

OBSESİF KOMPULSİF HASTALIKLAR - TANI VE TEDAVİLERİ -

Prof. Dr. Vahdet GÜL



© Copyright 2025

Bu kitabın, basım, yayın ve satış hakları Akademisyen Kitabevi A.Ş.'ye aittir. Anılan kuruluşun izni alınmadan kitabın tümü ya da bölümleri mekanik, elektronik, fotokopi, manyetik kayıt ve/veya başka yöntemlerle çoğaltılamaz, basılamaz, dağıtılamaz. Tablo, şekil ve grafikler izin alınmadan, ticari amaçlı kullanılamaz. Bu kitap T.C. Kültür Bakanlığı bandrolü ile satılmaktadır.

ISBN

978-625-375-502-7

Kitap Adı

Obsesif-Kompulsif Hastalıklar - Tanı ve Tedavileri

Yazar

Vahdet GÜL

ORCID iD: 0009-0006-0815-9288

Yayın Koordinatörü

Yasin DİLMEN

Sayfa ve Kapak Tasarımı

Akademisyen Dizgi Ünitesi

Yayıncı Sertifika No

47518

Baskı ve Cilt

Vadi Matbaacılık

Bisac Code

MED105000

DOI

10.37609/akya.3672

Kütüphane Kimlik Kartı

Gül, Vahdet.

Obsesif-Kompulsif Hastalıklar-Tanı ve Tedavileri / Vahdet Gül.

Ankara : Akademisyen Yayınevi Kitabevi, 2025.

194 s. : tablo. ; 135x210 mm.

Kaynakça var.

ISBN 9786253755027

GENEL DAĞITIM

Akademisyen Kitabevi A.Ş.

Halk Sokak 5 / A Yenışehir / Ankara

Tel: 0312 431 16 33

siparis@akademisyen.com

www.akademisyen.com

ÖNSÖZ

Ruhsal Bozukluklar, insanlığın başlangıcından beri bilinmesine rağmen, geçen yüzyılın başlarına kadar gerçek nedenleri tam olarak anlaşılamamıştı. Ancak son yarı yüzyıl da başlatılan bilimsel çalışmalar ışığında birçok ruhsal bozukluğun patolojisi aydınlatılabilmektedir. Psikopatoloji, “Ruhsal Hastalık” kavramı altında, bir tıp dalı olan Psikiyatrinin konusu olmuştur. Günümüzde psikiyatride, kanıtlanmış neden – sonuç ilişkileri çerçevesinde ruhsal hastalıkların tanı ve tedavileri bilimsel bir temelde yapılmaktadır.

Obsesif Kompulsif Bozukluklar, psikiyatrik hastalıklar arasında sık görülen ve geniş bir belirti ağına sahip, nüfusun yaklaşık yüzde üçünü etkileyen ve tedavisiz kendiliğinden iyileşmeyen engelleyici ciddi psikiyatrik hastalıklardır.

Obsesif Kompulsif Bozuklukların da ilişkili olduğu anksiyete bozuklukları, ruhsal hastalıklar arasında en geniş dağılıma sahip ve en sık görülen psikiyatrik bozukluklardır. Bu bozukluklar; zihinsel, duygusal ve bedensel belirtilerle karakterize bir klinik tablo oluşturur. Her anksiyete bozukluğunun kesin tanı belirtileri farklı olabilir. Ancak endişe, korku, kaygı ve fiziksel gerilim gibi belirtiler, en az değişikliğe uğrayan ortak özelliklerdir.

Ana belirtileri karşı konulamayan, tekrarlayıcı, endişe, kaygı ve iç huzursuzluk olan obsesif kompulsif ve benzeri bozukluklar, bu kitapta iki bölümde ele alındı. Birinci bölümde, Obsesif – Kompulsif Bozukluk bir bütün olarak işlendi. İkinci bölümde ise, obsesif kompulsif benzeri belirtilerle seyreden fakat farklı klinik özellikleri olan bir grup hastalık sunuldu. Bu hastalıkların genel bir tanıtımı yapılarak, klinik temelde tanı ve tedavileri bilimsel konsensusa uygun olarak verildi.

Uluslararası alanda, sözel bir tedavi uygulaması olan ve hekimlerce yapılan Tıbbi Psikoterapi ’nin tanıtımı yapılarak detaylı bir şekilde ele alındı. İlgili literatür kaynakları, toplu olarak bölüm sonlarında verildi.

“Obsesif-Kompulsif Hastalıklar – Tanı ve Tedavileri” başlıklı bu kitabın, başta Tıp mensupları olmak üzere, Sosyal Bilimler ve Psikoloji alanındaki meslek mensupları ve öğrencileri için yararlanabilecekleri bir el kitabı olacağını düşünüyorum. Ayrıca bu bozukluklardan etkilenmiş olan kişilerin veya ilgi duyanların da bu kitabı, merakla okuyacaklarını ümit ediyorum.

Prof. Dr. Vahdet Gül, Psikiyatri Uzmanı

Medicalpark İncek Hastanesi, Ankara,

Nisan 2025

Not: Ruhsal hastalıkların tanı, ayırıcı tanı ve sınıflandırmaları, uluslararası kurallar altında, belirli kriterler eşliğinde yapılmasını içeren ve ‘Amerikan Psikiyatri Birliği’ (American Psychiatric Association) tarafından yayınlanan ‘Mental (Ruhsal) Bozuklukların Tanısal ve İstatiksel El Kitabı’ (Diagnostic and Statistical Manuel of Mental Disorders, DSM-5, 2013, 5. ed.) ‘dan yapmış olduğum bazı alıntılar nedeniyle bu kuruluşu, minnettarlığımı saygıyla ifade etmek istiyorum.

İTHAF:

*Bu kitabın hazırlanmasında teşvik ve desteklerini gördüğüm
eşim Deniz, kızlarım Buket ve Melisa'ya buradan teşekkürlerimi
ifade etmeyi bir borç sayıyorum.*

KISALTMALAR

ADHS	Dikkat Eksikliği Hiperaktivite Bozukluğu
ASB:	Akut Stres Bozukluğu
BAB:	Beden Algısı Bozukluğu
BDT:	Bilişsel Davranışçı Tedavi (Cognitive Behavioural Therapy)
btBDT:	Bilgisayar Tabanlı Bilişsel Davranış Tedavisi
CNS:	Merkezi Sinir Sistemi (Central Nervous System)
DİB:	Duyusal İşlem Bozukluğu
EKG:	Elektrokardiyografi
EMDR:	Göz hareketleriyle duyarsızlaştırma ve yeniden işleme terapisi “Eye Movement Desensitization and Reprocessing”
ERP:	Maruz kalma ve tepki önleme tedavisi (Exposure and Response Prevention)
FDA:	ABD Gıda ve İlaç Dairesi (USA Food and Drug Administration)
FTBT:	Farkındalık Temelli Bilişsel Terapi
GABA:	Gama Amino Bütirik Asit
GIS:	Sindirim kanalı (Gastrointestinal Sistem)
ICD-10:	Uluslararası Hastalık Sınıflandırması (International Classification of the Disease, 10.ed.
IED:	Aralıklı Patlamalar Seyreden Davranışsal Bozukluk (Intermittent Explosive Disorder)
MAOI:	Monoamin Oksidaz İnhibitörler
MRI:	Manyetik Rezonans Görüntüleme
NON-REM:	Hızlı göz hareketlerinin olmadığı uyku aşaması
OKB:	Obsesif Kompulsif Bozukluk
OTC:	Reçete gerektirmeyen ilaçlar (Over The Counter)

PET:	Pozitron Emisyon Tomografisi (Positron Emission Tomography)
PT:	Psikoterapi
RIMA:	Geri Dönüşümlü Monoamin Oksidaz İnhibitörü
SAB:	Sosyal Anksiyete Bozukluğu
SNRI:	Seçici Noradrenalin Geri Alım İnhibitörü (Selective Noradrenalin Reuptake Inhibitor)
SPECT:	Tek Foton Işınımlı Kompüter Tomografi (Single Photon Emission Computerised Tomography)
SSRI:	Seçici Serotonin Geri Alım İnhibitörü (Selective Serotonin Reuptake Inhibitor)
TCA:	Trisiklik antidepresanlar (Tricyclic Antidepressant)
TMS:	Transkraniyal Manyetik Stimülasyonu
TPT:	Tıbbi Psikoterapi (Medical Psychotherapy)
TSSB:	Travma Sonrası Stres Bozukluğu (Post Travmatik Stres Disorder)
YAB:	Yaygın Anksiyete Bozukluğu

İÇİNDEKİLER

BÖLÜM 1.

