitudinal podem fornecer novos dados sobre a relação entre os diferentes transtornos psiquiátricos e o impacto na QV.

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7 ANEXO

CARTA DE APROVAÇÃO PELO COMITÊ DE ÉTICA E PESQUISA

HCPA - HOSPITAL DE CLÍNICAS DE PORTO ALEGRE
Grupo de Pesquisa e Pós-Graduação
COMISSÃO CIENTÍFICA E COMISSÃO DE PESQUISA E ÉTICA EM SAÚDE

A Comissão Científica e a Comissão de Pesquisa e Ética em Saúde, que é reconhecida pela Comissão Nacional de Ética em Pesquisa (CONEP)/MS como Comitê de Ética em Pesquisa do HCPA e pelo Office For Human Research Protections (OHRP)/USDHHS, como Institutional Review Board (IRB00000921) analisaram o projeto:

Projeto: 08-544 **Versão do Projeto:** 08/12/2008 **Versão do TCLE:** 18/12/2008

Pesquisadores:
ARISTIDES VOLPATO CORDIOLI
ANALISE DE SOUZA VIVIAN

Título: PREVALÊNCIA DO TRANSTORNO OBSESSIVO-COMPULSIVO E COMORBIDADES PSIQUIÁTRICAS EM ESCOLARES DE PORTO ALEGRE

Este projeto foi Aprovado em seus aspectos éticos e metodológicos, inclusive quanto ao seu Termo de Consentimento Livre e Esclarecido, de acordo com as Diretrizes e Normas Internacionais e Nacionais, especialmente as Resoluções 196/96 e complementares do Conselho Nacional de Saúde. Os membros do CEP/HCPA não participaram do processo de avaliação dos projetos onde constam como pesquisadores. Toda e qualquer alteração do Projeto, assim como os eventos adversos graves, deverão ser comunicados imediatamente ao CEP/HCPA. Somente poderão ser utilizados os Termos de Consentimento onde conste a aprovação do GPPG/HCPA.

Porto Alegre, 19 de dezembro de 2008.

Profª Nadine Clausell
Coordenadora do GPPG e CEP-HCPA