## Abstract

Obsessive-Compulsive Disorder (OCD) is a psychiatric/psychological disorder that can start in childhood, adolescence, or early adulthood and progress quite severely depending on age of onset, and several other reasons. It is characterized by obsessions and compulsions that repeat and cause significant distress in a person’s life. When obsessions cause distress, compulsive behaviors can help alleviate the stress evoked by the obsessions albeit temporarily. When the bibliometric analysis of OCD was performed, it was observed that the existing studies were from several fields such as psychiatry, psychology, neuroscience, pharmacology, clinical psychology, pediatrics, biochemical molecular biology, genetics, and behavioral science. This multidisciplinary approach might be interpreted as an indication that OCD is a mental disorder that can be investigated through several frameworks. In this context, in this study, the first 100 most frequently cited articles on OCD were compiled and their bibliometric analysis was carried out. In this article, the types, categories, years of publication and citations of the top 100 most cited articles on the OCD issue, the most cited articles’ journals and their features, the origin of the publications and the relations between countries, the most influential universities and institutes with the top 100 most cited articles on OCD, abstract and keyword analysis of the top 100 articles about OCD which were created using data mining method, top 10 productive authors and current altmetric effects were included. It is thought that this study would guide the researchers from different professions for their future work on OCD.

## Keywords
- bibliometric analysis
- obsessive compulsive disorder
- psychology
- psychiatry
- altmetric

## Anahtar kelimeler:
- bibliyometrik analiz
- obsesif kompulsif bozukluk
- psikoloji
- psikiyatri
- altmetrik

## Öz

Obsesif-Kompulsif Bozukluk [OKB], çocukluğa, ergenlikte veya erken yetişkinlikte başlayabilen başlama yaşına ve daha birçok sebebe bağlı olarak değişiklik gösterebilen oldukçackettelti ilerleyebilen psikiyatrik/psikolojik bir bozukluktur. Bir kişinin hayatında tekrar eden ve önemli sikintılara neden olan takıntıları ve zorlamalarla karakterizedir. Obsesyonlar sıkıntıyı sebep olurken kompülsif davranışlar bu sıkıntılara yatkınlığı ve geçici de olsa kurtulmaya yönelik yardımcı olabilir. OKB’nin bibliyometrik analizi yapıldığında çalışmaların psikiyatri, psikoloji, sinirbilim, farmakoloji, klinik psikoloji, pediatri, biyokimyasal moleküler biyoloji, genetik, davranış bilimi gibi alanlara konu olduğu görülmüştür. Bu durum, OKB’nin çok yönlü araştırıldığının bir göstergesidir. Bu bağlamda, bu çalışmada OKB ile ilgili en çok atf alan ilk 100 makale denlenmiş ve bibliyometrik analizleri yapılmıştır. Bu makalede OKB konusunda en çok atf alan ilk 100 makalenin türleri, kategorileri, Yayın yılları ve atıfları, en çok atf alan makale dergileri ve özellikler, yayınların mensü ve ülkeler arası ilişkiler, OKB konusunda en etkili olan üniversiteler ve enstitüler, veri madenciliği yöntemiyle oluşturulan OKB ile ilgili ilk 100 makalenin özeti ve anahtar kelime analizi, en iyı 10 verimli yazar ve güncel altmetrik etkileri yer almaktadır. Bu çalışmaların OKB konularında çalışmaya isteyen araştırmacılara birçok yön den yol göstericisi olduğunu düşünülmektedir.
Introduction