OBSESİF KOMPULSİF BOZUKLUK

(DSM-5'E GÖRE 300.3, ICD-10'A GÖRE F42)	1
Genel Bakış	1
Epidemiyoloji (Toplumda Yaygınlığı).....	6
Etiyoloji (Hastalık Nedenleri).....	7
OKB için Risk Faktörleri	8
Psikanalitik Yaklaşımlara göre OKB Nedenleri	11
Obsesyonel Düşünceler ve Klinik Belirtileri.....	12
Obsesif Döngü	14
OKB de Tanı İşlemleri	21
Komorbidite (Eş Tanı)	22
Psikiyatrik Muayene	22
DSM-5'e Göre Obsesif Kompulsif Bozukluğu Tanı Ölçütleri	25
Ayrırcı Tanı Kriterleri.....	26
Ayrırcı Tanıda Güçlükler	28
OKB Tanısına Yardımcı Tarama Testleri	30
OKB Alt Türleri	32
OKB Prognozu (Hastalık Seyri)	35
OKB Tedavisinde Genel Yaklaşımlar	36

OKB de Farmakolojik Tedavi.....	39
SSRI – Antidepresanlar ve Özellikleri	43
Serotonin ve Noradrenalin Geri Alım İnhibitörleri	44
Atipik Antidepresanlar	44
Trisiklik Antidepresanlar	45
Gaba Türevleri	46
Benzodiazepinler	47
Antipsikotik İlaçlar.....	48
İlaçlı Tedavide Dikkat Gerektiren Noktalar	53
OKB Tedavisinde SSRI Kullanımı İle İlgili Uyarılar.....	54
OKB ve Anksiyete Bozukluklarının İlaçlı Tedavisi.....	55
OKB 'de İlaçsız Tedavi Yöntemleri	61
Psikoterapi Kimler İçin Uygunur?	63
Psikoterapi ve Mental Dinamikler	64
OKB Tedavisinde Tıbbi Psikoterapi	65
OKB Tedavisinde Psikoterapi Teknikleri	68
Psikoterapiler Ne Kadar Sürer?.....	74
Kombinasyon Tedavisi.....	74
Kendi Kendine Yardım (Self-Help).....	75
Nöromodülasyon.....	77
Vagus Sinir Stimülasyonu	89
OKB'li Hastalarda Alternatif Tedaviler.....	91
Ergoterapi (Meşguliyet Tedavisi).....	91
Sosyoterapi	93
Kaynaklar.....	95

BÖLÜM 2.**OBSESİF-KOMPULSİF BOZUKLUKLARLA İLGİLİ****DİĞER HASTALIKLAR 105**

1. Beden Algısı / Beden Dismorfik Bozukluğu
(DSM-5 'E GÖRE 300.7, ICD-10'A GÖRE F45.22) 105
2. Trikotillomani (Saç Yolma Bozukluğu)
(DSM-5 'E GÖRE 312.39, ICD-10 'A GÖRE F63.3) 110
3. Deri Yolma Bozukluğu / Ekskoriyasyon
(Dermatillomania) DSM-5 'E GÖRE 698.4 ICD-10 'a göre L98.1)
(Chronic Skin Pinching Disorder,) 119
4. İstifçilik – Biriktirme Bozukluğu
(Hoarding Disorder) (DSM-5 'e göre 300.3,
ICD-10 'a göre F42.3)..... 127
5. Sorunlu Kumar Bağımlılığı (Pathological Gambling)
(DSM-5'e göre 312.31, ICD-10'a göre F63.0)..... 136
6. Kleptomani (Çalma Bozukluğu)
(DSM-5 302.32, ICD-10 F63.3) 154
- Kaynaklar 172

BÖLÜM 1

OBSESİF KOMPULSİF BOZUKLUK (DSM-5'E GÖRE 300.3, ICD-10'A GÖRE F42)

GENEL BAKIŞ

Obsesif Kompulsif Bozukluk (OKB) psikiyatrik hastalıklar arasında sık görülen ve geniş bir belirti ağına sahip, nüfusun yaklaşık yüzde üçünü etkileyen tedavisiz kendiliğinde iyileşmeyen engelleyici ciddi psikiyatrik hastalıklar arasında yer alır.

OKB insanların; tekrarlayan, istenmeyen takıntılı düşünce, fikir, dürtü veya hayallerin oluşturduğu obsesyonlar ile tekrarlayıcı davranış ve zihinsel eylemlerin oluşturduğu kompulsiyonları içeren ve anksiyetenin yoğun yaşandığı ruhsal hastalıklardır. Obsesif düşünceler kişinin isteği dışında gelişir ve kişi tarafından mantıkdışı olarak değerlendirilir. Bunlar, kişide yoğun bir anksiyete oluşturarak, aralıklarla veya süregelen seyredebilir. Oluşan anksiyeteye bağlı olarak bireyin günlük işlevleri belirgin bir şekilde olumsuz etkilenir.

OKB 'ler, Obsesyonlar, kompulsiyonlar veya her ikisinin varlığı ile karakterizedir. Bu obsesyonlar ve zorlantılar günün önemli bir bölümünde günlük aktivitelerin önüne geçer işlevsellik alanlarında önemli sıkıntı ve bozulmalara yol açar. Obsesif düşünceler, kişiye mantıklı gel-mese bile kontrol edilemeyen ya da durdurulamayan bir hal alır. Kişi, oluşan takıntıyı gidermek için bazı hareketleri ve ritüelleri tekrarlama ihtiyacı hissederek bir zorlanmanın içine sıkışır kalır.

KAYNAKLAR

1. Acevedo N, Bosanac P, Pikoos T, Rossell S, Castle D. Therapeutic neurostimulation in obsessive-compulsive and related disorders: a systematic review. *Brain Sci.* (2021) 11:948. doi: 10.3390/brainsci11070948
2. Ahmari SE, Spellman T, Douglass NL, Kheirbek MA, Simpson HB, Deisseroth K, et al. Repeated cortico-striatal stimulation generates persistent OCD-like behavior. *Science.* (2013) 340:1234–1239. doi: 10.1126/science.1234733
3. Alonso P, Pujol J, Cardoner N, Benlloch L, Deus J, Menchón JM, et al. Right prefrontal repetitive transcranial magnetic stimulation in obsessive-compulsive disorder: a double-blind, placebo-controlled study. *Am J Psychiatry.* (2001) 158:1143–5. doi: 10.1176/appi.ajp.158.7.1143
4. Alves-Pinto A, Rus OG, Reess TJ, Wohlschläger A, Wagner G, Berberich G, et al. Altered reward-related effective connectivity in obsessive-compulsive disorder: an fMRI study. *J Psychiatry Neurosci.* (2019) 44:395–406. doi: 10.1503/jpn.180195
5. American Psychiatric A. Diagnostic and Statistical Manual of Mental Disorders. Arlington, VA: American Psychiatric Association. (2013).
6. Antal A, Paulus W. Transcranial alternating current stimulation (tACS). *Front Hum Neurosci.* (2013) 7:317. doi: 10.3389/fnhum.2013.00317
7. Arumugham SS, Vs S, Hn M, B V, Ravi M, Sharma E, et al. Augmentation effect of low-frequency repetitive transcranial magnetic stimulation over presupplementary motor area in obsessive-compulsive disorder: a randomized controlled trial. *J ECT.* (2018) 34:253–7.
8. Barcia JA, AVECILLAS-Chasin JM, Nombela C, Arza R, Garcia-Albea J, Pineda-Pardo JA, et al. Personalized striatal targets for deep brain stimulation in obsessive-compulsive disorder. *Brain Stimul.* (2019) 12:724–734. doi: 10.1016/j.brs.2018.12.226
9. Bation R, Mondino M, Le Camus F, Saoud M, Brunelin J. Transcranial direct current stimulation in patients with obsessive compulsive disorder: a randomized controlled trial. *Eur Psychiatry.* (2019) 62:38–44. doi: 10.1016/j.eurpsy.2019.08.011
10. Belin-Rauscent A, Daniel ML, Puaud M, Jupp B, Sawiak S, Howett D, et al. From impulses to maladaptive actions: the insula is a neurobiological gate for the development of compulsive behavior. *Mol Psychiatry.* (2016) 21:491–9. doi: 10.1038/mp.2015.140
11. Bergfeld IO, Dijkstra E, Graat I, De Koning P, Van Den Boom BJB, Arbab T, et al. Invasive and non-invasive neurostimulation for OCD. *Curr Top Behav Neurosci.* (2021) 49:399–436. doi: 10.1007/7854_2020_206
12. Bernstein GA, Cullen KR, Harris EC, Conelea CA, Zagoloff AD, Carstedt PA, et al. Sertraline effects on striatal resting-state functional connectivity in youth with obsessive-compulsive disorder: a pilot study. *J Am Acad Child*

- Adolesc Psychiatry.* (2019) 58:486–495. doi: 10.1016/j.jaac.2018.07.897
13. Berry SM, Broglio K, Bunker M, Jayewardene A, Olin B, Rush AJ. A patient-level meta-analysis of studies evaluating vagus nerve stimulation therapy for treatment-resistant depression. *Med Devices.* (2013) 6:17–35. doi: 10.2147/MDER.S41017
 14. Brotis AG, Kapsalaki EZ, Paterakis K, Smith JR, Fountas KN. Historic evolution of open cingulectomy and stereotactic cingulotomy in the management of medically intractable psychiatric disorders, pain and drug addiction. *Stereotact Funct Neurosurg.* (2009) 87:271–91. doi: 10.1159/000226669
 15. Buckner RL, Dinicola LM. The brain's default network: updated anatomy, physiology and evolving insights. *Nat Rev Neurosci.* (2019) 20:593–608. doi:10.1038/s41583-019-0212-7
 16. Carmi L, Tendler A, Bystritsky A, Hollander E, Blumberger DM, Daskalakis J, et al. Efficacy and safety of deep transcranial magnetic stimulation for obsessive-compulsive disorder: a prospective multicenter randomized double-blind placebo-controlled trial. *Am J Psychiatry.* (2019) 176:931–8. doi: 10.1176/appi.ajp.2019.18101180
 17. Catani M, Dell'acqua F, Thiebaut De Schotten M. A revised limbic system model for memory, emotion and behaviour. *Neurosci Biobehav Rev.* (2013) 37:1724–1737. doi: 10.1016/j.neubiorev.2013.07.001
 18. Cimpianu CL, Strube W, Falkai P, Palm U, Hasan A. Vagus nerve stimulation in psychiatry: a systematic review of the available evidence. *J Neural Transm.* (2017) 124:145–58. d
 19. De Koning PP, Figee M, Van Den Munckhof P, Schuurman PR, Denys D. Current status of deep brain stimulation for obsessive-compulsive disorder: a clinical review of different targets. *Curr Psychiatry Rep.* (2011) 13:274–82. doi: 10.1007/s11920-011-0200-8
 20. Dell'osso B, Porta M, Servello D, Altamura AC. Deep Brain Stimulation device removal after scar picking behaviors in a patient with treatment-resistant obsessive compulsive disorder. *Brain Stimul.* (2013) 6:96–8. doi: 10.1016/j.brs.2012.01.007
 21. Denys D, Graat I, Mocking R, De Koning P, Vulink N, Figee M, et al. Efficacy of deep brain stimulation of the ventral anterior limb of the internal capsule for refractory obsessive-compulsive disorder: a clinical cohort of 70 patients. *Am J Psychiatry.* (2020) 177:265–71.
 22. Denys D, Mantione M, Figee M, Van Den Munckhof P, Koerselman F, Westenberg H, et al. Deep brain stimulation of the nucleus accumbens for treatment-refractory obsessive-compulsive disorder. *Arch Gen Psychiatry.* (2010) 67:1061–8.
 23. D'urso G, Brunoni AR, Mazzaferro MP, Anastasia A, De Bartolomeis A, Mantovani A. Transcranial direct current stimulation for obsessive-compulsive disorder: A randomized, controlled, partial crossover trial. *Depress Anxiety.* (2016) 33:1132–40. doi: 10.1002/da.22578

24. Eryılmaz G, Erkmen H, Gül IG, Transcranial Direct Current Stimulation Treatment, *Anatolian Journal of Psychiatry*, 2015; 16: 138-142
25. Figee M, Luigjes J, Smolders R, Valencia-Alfonso CE, Van Wingen G, De Kwaasteniet B, et al. Deep brain stimulation restores frontostriatal network activity in obsessive-compulsive disorder. *Nat Neurosci.* (2013) 16:386–387. doi: 10.1038/nn.3344
26. Figee M, Vink M, De Geus F, Vulink N, Veltman DJ, Westenberg H, et al. Dysfunctional reward circuitry in obsessive-compulsive disorder. *Biol Psychiatry.* (2011) 69:867–874. doi: 10.1016/j.biopsych.2010.12.003
27. Fink M, Taylor MA. Electroconvulsive therapy. *JAMA* 2007; 298(3):330–2.
28. Fontenelle LF, Coutinho ES, Lins-Martins NM, Fitzgerald PB, Fujiwara H, Yücel M. Electroconvulsive therapy for obsessive-compulsive disorder: a systematic review. *J Clin Psychiatry.* (2015) 76:949–57. doi: 10.4088/JCP.14r09129
29. George MS, Ward H. E. Jr., Ninan PT, Pollack M, Nahas Z, et al. A pilot study of vagus nerve stimulation (VNS) for treatment-resistant anxiety disorders. *Brain Stimul.* (2008) 1:112–21. doi: 10.1016/j.brs.2008.02.001
30. Gomes PV, Brasil-Neto JP, Allam N, Rodrigues De Souza E. A randomized, double-blind trial of repetitive transcranial magnetic stimulation in obsessive-compulsive disorder with three-month follow-up. *J Neuropsychiatry Clin Neurosci.* (2012) 24:437–43. doi: 10.1176/appi.neuropsych.11100242
31. Goncalves OF, Soares JM, Carvalho S, Leite J, Ganho-Avila A, Fernandes-Goncalves A, et al. Patterns of default mode network deactivation in obsessive compulsive disorder. *Sci Rep.* (2017) 7:44468. doi: 10.1038/srep44468
32. Goodman WK, Storch EA, Cohn JF, Sheth SA. Deep brain stimulation for intractable obsessive-compulsive disorder: progress and opportunities. *Am J Psychiatry.* (2020) 177:200–3. doi: 10.1176/appi.ajp.2020.20010037
33. Goodman WK, Storch EA, Sheth SA. Harmonizing the neurobiology and treatment of obsessive-compulsive disorder. *Am J Psychiatry.* (2021) 178:17–29. doi: 10.1176/appi.ajp.2020.20111601
34. Gottlich M, Kramer UM, Kordon A, Hohagen F, Zurovski B. Decreased limbic and increased fronto-parietal connectivity in unmedicated patients with obsessive-compulsive disorder. *Hum Brain Mapp.* (2014) 35:5617–5632. doi: 10.1002/hbm.22574
35. Gowda SM, Narayanaswamy JC, Hazari N, Bose A, Chhabra H, Balachander S, et al. Efficacy of pre-supplementary motor area transcranial direct current stimulation for treatment resistant obsessive compulsive disorder: A randomized, double blinded, sham controlled trial. *Brain Stimul.* (2019) 12:922–9. doi: 10.1016/j.brs.2019.02.005
36. Grover S, Nguyen JA, Viswanathan V, Reinhart RMG. High-frequency neuromodulation improves obsessive-compulsive behavior. *Nat Med.* (2021) 27:232–8.
37. Gul V, (2024) Anksiyete ve Travmatik Stres Bozuklukları, Akademisyen Kitabevi Yayınları, ISBN 978-625-399-950-6

38. Gursel DA, Avram M, Sorg C, Brandl F, Koch K. Frontoparietal areas link impairments of large-scale intrinsic brain networks with aberrant fronto-striatal interactions in OCD: a meta-analysis of resting-state functional connectivity. *Neurosci Biobehav Rev.* (2018) 87:151–160. doi: 10.1016/j.neubiorev.2018.01.016
39. Haghighi M, Shayganfard M, Jahangard L, Ahmadpanah M, Bajoghli H, Pirdehghan A, et al. Repetitive Transcranial Magnetic Stimulation (rTMS) improves symptoms and reduces clinical illness in patients suffering from OCD—Results from a single-blind, randomized clinical trial with sham cross-over condition. *J Psychiatr Res.* (2015) 68:238–44. doi: 10.1016/j.jpsychires.2015.06.020
40. Hansen ES, Hasselbalch S, Law I, Bolwig TG. The caudate nucleus in obsessive-compulsive disorder. Reduced metabolism following treatment with paroxetine: a PET study. *Int J Neuropsychopharmacol.* (2002) 5:1–10. doi: 10.1017/S1461145701002681
41. Haq IU, Foote KD, Goodman WG, Wu SS, Sudhyadhom A, Ricciuti N, et al. Smile and laughter induction and intraoperative predictors of response to deep brain stimulation for obsessive-compulsive disorder. *Neuroimage.* (2011) 54(Suppl.1):S247–55.
42. Harika-Germaneau G, Rachid F, Chatard A, Lafay-Chebassier C, Solinas M, Thirioux B, et al. Continuous theta burst stimulation over the supplementary motor area in refractory obsessive-compulsive disorder treatment: a randomized sham-controlled trial. *Brain Stimul.* (2019) 12:1565–71. doi: 10.1016/j.brs.2019.07.019
43. Jahangard L, Haghighi M, Shyayganfard M, Ahmadpanah M, Sadeghi Bahmani D, Bajoghli H, et al. Repetitive transcranial magnetic stimulation improved symptoms of obsessive-compulsive disorder, but also cognitive performance: results from a randomized clinical trial with a cross-over design and sham condition. *Neuropsychobiology.* (2016) 73:224–32. doi: 10.1159/000446287
44. Jung WH, Kang DH, Kim E, Shin KS, Jang JH, Kwon JS. Abnormal corticostriatal-limbic functional connectivity in obsessive-compulsive disorder during reward processing and resting-state. *Neuroimage Clin.* (2013) 3:27–38. doi: 10.1016/j.nicl.2013.06.013
45. Kang JI, Kim CH, Namkoong K, Lee CI, Kim SJ. A randomized controlled study of sequentially applied repetitive transcranial magnetic stimulation in obsessive-compulsive disorder. *J Clin Psychiatry.* (2009) 70:1645–51. doi: 10.4088/JCP.08m04500
46. Karas PJ, Lee S, Jimenez-Shahed J, Goodman WK, Viswanathan A, Sheth SA. Deep brain stimulation for obsessive compulsive disorder: evolution of surgical stimulation target parallels changing model of dysfunctional brain circuits. *Front Neurosci.* (2018) 12:998.
47. Kaufmann C, Beucke JC, Preusse F, Endrass T, Schlagenhauf F, Heinz A, et al. Medial prefrontal brain activation to anticipated reward and loss in