Obsessive Compulsive Disorder [OCD] is a common, chronic and long-term disorder in which a person feels uncontrollable, repetitive thoughts (i.e., obsessions) and/or the behaviors (i.e., compulsions) repeated over and over again. There are main characteristics of obsessions: these are repetitive and persistent thoughts, impulses, or images that are experienced involuntarily and cause great anxiety; these are not just excessive concerns about real life issues; the affected person tries to ignore, suppress or neutralize them by another thought or action; and the affected person acknowledges that these thoughts are the products of her/his mind (Abramowitz et. al., 2009). When the etiology of the disease is examined, it becomes evident that genetic factors contribute to the development and maintenance of OCD. Accordingly, neurotransmitter and brain imaging studies can be categorized under the title of biological factors. When the psychological factors triggering OCD are inspected, traumas and radical changes in a person’s life seem to result in symptoms of OCD. In fact, such environmental factors might also exacerbate already existing mild level symptoms, as well. The stress experienced by the person in her/his social and family environment can also trigger the development of the disease. Factors such as sexual harassment, marriage, moving, and having children, which cause radical changes in a person’s life, can be counted among the psychological and environmental causes of OCD. Besides, illness, loss of a loved one, problems in school or work life, traumas and relational anxiety are other important risk factors triggering the disease. Evidence about genetic factors contributing to the development of OCD is gradually accumulating and several studies have been conducted in the literature (Miguel et. al., 2005; Samuels, 2009; Taylor et. al., 2010; van Grootheest et. al., 2005). The subject of OCD has been studied by many researchers with respect to different domains. For example, medical doctors –especially psychiatrists and paediatrist - have studied OCD’s relationship with medical and biological factors such as neurotransmitters (Bhattacharyya et. al., 2009; D. Greenberg et. al., 1997; Murphy et. al., 2013), brain activation (Gao et. al., 2019; Pittenger et. al., 2016; van den Heuvel et. al., 2005), use of medicine (Bandelow, 2008; Tollefson, 1994) or nutritional and herbal supplements in the treatment of OCD (Kuygun Karç & Gül Celik, 2020). Although Behavioral Cognitive therapy is sometimes used without the use of pharmacotherapy, it can be also applied along with pharmacotherapy (e.g., use of drugs such as clomipramine, fluoxetine, fluvoxamine, sertraline, paroxetine, citalopram, escitalopram). Other psychological treatments including but not limited to psychodynamic psychotherapy (Chlebowski & Gregory, 2009; Kempke & Luyten, 2007), family therapy (Neziroglu et. al., 2000), and group therapy are also employed in the treatment of OCD. Therefore, apart from
medical doctors, psychologists have dealt with this issue extensively. Main research interests of psychologist in relation to OCD include but not limited to adult attachment dimensions (Doron et. al., 2009, Doron et. al., 2012) and comorbidity, manifestation of symptoms in children and adolescents (Riddle, 1998; Shafran, 2001), phenomenology of OCD (Buchholz et. al., 2020), sociodemographic and clinical characteristics, eating attitudes in affected patients and obsessive beliefs. Asmundson and Asmundson (2018) carried out a recent study for revealing trends in the anxiety disorders. Parmar and his colleagues also examined top 100 cited articles in the field of OCD using google scholar database (Parmar et. al., 2019). Unlike the article by Parmar and his colleagues, this article uses the WoS database and data mining method particularly. They come to the conclusion that the research in OCD is comprehensive and investigated by several different specialties. In parallel with the development of scientific knowledge, the number of specialization areas is increasing day by day. Therefore, it has been inevitable that different professions collaborate with each other following a good anamnesis in order to approach to the case in a holistic way. For an accurate diagnosis and treatment, today experts in every field of specialization often need the knowledge and technical support of the other fields while practicing their profession. It is always more appropriate for the physician/psychologist to obtain scientific and technical consultation, comments, or ideas from experts of other field related fields for having a wider point of view.

In this context, although a new researcher, who started to study in OCD, turned towards specific research, it is inevitable for her/him to conduct a comprehensive literature review in order to understand the issue completely and as a whole. Situations such as pioneering studies, directions and trends for future work, major works researchers need to read, and where the current research concentrates are important points that can guide researchers. Bibliometric method has been widely used in the literature. For example, the trend of the literature on the most widely used social networks (Facebook, Twitter, LinkedIn, Snapchat and Instagram) in the field of psychology has been researched recently (Zyoud et. al., 2018). Another study explored the relationship between traditional metrics and alternative metrics for psychological research in the years from 2010 to 2012 (Vogl et. al., 2018). Besides, researchers analyzed publications from post-Soviet countries in psychology journals using the bibliometric method, in 1992-2017 (Lovakov & Agadullina, 2019). Sometimes researchers perform bibliometric analysis of the journal between specific publication years, focusing on a journal rather than a bibliometric analysis of a general topic (Allik, 2013). Besides, some researchers only perform bibliometric analysis of articles in a certain index. For example, bibliometric analysis of classical psychology articles in the science citation index expanded index was performed (Ho & Hartley, 2016). In other cases, bibliometric analysis is carried out to determine the trend of
the studies in a particular region. As an example, bibliometric analysis was conducted to show the trend of social psychology studies in Asia (Haslam & Kashima, 2010).

In this study, bibliometric analysis of the 100 most cited articles on "OCD" subject was conducted using Web of Science database data. Thanks to bibliometric analysis, the types of the 100 most cited articles and categories of study areas were determined. In addition, the distribution of these 100 articles by years and the number of citations they received were determined. In which journals the top 100 most cited articles about OCD are published and the features of these journals were compiled, along with the leading countries working on OCD and their cooperation regimes were shown. The top 10 universities and institutes and collaborative networks that have published the most on the OCD issue have been uncovered. Using the data mining method, a guiding analysis of the 100 most cited articles about OCD has been conducted on the abstracts and keywords. The top 10 most productive authors in the top 100 most cited articles were identified. Finally, besides the traditional effect factor, altmetric analysis, which has become popular in recent years (Suzan and Unal., 2021), was included for the top 10 most cited articles in the top 100 list.