- obsessive-compulsive disorder. *Neuroimage Clin.* (2013) 2:212–220. doi: 10.1016/j.nicl.2013.01.005
48. Kim M, Jung WH, Shim G, Kwon JS. The effects of selective serotonin reuptake inhibitors on brain functional networks during goal-directed planning in obsessive-compulsive disorder. *Sci Rep.* (2020) 10:20619. doi: 10.1038/s41598-020-77814-4
 49. Klimke A, Nitsche MA, Maurer K, Voss U. Case Report: Successful Treatment of Therapy-Resistant OCD With Application of Transcranial Alternating Current Stimulation (tACS). *Brain Stimul.* (2016) 9:463–5. doi: 10.1016/j.brs.2016.03.005
 50. Koch K, Reess TJ, Rus OG, Gursel DA, Wagner G, Berberich G, et al. Increased default mode network connectivity in obsessive-compulsive disorder during reward processing. *Front Psychiatry.* (2018) 9:254. doi: 10.3389/fpsy.2018.00254
 51. Kumar KK, Appelboom G, Lamsam L, Caplan AL, Williams NR, Bhati MT, et al. Comparative effectiveness of neuroablation and deep brain stimulation for treatment-resistant obsessive-compulsive disorder: a meta-analytic study. *J Neurol Neurosurg Psychiatry.* (2019) 90:469–73. doi: 10.1136/jnnp-2018-319318
 52. Lee DJ, Dallapiazza RF, De Vloot P, Elias GJB, Fomenko A, Boutet A, et al. Inferior thalamic peduncle deep brain stimulation for treatment-refractory obsessive-compulsive disorder: a phase 1 pilot trial. *Brain Stimul.* (2019) 12:344–52. doi: 10.1016/j.brs.2018.11.012
 53. Lefaucheur JP, Aleman A, Baeken C, Benninger DH, Brunelin J, Di Lazzaro V, et al. Evidence-based guidelines on the therapeutic use of repetitive transcranial magnetic stimulation (rTMS): An update (2014-2018). *Clin Neurophysiol.* (2020) 131:474–528. doi: 10.1016/j.clinph.2019.11.002
 54. Lenz M, Galanis C, Müller-Dahlhaus F, Opitz A, Wierenga CJ, Szabó G, et al. Repetitive magnetic stimulation induces plasticity of inhibitory synapses. *Nat Commun.* (2016) 7:10020. doi: 10.1038/ncomms10020
 55. Li N, Hollunder B, Baldermann JC, Kibleur A, Treu S, Akram H, et al. A unified functional network target for deep brain stimulation in obsessive-compulsive disorder. *Biol Psychiatry.* (2021) 90:701–13. doi: 10.1016/j.biopsych.2021.04.006
 56. Liang K, Li H, Bu X, Li X, Cao L, Liu J, et al. Efficacy and tolerability of repetitive transcranial magnetic stimulation for the treatment of obsessive-compulsive disorder in adults: a systematic review and network meta-analysis. *Transl Psychiatry.* (2021) 11:332. doi: 10.1038/s41398-021-01453-0
 57. Liebrand LC, Caan MWA, Schuurman PR, Van Den Munckhof P, Figee M, Denys D, et al. Individual white matter bundle trajectories are associated with deep brain stimulation response in obsessive-compulsive disorder. *Brain Stimul.* (2019)
 58. Lisanby SH, Morales O, Payne N, Kwon E, Fitzsimons L, Luber B, et al. New developments in electroconvulsive therapy and magnetic seizure

- therapy. *CNS spectrums*. 2003; 8(7):529–36. World Psychiatric Association-Consensus Statement of the Use and Safety of ECT, 2003.
59. Luyten L, Hendrickx S, Raymaekers S, Gabriels L, Nuttin B. Electrical stimulation in the bed nucleus of the stria terminalis alleviates severe obsessive-compulsive disorder. *Mol Psychiatry*. (2016) 21:1272–80. doi: 10.1038/mp.2015.124
 60. Ma ZR, Shi LJ. Repetitive transcranial magnetic stimulation (rTMS) augmentation of selective serotonin reuptake inhibitors (SSRIs) for SSRI-resistant obsessive-compulsive disorder (OCD): a meta-analysis of randomized controlled trials. *Int J Clin Exp Med*. (2014) 7:4897–905.
 61. Mansur CG, Myczkowski ML, De Barros Cabral S, Sartorelli MOC, Bellini BB, Dias AM, et al. Placebo effect after prefrontal magnetic stimulation in the treatment of resistant obsessive-compulsive disorder: a randomized controlled trial. *Int J Neuropsychopharmacol*. (2011) 14:1389–97. doi: 10.1017/S1461145711000575
 62. Mantovani A, Simpson HB, Fallon BA, Rossi S, Lisanby SH. Randomized sham-controlled trial of repetitive transcranial magnetic stimulation in treatment-resistant obsessive-compulsive disorder. *Int J Neuropsychopharmacol*. (2010) 13:217–227. doi: 10.1017/S1461145709990435
 63. Mataix-Cols D, Wooderson S, Lawrence N, Brammer MJ, Speckens A, Phillips ML. Distinct neural correlates of washing, checking, and hoarding symptom dimensions in obsessive-compulsive disorder. *Archives of General Psychiatry*. (2004) 61:564–76.
 64. McCall WV, Dunn A, Rosenquist PB. Quality of life and function after electroconvulsive therapy. *Br J Psychiatry*. 2004; 185(5):405–9.
 65. Menchon JM, Real E, Alonso P, Aparicio MA, Segalas C, Plans G, et al. A prospective international multi-center study on safety and efficacy of deep brain stimulation for resistant obsessive-compulsive disorder. *Mol Psychiatry*. (2021) 26:1234–47.
 66. Menon V. Large-scale brain networks and psychopathology: a unifying triple network model. *Trends Cogn Sci*. (2011) 15:483–506. doi: 10.1016/j.tics.2011.08.003
 67. Mosley PE, Windels F, Morris J, Coyne T, Marsh R, Giorni A, et al. A randomised, double-blind, sham-controlled trial of deep brain stimulation of the bed nucleus of the stria terminalis for treatment-resistant obsessive-compulsive disorder. *Transl Psychiatry*. (2021) 11:190. doi: 10.1038/s41398-021-01307-9
 68. Naro A, Billeri L, Cannavò A, De Luca R, Portaro S, Bramanti P, et al. Theta burst stimulation for the treatment of obsessive-compulsive disorder: a pilot study. *J Neural Transm*. (2019) 126:1667–77. doi: 10.1007/s00702-019-02098-6
 69. National Institute For Clinical Excellence. Guidance On The Use of Electroconvulsive Therapy. London; 2003. [http:// www.nice.org.uk/nicemedia/pdf/59ectfullguidance.pdf](http://www.nice.org.uk/nicemedia/pdf/59ectfullguidance.pdf) Last access 11 September 2011. *Neurol Neurosurg Psychiatry*. 2014;85(2):153. Epub 2013 May 28.

70. Nordanskog P, Dahlstrand U, Larsson MR, Larsson E-M, Knutsson L, Johanson A. Increase in hippocampal volume after electroconvulsive therapy in patients with depression: a volumetric magnetic resonance imaging study. *J ECT*. 2010; 26(1):62–7.
71. Pagnin D, de Queiroz V, Pini S, Cassano GB. Efficacy of ECT in depression: a meta-analytic review. *J ECT*. 2004; 20(1):13–20.
72. Papez JW. A proposed mechanism of emotion. *Arch Neurol Psychiatry*. (1937) 38:725–43. doi: 10.1001/archneurpsyc.1937.02260220069003
73. Parastarfeizabadi M, Kouzani AZ. Advances in closed-loop deep brain stimulation devices. *J Neuroeng Rehabil*. (2017) 14:1–20. doi: 10.1186/s12984-017-0295-1
74. Park YS, Sammartino F, Young NA, Corrigan J, Krishna V, Rezai AR. Anatomical review of the ventral capsule/ventral striatum and the nucleus accumbens to guide target selection for deep brain stimulation for obsessive-compulsive disorder. *World Neurosurg*. (2019) 126:1–10.
75. Perera MPN, Mallaawarachchi S, Miljevic A, Bailey NW, Herring SE, Fitzgerald PB. Repetitive transcranial magnetic stimulation for obsessive-compulsive disorder: a meta-analysis of randomized, sham-controlled trials. *Biol Psychiatry Cogn Neurosci Neuroimaging*. (2021) 6:947–60. doi: 10.1016/j.bpsc.2021.03.010
76. Peters SK, Dunlop K, Downar J. Cortico-striatal-thalamic loop circuits of the salience network: a central pathway in psychiatric disease and treatment. *Front Syst Neurosci*. (2016) 10:104. doi: 10.3389/fnsys.2016.00104
77. Posner J, Marsh R, Maia TV, Peterson BS, Gruber A, Simpson HB. Reduced functional connectivity within the limbic cortico-striato-thalamo-cortical loop in unmedicated adults with obsessive-compulsive disorder. *Hum Brain Mapp*. (2014) 35:2852–2860. doi: 10.1002/hbm.22371
78. Prasko J, Pasková B, Záleský R, Novák T, Kopecek M, Bares M, et al. The effect of repetitive transcranial magnetic stimulation (rTMS) on symptoms in obsessive compulsive disorder. A randomized, double blind, sham controlled study. *Neuro Endocrinol Lett*. (2006) 27:327–32.
79. Rapinesi C, Kotzalidis GD, Ferracuti S, Sani G, Girardi P, Del Casale. A. Brain stimulation in obsessive-compulsive disorder (OCD): a systematic review. *Curr Neuropsychopharmacol*. (2019) 17:787–807. doi: 10.2174/1570159X17666190409142555
80. Rasmussen SA, Goodman WK. The prefrontal cortex and neurosurgical treatment for intractable OCD. *Neuropsychopharmacology*. (2022) 47:349–60. doi: 10.1038/s41386-021-01149-5
81. Raviv N, Staudt MD, Rock AK, Macdonell J, Slyer J, Pilitsis JG. A systematic review of deep brain stimulation targets for obsessive compulsive disorder. *Neurosurgery*. (2020) 87:1098–110. doi: 10.1093/neuros/nyaa249
82. Raymaekers S, Vansteelandt K, Luyten L, Bervoets C, Demyttenaere K,

- Gabriels L, et al. Long-term electrical stimulation of bed nucleus of stria terminalis for obsessive-compulsive disorder. *Mol Psychiatry*. (2017) 22:931–934. doi: 10.1038/mp.2016.124
83. Rehn S, Eslick GD, Brakoulias V. A Meta-analysis of the effectiveness of different cortical targets used in repetitive transcranial magnetic stimulation (rtms) for the treatment of obsessive-compulsive disorder (OCD). *Psychiatr Q*. (2018) 89:645–65. doi: 10.1007/s11126-018-9566-7
 84. Sachdev PS, Loo CK, Mitchell PB, Mcfarquhar TF, Malhi GS. Repetitive transcranial magnetic stimulation for the treatment of obsessive compulsive disorder: a double-blind controlled investigation. *Psychol Med*. (2007) 37:1645–9. doi: 10.1017/S0033291707001092
 85. Sarkhel S, Sinha VK, Praharaj SK. Adjunctive high-frequency right prefrontal repetitive transcranial magnetic stimulation (rTMS) was not effective in obsessive-compulsive disorder but improved secondary depression. *J Anxiety Disord*. (2010) 24:535–9. doi: 10.1016/j.janxdis.2010.03.011
 86. Seo HJ, Jung YE, Lim HK, Um YH, Lee CU, Chae JH. Adjunctive low-frequency repetitive transcranial magnetic stimulation over the right dorsolateral prefrontal cortex in patients with treatment-resistant obsessive-compulsive disorder: a randomized controlled trial. *Clin Psychopharmacol Neurosci*. (2016) 14:153–60. doi: 10.9758/cpn.2016.14.2.153
 87. Thorsen AL, Hagland P, Radua J, Mataix-Cols D, Kvale G, Hansen B, et al. Emotional Processing in Obsessive-Compulsive Disorder: A Systematic Review and Meta-analysis of 25 Functional Neuroimaging Studies. *Biol Psychiatry Cogn Neurosci Neuroimaging*. (2018) 3:563–571. doi: 10.1016/j.bpsc.2018.01.009
 88. Todder D, Gersh A, Perry Z, Kaplan Z, Levine J, Avirame K. Immediate effects of transcranial direct current stimulation on obsession-induced anxiety in refractory obsessive-compulsive disorder: a pilot study. *J ECT*. (2018) 34:e51–7.
 89. Tyagi H, Apergis-Schoute AM, Akram H, Foltynie T, Limousin P, Drummond LM, et al. A randomized trial directly comparing ventral capsule and anteromedial subthalamic nucleus stimulation in obsessive-compulsive disorder: clinical and imaging evidence for dissociable effects. *Biol Psychiatry*. (2019) 85:726–34. doi: 10.1016/j.biopsych.2019.01.017
 90. Van Der Straten AL, Denys D, Van Wingen G. A. Impact of treatment on resting cerebral blood flow and metabolism in obsessive compulsive disorder: a meta-analysis. *Sci Rep*. (2017) 7:17464. doi: 10.1038/s41598-017-17593-7
 91. Van Der Vlis T, Ackermans L, Mulders AEP, Vrij CA, Schruers K, Temel Y, et al. Ventral capsule/ventral striatum stimulation in obsessive-compulsive disorder: toward a unified connectomic target for deep brain stimulation? *Neuromodulation*. (2021) 24:316–23.

92. Velasco F, Velasco M, Jimenez F, Velasco AL, Salin-Pascual R. Neurobiological background for performing surgical intervention in the inferior thalamic peduncle for treatment of major depression disorders. *Neurosurgery*. (2005) 57:439–48; discussion 439–48. doi: 10.1227/01.NEU.0000172172.51818.5.
93. Vlachos A, Müller-Dahlhaus F, Rosskopp J, Lenz M, Ziemann U, Deller T. Repetitive magnetic stimulation induces functional and structural plasticity of excitatory postsynapses in mouse organotypic hippocampal slice cultures. *J Neurosci*. (2012) 32:17514–17523. doi: 10.1523/JNEUROSCI.0409-12.2012
94. Weiner RD. The practice of electroconvulsive therapy: Recommendations for treatment, training, and privileging: A task force report of the American Psychiatric Association. Amer Psychiatric Pub Inc; 2001.
95. Wojtecki L, Elben S, Rubenach J, Hartmann C, Vesper J, Schnitzler A. Subthalamic deep brain stimulation in obsessive-compulsive disorder: first german experience and future outlook. *World Neurosurg*. (2016) 95:607–8. doi: 10.1016/j.wneu.2016.07.033
96. Wu H, Hariz M, Visser-Vandewalle V, Zrinzo L, Coenen VA, Sheth SA, et al. Deep brain stimulation for refractory obsessive-compulsive disorder (OCD): emerging or established therapy? *Mol Psychiatry*. (2021) 26:60–5. doi: 10.1038/s41380-020-00933-x

BÖLÜM 2

OBSESİF-KOMPULSİF BOZUKLUKLARLA İLGİLİ DİĞER HASTALIKLAR

1. BEDEN ALGISI / BEDEN DİSMORFİK BOZUKLUĞU (DSM-5 'E GÖRE 300.7, ICD-10'A GÖRE F45.22)

GENEL BAKIŞ

Beden Algısı Bozukluğunda (BAB), kişinin fiziksel görünümünde algılanan ve başkaları tarafından fark edilemeyecek kadar az bir kusur veya kusurlarla sürekli meşguliyeti içeren ruhsal bir bozukluktur. Bedenin-den memnun olmama anlamına gelen, kişide belirgin derecede ruhsal sıkıntı ya da günlük işlevlerde bozulma yaratacak kadar görünümdeki hayali bir kusurla sürekli meşgul olma söz konusudur.

Meşguliyetler vücudun herhangi bir yerine odaklanabilir. BAB olan kişiler, fiziksel görünümlerinde kusur olarak algıladıkları şeylerle günün büyük bir kısmında meşgul olurlar. Algılanan kusurlar başkalarına fark edilmez veya çok hafif görünür. Ancak vücut dismorfik bozukluğu olan kişi için çirkin veya anormal görülür. Bu, pek çok insanın görünüşleriyle ilgili tipik endişeleriyle aynı şey değildir. BAB olan kişi ciddi bir sıkıntı yaşar ve günlük işlevleri yerine getirme yeteneği azalır.

BAB hemen herkeste görülebilen görünümle ilgili normal basit kaygılarla karıştırılmamalıdır. Depresyonda görülen bedeninden memnun

KAYNAKLAR

1. Abramowitz JS, Wheaton MG, Storch EA (September 2008). "The status of hoarding as a symptom of obsessive-compulsive disorder". *Behaviour Research and Therapy*. 46 (9): 1026–1033. Doi:10.1016/j.brat.2008.05.006.
2. American Psychiatric Association Work Group on Obsessive-Compulsive Disorder. Practice guideline for the treatment of patients with obsessive-compulsive disorder. *Am J Psychiatry*. July 2007. 164(suppl):1-56.
3. American Psychiatric Association. 2013. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: American Psychiatric Association; Arlington, VA.
4. Andrade C. Ondansetron augmentation of serotonin reuptake inhibitors as a treatment strategy in obsessive-compulsive disorder. *J Clin Psychiatry*. 2015 Jan. 76 (1):e72-5
5. Ardouin C *et al.* (2006) Pathological gambling in Parkinson's disease improves on chronic subthalamic nucleus stimulation. *Mov Disord* 21: 1941-1946
6. Arnold PD, Rosenberg DR, Mundo E, Tharmalingam S, Kennedy JL, Richter MA. Association of a glutamate (NMDA) subunit receptor gene (GRIN2B) with obsessive-compulsive disorder: a preliminary study. *Psychopharmacology*. August 2004. 174:530-538.
7. Arnold PD, Sicard T, Burroughs E, Richter MA, Kennedy JL. Glutamate transporter gene SLC1A1 associated with obsessive-compulsive disorder. *Arch Gen Psychiatry*. 2006 Jul. 63(7):769 – 76.
8. Avanzi M *et al.* (2006) Prevalence of pathological gambling in patients with Parkinson's disease. *Mov Disord* 21: 2068-2072
9. Ayers CR, Saxena S, Golshan S, Wetherell JL (February 2010). "Age at onset and clinical features of late life compulsive hoarding". *International Journal of Geriatric Psychiatry*. 25 (2): 142–149. Doi:10.1002/gps.2310.
10. Dell'Osso; A. C. Altamura; E. Mundo; D. Marazziti; E. Hollander (2007), *Diagnosis and Treatment of Obsessive-compulsive Disorder and Related Disorders Int J Clin Pract*. 61(1):98-104.
11. Baarendse PJ, Counatte DS. Early social experience is critical for the development of cognitive control and dopamine modulation of prefrontal cortex function. *Neuropsychopharmacology*. 2013; 38(8):1485-1494.
12. Balodis IM, Kober H, Worhunsky PD, et al. Diminished frontostriatal activity during processing of monetary rewards and losses in pathological gambling. *Biol Psychiatry*. 2012; 71:749-757.
13. Barbano MF, Cador M. Opioids for hedonic experience and dopamine to get ready for it. *Psychopharmacology*. 2007; 191:497-506.
14. Barlow JH, Ellard DR, Hainsworth JM, Jones FR, Fisher A. A review of self-management interventions for panic disorders, phobias and obsessive-compulsive disorders. *Acta Psychiatr Scand*. 2005 Apr. 111(4):272-85.
15. Bartley CA, Bloch MH. Meta-analysis: pharmacological treatment of pathological gambling. *Exp Rev Neurother*. 2013; 13:887-894.

16. Bartz, J.A. and Hollander, E. (2006) Is Obsessive-Compulsive Disorder an Anxiety Disorder? *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 30, 338-352.
17. Baylé FJ, Caci H, Millet B, Richa S, Olié JP. Psychopathology and comorbidity of psychiatric disorders in patients with kleptomania. *Am J Psychiatry*. 2003;160(8):1509-13.
18. Berlin HA, Braun A, Simeon D, et al. A double-blind, placebo-controlled trial of topiramate for pathological gambling. *World J Biol Psychiatry*. 2013; 14:121-128.
19. Bienvenu OJ *et al.* (2000) The relationship of obsessive-compulsive disorder to possible spectrum disorders: results from a family study. *Biol Psychiatry* 48: 287-293
20. Bienvenu OJ, Samuels JF, Wuyek LA, Liang KY, Wang Y, Grados MA, et al. Is obsessive-compulsive disorder an anxiety disorder, and what, if any, are spectrum conditions? A family study perspective. *Psychol Med*. 2012 Jan. 42(1):1-13.
21. Blanco C, Grant J, Petry NM, Simpson HB, Alegria A, Liu SM, Hasin D. Prevalence and correlates of shoplifting in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Am J Psychiatry*. 2008 Jul; 165(7):905-13.
22. Blaszczyński A. Pathological gambling and obsessive-compulsive spectrum disorders. *Psychological reports*. 1999; 84:107-113.
23. Bloch MH, Landeros-Weisenberger A, Kelmendi B, Coric V, Bracken MB, Leckman JF. A systematic review: antipsychotic augmentation with treatment refractory obsessive-compulsive disorder. *Mol Psychiatry*. 2006 Jul. 11(7):622-32.
24. Bonci A and Singh V (2006) Dopamine dysregulation syndrome in Parkinson's disease patients: from reward to penalty. *Ann Neurol* 59: 733-734
25. Borue X, Sharma M, Hudak R. Biological treatments for obsessive-compulsive and related disorders. *J Obsessive Compuls Relat Disord*. 2015;6:7-26.
26. Brewer JA and Potenza MN (2007) The neurobiology and genetics of impulse control disorders: relationships to drug addictions. *Biochem Pharmacol*. doi:doi: 10.1016/j.bcp.2007.06.043
27. Brewer JA, Potenza MN. The neurobiology and genetics of impulse control disorders: relationships to drug addictions. *Biochem Pharmacol*. 2008; 75:63-75.
28. Bulut S D, Özdel K, Kısa C, Belirtiden Bozukluğa İstifleme. Hoarding, Psikiyatride Güncel Yaklaşımlar – Current Approaches in Psychiatry 2015;7(3):319-332 doi:10.5455/cap.20141220023913
29. Burn DJ and Troster AI (2004) Neuropsychiatric complications of medical and surgical therapies for Parkinson's disease. *J Geriatr Psychiatry Neurol* 17: 172-180
30. Çakmak S, Lut Tamam L, Review, Gambling Disorder: *Journal of Dependence*, 2018; 19(3):78-97

31. Campbell-Meiklejohn DK, Woolrich MW, Passingham RE, et al. Knowing when to stop: the brain mechanisms of chasing losses. *Biol Psychiatry*. 2008; 63:293-300.
32. Carlbring P, Jonsson J, Josephson H, et al. Motivational interviewing versus cognitive behavioral group therapy in the treatment of problem and pathological gambling: a randomized controlled trial. *Cogn Behav Ther*. 2010; 39:92-103.
33. Chambers RA and Potenza MN (2003) Neurodevelopment, impulsivity and adolescent gambling. *J Gambl Stud* 19: 53-84
34. Choi J-S, Shin Y-C, Jung WH, et al. Altered brain activity during reward anticipation in pathological gambling and obsessive-compulsive disorder. *PLoS One*. 2012; 7:e45938.
35. Cocker PJ, Le Foll B, Rogers RD, Winstanley CA. A selective role for dopamine D4 receptors in modulating reward expectancy in a rodent slot machine task. *Biol Psychiatry*. 2014; 75:817-824.
36. Coric V, Taskiran S, Pittenger C, Wasylink S, Mathalon DH, Valentine G, et al. Riluzole augmentation in treatment-resistant obsessive-compulsive disorder: an open-label trial. *Biol Psychiatry*. 2005 Sep 1;58(5):424-8.238
37. Cromer KR, Schmidt NB, Murphy DL (November 2007). "Do traumatic events influence the clinical expression of compulsive hoarding?". *Behaviour Research and Therapy*. 45 (11): 2581– 2592. Doi:10.1016/j.brat.2007.06.005.
38. Crone C, Norberg MM (August 2018). "Scared and surrounded by clutter: The influence of emotional reactivity". *Journal of Affective Disorders*. 235: 285–292.
39. Dannon PN, Shoenfeld N. Pathological gambling: an impulse control disorder? Measurement of impulsivity using neurocognitive tests. *Isr Med Assoc J* 2010; 12(4):238-248.
40. Desai RA (2004) Older adults. In *Pathological Gambling: A Clinical Guide to Treatment*, 83–96 (Eds Grant JE and Potenza MN) Washington, DC: American Psychiatric Publishing
41. Diskin KM, Hodgins DC. A randomized controlled trial of a single session motivational intervention for concerned gamblers. *Behav Res Ther*. 2009; 47:382-388.
42. Dodd ML *et al.* (2005) Pathological gambling caused by drugs used to treat Parkinson disease. *Arch Neurol* 62: 1377-1381
43. Dold M, Aigner M, Lanzenberger R, Kasper S. Antipsychotic augmentation of serotonin reuptake inhibitors in treatment-resistant obsessive-compulsive disorder: a meta-analysis of double-blind, randomized, placebo-controlled trials. *Int J Neuro-psychopharmacol*. 2013;16(3):557– 74.
44. Driver-Dunkley E *et al.* (2003) Pathological gambling associated with dopamine agonist therapy in Parkinson's disease. *Neurology* 61: 422-423
45. Eryilmaz G, Erkmén H, Gül I G., Transcranial Direct Current Stimulation.

- Anatolian Journal of Psychiatry. 2015; 16:138-142.
46. Evans AH *et al.* (2005) Factors influencing susceptibility to compulsive dopaminergic drug use in Parkinson disease. *Neurology* 65: 1570-1574
 47. Evans AH *et al.* (2006) Relationship between impulsive sensation seeking traits, smoking, alcohol and caffeine intake, and Parkinson's disease. *J Neurol Neurosurg Psychiatry* 77: 317-321
 48. Ferrão AY, Diniz JB, Lopes AC, Shavitt RG, Greenberg B, Miguel E, Resistance and refractoriness in obsessive-compulsive disorder, *Braz. J. Psychiatry* 29 (suppl 2), Oct 2007 <https://doi.org/10.1590/S1516-44462006005000059>
 49. Foa EB, Wilson R. *Stop Obsessing: How to Overcome Your Obsessions and Compulsions*. Revis ed. New York: Bantam Dell; 2001
 50. Fontenelle LF, Muhlbauer JE, Albertella L, Eppingstall J (2021-01-01). "Traumatic and stressful life events in hoarding: the role of loss and deprivation". *European Journal of Psychotraumatology*. 12 (1): 1947002. [Doi:10.1080/20008198.2021.1947002](https://doi.org/10.1080/20008198.2021.1947002).
 51. Frost RO, Steketee G, Tolin DF (October 2011). "Comorbidity in hoarding disorder". *Depression and Anxiety*. 28 (10): 876-884.
 52. Gallagher DA *et al.* (2007) Pathological gambling in Parkinson's disease: risk factors and differences from dopamine dysregulation: an analysis of published case series. *Mov Disord* 22: 1757-1763
 53. Galpern WR and Stacy M (2007) Management of impulse control disorders in Parkinson's disease. *Curr Treat Options Neurol* 9: 189-197
 54. Ghaleiha A, Entezari N, Modabbernia A, Najand B, Askari N, Tabrizi M, et al. Memantine add-on in moderate to severe obsessive-compulsive disorder: randomized double-blind placebo-controlled study. *J Psychiatr Res*. 2013 Feb. 47(2):175-80.
 55. Goudriaan AE, De Ruiter MB, Van Den Brink W, et al. Brain activation patterns associated with cue reactivity and craving in abstinent problem gamblers, heavy smokers and healthy controls: an fMRI study. *Addiction Biol*. 2010; 15:491-503.
 56. Grant J, Chamberlain SR. Impulsive action and impulsive choice across substance and behavioral addictions: Cause or consequence? *Addict Behav* 2014; 39:1632-1639.
 57. Grant JE and Potenza MN (2006) Compulsive aspects of impulse control disorders. *Psychiatr Clin North Am* 29: 539-551
 58. Grant JE and Potenza MN (2006) Escitalopram treatment of pathological gambling with co-occurring anxiety: an open-label pilot study with double-blind discontinuation. *Int Clin Psychopharmacol* 21: 203-209
 59. Grant JE and Potenza MN (2006) Impulse control disorders. In *A Clinical Text of Men's Mental Health*, 205-232 (Eds Grant JE and Potenza MN) Washington, DC: American Psychiatric Publishing
 60. Grant JE *et al.* (2003) Paroxetine treatment of pathological gambling: a multi-center randomized controlled trial. *Int Clin Psychopharmacol* 18: 243-249

61. Grant JE *et al.* (2005) Impulse control disorders in adult psychiatric inpatients. *Am J Psychiatry* 162: 2184-2188
62. Grant JE, R Samuel. Chamberlain, Symptom Severity and Its Clinical Correlates in Kleptomania, *Ann Clin Psychiatry*. 2018 May ; 30(2): 97-101
63. Grant JE, Correia S, Brennan-Krohn T. White matter integrity in kleptomania: a pilot study. *Psychiatry Res*. 2006 Oct 30; 147(2-3):233-7.
64. Grant JE, Kim SW, Hartman BK. A double-blind, placebo-controlled study of the opiate antagonist naltrexone in the treatment of pathological gambling urges. *J Clin Psychiatry*. 2008; 69:783-789.
65. Grant JE, Kim SW, McCabe JS. A Structured Clinical Interview for Kleptomania (SCI-K): preliminary validity and reliability testing. *Int J Methods Psychiatr Res*. 2006; 15:83-94.
66. Grant JE, Kim SW, Odlaug BL. A double-blind, placebo-controlled study of the opiate antagonist, naltrexone, in the treatment of kleptomania. *Biol Psychiatry*. 2009; 65(7):600-606.
67. Grant JE, Kim SW, Odlaug BL. N-acetyl cysteine, a glutamate-modulating agent, in the treatment of pathological gambling: a pilot study. *Biol Psychiatry*. 2007; 62:652-657.
68. Grant JE, Leppink EW, Redden SA, et al. COMT genotype, gambling activity, and cognition. *J Psychiatr Res*. 2015; 68:371-376.
69. Grant JE, Odlaug BL, Chamberlain SR, et al. A randomized, placebo-controlled trial of N-acetylcysteine plus imaginal desensitization for nicotine-dependent pathological gamblers. *J Clin Psychiatry*. 2014 ;75:39-45.
70. Grant JE, Odlaug BL, Kim SW. Kleptomania: clinical characteristics and relationship to substance use disorders. *Am J Drug Alcohol Abuse*. 2010 Sep; 36(5):291-5.
71. Grant JE, Odlaug BL, Potenza MN, Hollander E, Kim SW. Nalmefene in the treatment of pathological gambling: multicentre, double-blind, placebo-controlled study. *Br J Psychiatry*. 2010; 197:330-331.
72. Grant JE, Odlaug BL. National Center for Responsible Gaming. What clinicians need to know about gambling disorders. Vol. 7. Washington, DC: NCRG; 2012. Psychosocial interventions for gambling disorders; pp. 38-52. Increasing the odds: a series dedicated to understanding gambling disorders. At <http://www.ncrg.org/resources/monographs>.
73. Grant JE, Potenza MN, Krishnan-Sarin S, Cavallo DA, Desai RA. Stealing among high school students: prevalence and clinical correlates. *J Am Acad Psychiatry Law*. 2011; 39(1):44-52.
74. Grayson J. Freedom From Obsessive Compulsive Disorder: A Personalized Recovery Program for Living With Uncertainty. New York: Berkley Publishing Group; 2004.
75. Greenberg WM, Benedict MM, Doerfer J, Perrin M, Panek L, Cleveland WL, et al. Adjunctive glycine in the treatment of obsessive-compulsive disorder in adults. *J Psychiatr Res*. 2009 Mar. 43(6):664-70.
76. Grisham JR, Frost RO, Steketee G, Kim HJ, Hood S (2006). "Age of onset

- of compulsive hoarding". *Journal of Anxiety Disorders*. 20 (5): 675–86. Doi:10.1016/j.janxdis. 2005.07.004.
77. Grisham JR, Norberg MM (2010-06-30). "Compulsive hoarding: current controversies and new directions". *Dialogues in Clinical Neuroscience*. 12 (2): 233–240. Doi:10.31887/ DCNS.2010.12.2/jgrisham.
 78. Grosset KA *et al.* (2006) Problem gambling on dopamine agonists: not such a rarity. *Mov Disord* 21: 2206-2208
 79. Gul V, (2024) Anksiyete ve Travmatik Stres Bozuklukları, Akademisyen Kitabevi Yayınları, ISBN 978-625-399-950-6
 80. Haghighi M, Jahangard L, Mohammad-Beigi H, Bajoghli H, Hafezian H, Rahimi A, et al. In a double-blind, randomized and placebo-controlled trial, adjuvant memantine improved symptoms in inpatients suffering from refractory obsessive-compulsive disorders (OCD). *Psychopharmacology (Berl)*. 2013 Mar 23.
 81. Hollander E, Pallanti S, Allen A, et al. Does sustained-release lithium reduce impulsive gambling and affective instability versus placebo in pathological gamblers with bipolar spectrum disorders? *Am J Psychiatry*. 2005; 162:137-145.
 82. Hollander E, Pallanti, S, Allen A, Sood E, Rossi NB (2005) Does sustained-release lithium reduce impulsive gambling and affective instability versus placebo in pathological gamblers with bipolar spectrum disorders? *Am J Psychiatry* 162: 137-145
 83. Hollander E, Wong CM. Obsessive-compulsive spectrum disorders. *J Clin Psychiatry*. 1995; 56 (suppl 4):3-6.
 84. Internationale Klassifikation psychischer Störungen : ICD-10, Kapitel V (F, klinisch-diagnostische Leitlinien / hrsg. von H. Dilling, W. Mombour und M. H. Schmid, Verlag Hans Huber, 3.Auflage
 85. Karim R, Chaudhri P. Behavioral addictions: an overview. *J Psychoactive Drugs*. 2012;44:5-17.
 86. Kim SW, Grant JE, Adson DE, et al. A double-blind placebo-controlled study of the efficacy and safety of paroxetine in the treatment of pathological gambling. *J Clin Psychiatry*. 2002; 63:501-507.
 87. Klos K J, Bower, J H, Josephs, K A, Matsumoto, JY, Ahlskog J E. Pathological hypersexuality predominantly linked to adjuvant dopamine agonist therapy in Parkinson's disease and multiple system atrophy. 2005 Sep; *Parkinsonism Relat Disord* 11(6):381-6. 11: 38 1-386
 88. Komossa K, Depping AM, Meyer M, Kissling W, Leucht S. Second-generation antipsychotics for obsessive compulsive disorder. *Cochrane Database Syst Rev*. 2010 Dec 8. 12:CD008141.
 89. Koob GF, Volkow ND. Neurocircuitry of addiction. *Neuropsychopharmacology*. 2010; 5:217-238.
 90. Koran LM, Aboujaoude E. Promising treatments for obsessive-compulsive disorder: a call for additional research. *Curr Med Chem*. 2018;25(41):5690–7.

91. Koran LM, Hanna GL, Hollander E, Nestadt G, Simpson HB. Practice guideline for the treatment of patients with obsessive-compulsive disorder. *Am J Psychiatry*. 2007 Jul. 164(7 Suppl):5-53.
92. Kurlan R (2004) Disabling repetitive behaviors in Parkinson's disease. *Mov Disord* 19: 433-469
93. Kuwano M, Nakao T, Yonemoto K, Yamada S, Murayama K, Okada K, et al. (March 2020). "Clinical characteristics of hoarding disorder in Japanese patients". *Heliyon*. 6 (3): e03527. Do-i:10.1016/j.heliyon.2020.e03527.
94. LaPlante DA, Nelson SE, LaBrie RA, Shaffer HJ. Disordered gambling, type of gambling and gambling involvement in the British Gambling Prevalence Survey 2007. *Eur J Public Health*. 2011; 21:532-537.
95. Leeman RF, Billingsley BE, Potenza MN. Impulse control disorders in Parkinson's Disease: background and update on prevention and management. *Neurodegener Dis Manag*. 2012; 2:389-400.
96. Leppink EW, Redden SA. Cognitive flexibility correlates with gambling severity in young adults, *J Psychiatr Res*. 2016; 81:9-15.
97. Lin PY. Meta-analysis of the association of serotonin transporter gene polymorphism with obsessive-compulsive disorder. *Prog Neuropsychopharmacol Biol Psychiatry*. 2007 Apr 13. 31(3):683-9.
98. Lobo DS, Aleksandrova L, Knight J, et al. Addiction-related genes in gambling disorders: new insights from parallel human and pre-clinical models. *Mol Psychiatry*. 2015; 20:1002-1010.
99. Lochner C *et al.* (2005) Cluster analysis of obsessive-compulsive spectrum disorder in patients with obsessive-compulsive disorder: clinical and genetic correlates. *Comp Psychiatry* 46: 14-19
100. Mallet L, Polosan M, Jaafari N, Baup N, Welter ML, Fontaine D, et al. Subthalamic nucleus stimulation in severe obsessive-compulsive disorder. *N Engl J Med*. 2008 Nov 13. 359(20):2121 – 34.
101. Marcks BA, Weisberg RB, Dyck I, Keller MB. Longitudinal course of obsessive-compulsive disorder in patients with anxiety disorders: a 15-year prospective follow-up study. *Compr Psychiatry*. 2011;52(6):670–7.
102. Marinova Z, Chuang DM, Fineberg N. Glutamate-modulating drugs as a potential therapeutic strategy in obsessive-compulsive disorder. *Curr Neuropharm*. 2017;15(7):977–95.
103. Morasco BJ *et al.* (2006) Severity of gambling is associated with physical and emotional health in urban primary care patients. *Gen Hosp Psychiatry* 28: 94-100
104. Nirenberg MJ and Waters C (2005) Compulsive eating and weight gain related to dopamine agonist use. *Mov Disord* 21: 524-529
105. Norberg MM, Crone C, Kwok C, Grisham JR (March 2018). "Anxious attachment and excessive acquisition: The mediating roles of anthropomorphism and distress intolerance". *Journal of Behavioral Addictions*. 7 (1): 171–180. Doi:10.1556/2006.7. 2018.08.
106. Norberg MM, Kwok C, Crone C, David J, Kakar V, Grisham JR (2020).

- “Greater interpersonal problems differentiate those who excessively acquire and save from those who only excessively acquire possessions”. *Journal of Obsessive-Compulsive and Related Disorders*. 27: 100571. Doi:10.1016/j.jocrd.2020.100571.
107. Nordsletten, A.E., Fernández de la Cruz, L., Pertusa, A., Reichenberg, A., Hatch, S.L., Mataix-Cols, D., 2013. The Structured Interview for Hoarding Disorder (SIHD): Development, usage and further validation. *Journal of Obsessive Compulsive and Related Disorders* 2(3), 346 – 350.
 108. Odlaug BL, Grant JE. Impulse-control disorders in a college sample: results from the self-administered Minnesota Impulse Disorders Interview (MIDI). *Prim Care Companion J Clin. Psychiatry*. 2010; 12(2)
 109. Pepper J, Hariz M, Zrinzo L. Deep brain stimulation versus anterior capsulotomy for obsessive-compulsive disorder: a review of the literature. *J Neurosurg*. 2015 May. 122 (5):1028-37.
 110. Pertusa A, Frost RO, Fullana MA, Samuels J, Steketee G, Tolin D, et al. (June 2010). “Refining the diagnostic boundaries of compulsive hoarding: a critical review”. *Clinical Psychology Review*. 30 (4): 371–386. Doi:10.1016/j.cpr.2010.01.007.
 111. Petrovic P, Pleger B, Seymour B, et al. Blocking central opiate function modulates hedonic impact and anterior cingulate response to rewards and losses. *J Neurosci*. 2008; 28:10509-10516.
 112. Petry NM (2001) Substance abuse, pathological gambling, and impulsiveness. *Drug Alcohol Depend* 63: 29-38
 113. Petry NM (2003) Gambling participation and problems among Southeast Asian refugees. *Psychiatr Serv* 54: 1142-1148
 114. Petry NM *et al.* (2005) Co-morbidity of DSM-IV pathological gambling and other psychiatric disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry* 66: 564-574
 115. Petry NM, Ammerman Y, Bohl J, et al. Cognitive-behavioral therapy for pathological gamblers. *J Consult Clin Psychol*. 2006; 74:555-567.
 116. Petry NM, Litt MD, Kadden R, et al. Do coping skills mediate the relationship between cognitive-behavioral therapy and reductions in gambling in pathological gamblers? *Addiction*. 2007; 102:1280-1291.
 117. Pezzella FR *et al.* (2005) Prevalence and clinical features of hedonic homeostatic dysregulation in Parkinson's disease. *Mov Disord* 20: 77-81
 118. Pietrzak RH *et al.* (2007) Gambling level and psychiatric and medical disorders in older adults: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Am J Geriatr Psychiatry* 15: 301-313
 119. Pontone G *et al.* (2006) Clinical features associated with impulse control disorders in Parkinson disease. *Neurology* 67: 1258-1261
 120. Postlethwaite, A., Kellett, S., Mataix-Cols, D., 2019. Prevalence of Hoarding Disorder: A systematic review and meta-analysis. *J Affect Disord* 256, 309-316.
 121. Potenza MN (2006) Should addictive disorders include non-substance-re-

- lated conditions? *Addiction* 101: 142-151
122. Potenza MN (2007) Impulse control disorders and co-occurring disorders: dual diagnosis considerations. *J Dual Diagn* 3: 47-57
 123. Potenza MN (2007) Impulsivity and compulsivity in pathological gambling and obsessive-compulsive disorder. *Rev Bras Psiquiatr* 29: 105-106
 124. Potenza MN *et al.* (2005) Shared genetic contributions to pathological gambling and major depression in men. *Arch Gen Psychiatry* 62: 1015-1021
 125. Potenza MN *et al.* (2006) Characteristics of older adult problem gamblers calling a gambling helpline. *J Gambl Stud* 22: 241-254
 126. Potenza MN, I, Balodis M, Franco CA, *et al.* Neurobiological considerations in understanding behavioral treatments for pathological gambling. *Psychol Addict Behav.* 2013; 27:380-392.
 127. Potenza MN, Koran LM, Pallanti S. The relationship between impulse-control disorders and obsessive-compulsive disorder: a current understanding and future research directions. *Psychiatr Res.* 2009; 170:22-31.
 128. Potenza MN, Sofuoglu M, Carroll KM, *et al.* Neuroscience of behavioral and pharmacological treatments for addictions. *Neuron.* 2011; 69: 695-712.
 129. Potenza MN. Non-substance addictive behaviors in the context of DSM-5. *Addict Behav.* 2014; 39:1-2.
 130. Rahman AS, Xu J, Potenza MN. Hippocampal and amygdalar volumetric differences in pathological gambling: a preliminary study of the associations with the behavioral inhibition system. *Neuropsychopharmacology.* 2014; 39:738-745.
 131. Reuter J *et al.* (2005) Pathological gambling is linked to reduced activation of the mesolimbic reward system. *Nat Neurosci* 8: 147-148
 132. Saxena S (May 2011). "Pharmacotherapy of compulsive hoarding". *Journal of Clinical Psychology.* 67 (5): 477-484. Doi:10.1002/jclp.20792.
 133. Sayyah M, Sayyah M, Boostani H, Ghaffari SM, Hoseini A. Effects of aripiprazole augmentation in treatment-resistant obsessive-compulsive disorder (a double blind clinical trial). *Depress Anxiety.* 2012;29(10):850-4
 134. Schneier FR, Martinez D, Abi-Dargham A, *et al.* (2008) Striatal dopamine D(2) receptor availability in OCD with and without comorbid social anxiety disorder: preliminary findings. *Depress Anxiety* 25:1-7.
 135. Schreiber LN, Grant JE, Odlaug BL. Emotion regulation and impulsivity in young adults. *Journal of Psychiatric Research.* 2012; 46(5): 651-658.
 136. Serrano-Dueñas M (2002) Chronic dopamimetic drug addiction and pathologic gambling in patients with Parkinson's disease-presentation of four cases. *German J Psychiatry* 5: 62-66
 137. Simpson HB, Foa EB, Liebowitz MR, *et al.* Cognitive-Behavioral Therapy vs Risperidone for Augmenting Serotonin Reuptake Inhibitors in Obsessive-Compulsive Disorder: A Randomized Clinical Trial. *JAMA Psychiatry.* Sep 11 2013.

138. Simpson HB, Wetterneck CT, Cahill SP, Steinglass JE, Franklin ME, Leonard RC, et al. Treatment of obsessive-compulsive disorder complicated by comorbid eating disorders. *Cogn Behav Ther.* 2013 Mar. 42(1):64-76.
139. Slutske WS, Ellingson JM, Richmond-Rakerd LS, et al. Shared genetic vulnerability for disordered gambling and alcohol use disorder in men and women: evidence from a national community-based Australian Twin Study. *Twin Res Hum Genet.* 2013; 16:525-534.
140. Slutske WS, Moffitt TE, Poulton R, Caspi A. Under-controlled temperament at age 3 predicts disordered gambling at age 32: a longitudinal study of a complete birth cohort. *Psychol Sci.* 2012; 23:510-516.
141. Slutske WS, Zhu G, Meier MH, Martin NG. Genetic and environmental influences on disordered gambling in men and women. *Arch Gen Psychiatry.* 2010; 67:624-630.
142. Smeding HMM *et al.* (2007) Pathological gambling after bilateral subthalamic nucleus stimulation in Parkinson's disease. *J Neurol Neurosurg* 78: 517-519
143. St Onge JR, Floresco SB. Dopaminergic modulation of risk-based decision making. *Neuropsychopharmacology.* 2009; 34:681-697.
144. Stetka B, Correll, C. A Guide to DSM-5: Hoarding, Skin-Picking, and Rethinking OCD. Available. Medscape Medical News. Available at http://www.medscape.com/viewarticle/803884_7. Accessed: July 1, 2013.
145. Szarfman A *et al.* (2006) Association between pathological gambling and parkinsonian therapy as detected in the Food and Drug Administration Adverse Event database. *Arch Neurol* 63: 299-300
146. Tamminga CA and Nestler EJ (2006) Pathological gambling: focusing on the addiction, not the activity. *Am J Psychiatry* 163: 180-181
147. Tolin DF, Frost RO, Steketee G, Muroff J (March 2015). "Cognitive Behavioural therapy for hoarding disorder: a meta-analysis". *Depression and Anxiety.* 32 (3): 158–166. Doi:10.1002/ da.22327.
148. Tolin DF, Meunier SA, Frost RO, Steketee G (September 2010). "Course of compulsive hoarding and its relationship to life events". *Depression and Anxiety.* 27 (9): 829–38. Doi:10.1002/ da.20684.
149. Tolin, D.F., Frost, R.O., Steketee, G., 2010. A brief interview for assessing compulsive hoarding: The Hoarding Rating Scale-Interview. *Psychiatry Res* 178(1), 147-152.
150. Volberg RA, Gupta R, Griffiths MD, Olason DT, et al. An international perspective on youth gambling prevalence studies. *Int J Adolesc Med Health.* 2010; 22:3-38.
151. Voon V *et al.* (2006) Prospective prevalence of pathological gambling and medication association in Parkinson's disease. *Neurology* 66: 1750-1752
152. Voon V *et al.* (2007) Medication-related impulse control and repetitive behaviors in Parkinson's disease. *Curr Opin Neurol* 20: 484-492
153. Voon V, Sohr M, Lang AE, et al. Impulse control disorders in Parkinson disease: a multicenter case-control study. *Ann Neurol.* 2011; 69:986-996.
154. Weintraub D and Potenza MN (2006) Impulse control disorders in Parkin-

- son's disease. *Curr Neurol Neurosci Rep* 6: 302-306
155. Wilber MK and Potenza MN (2006) Adolescent gambling: research and clinical implications. *Psychiatry* 2006 3: 40-48
156. Wilson D, da Silva Lobo DS, Tavares H, et al. Family-based association analysis of serotonin genes in pathological gambling disorder: evidence of vulnerability risk in the 5HT-2A receptor gene. *J Mol Neurosci*. 2013; 49:550-553.
157. Yazıcı K, Yazıcı A. Dürtüselliğin nöroanatomik ve nörokimyasal temelleri. *Psikiyatride Güncel Yaklaşımlar* 2010; 2(2):254-80.
158. Yin HH and Knowlton BJ (2006) The role of basal ganglia in habit formation. *Nat Neurosci* 7: 464-476
159. Zack M and Poulos CX (2007) A D2 antagonist enhances the rewarding and priming effects of a gambling episode in pathological gamblers. *Neuropsychopharmacology* 32: 1678-1686