Data Collection and Method of Data Analysis

The term bibliometric refers to the application of classical mathematical and traditional statistical methods to books, scientific articles, and other media tools as a consistent quantitative method. In bibliometric research, certain features of academic publications are analyzed, and various useful findings related to scientific communication are obtained. Bibliometric research contributes to the identification of the most productive researchers on any subject, making comparisons across countries, institutions, and how scientific communication takes place in different disciplines. One of these contributions is to enable comparisons between schools in social sciences. Descriptive bibliometric measures the productivity of countries and authors in the literature and shows the distribution and trends according to years and subject areas. Evaluative bibliometric, on the other hand, reveals the authors, publications, the relations between the countries where the publications are made, the citation network analysis, in short, the measurement of the use of the literature. Both approaches were presented in the current study.

The data used in this bibliometric analysis were obtained from the Thomson Reuters WoS Core Collection database. The most widely accepted broad-spectrum databases in the academy are known as WoS, Scopus and Google Scholar. WoS database was used because it is generally more accepted in the academic community and only show articles in indexes of SSCI, SCI, and ESCI. Participation in the WoS database was made on May 31, 2020, dates between
the years of 1975 and May 31, 2020, was chosen, by searching the keyword obsessive compulsive disorder as "OCD". As a result, 11752 articles were obtained and the 100 most cited articles among these articles were analyzed. Articles not directly related to "obsessive compulsive disorder" were excluded; only original research papers, review papers and conference papers were retained. In this study, an average annual quote of values derived from WoS has been used over time as older articles are likely to have more citations than newer ones. Some of the analysis results were created with the VOS program. VOS viewer is a program used to create and visualize bibliometric networks. These networks may include, for example, journals, researchers, or specific publications and can be created based on citation, bibliographic matching, co-citing, or co-authoring relationships. With the data mining technique, the VOS viewer enables scientific articles to be viewed by reading both keywords and abstract text and shows how many times which word is used statistically. Quantitative analysis of the literature of the top 100 most cited articles can show the international status of OCD research from a broader perspective and provide a general overview of OCD.

Results and Discussion

The top 100 most cited studies on the OCD issue were identified using the WoS database. The top 100 cited articles and ACpY values were listed in Appendix 1. When the articles were examined, it has been seen that the work of E.B. Foa et al. (Foa et al., 2002) "The Obsessive-Compulsive Inventory: Development and validation of a short version" have 1320 citations with an ACpY value of 69.47. Subsequently, the article “Children’s Yale-Brown Obsessive Compulsive Scale: Reliability and Validity” written by L. Scahill et al. (Scahill et al., 1997) received 1125 citations and had a value of 46.88 ACpY. Thirdly, the study conducted by A. M. Ruscio et al. (Ruscio et al., 2010) titled “The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication” emerged with 923 citations with an ACpY value of 83.91. When the 100 most cited articles on OCD were examined, it has been observed that more than half of the obtained articles (69%) were research articles. The rest were in the form of a review or proceedings papers as seen in Figure 1.

OCD has been investigated by many different specializations such as psychiatry, psychology, genetics, pharmacology, and neurology. Therefore, the most cited 100 articles were categorized as can be seen in Figure 2. When the results obtained from the search made in the WoS database was analyzed over the system, the system presents two parts as "Web of Science Categories" and "Research Areas". The categories we presented in the article were pertaining to WoS categories. In addition to the constantly developing and renewed drug pharmacology, current psychotherapies are also needed for different psychological disorders.
that arise due to changing technology and changing living conditions. Therefore, it was inferred that a large number of studies have been made and cited in these areas.

**Figure 1.** Types of most cited 100 articles

**Figure 2.** Categorization of top 100 OCD articles according to the WOS data
When the top 100 articles cited and the number of citations received each year are analyzed (see Figure 3), it was seen that the most cited articles have started to be published in 1992 (1 publication). When the articles published in 2004 were examined, subjects such as the treatment gap in the field of mental health, the comorbidity of Anorexia and Bulimia Nervosa and the Comorbidity of Anxiety Disorders, Different Neural Correlations of Washing, Controlling and Stacking Symptom in Obsessive-Compulsive Disorder, Psychometric verification of Obsessive Belief questionnaire, neuropsychology of obsessive-compulsive disorder were studied.

Since it took several years for an article to be cited after its publication, citations increased through a linear way. Approaches to OCD have changed somewhat, as there has been a digital transformation in the 2000s almost all over the world, and in 2004, more than 10% (11 articles) of the top 100 most cited articles were published. When the publications made in these years were inspected, issues such as the treatment gap in mental health care (Kohn et. al., 2004), neural correlates of washing, checking, and hoarding symptom dimensions in OCD (Mataix-Cols et. al., 2004), the neuropsychology of OCD (Chamberlain et. al., 2005), symptoms versus mechanisms of OCD (McKay et. al., 2004) came to the fore. In addition, mapping structural brain alterations in OCD (Pujol et. al., 2004) and neuroimaging (Whiteside
et. al., 2004) topics were also studied. It is seen that studies on OCD are mostly related to psychiatry and psychology. It can be seen that the top 100 most cited articles were published in the prestigious journals shown in Table 1. When the journals were examined, it can be seen that except 1 journal all of journals were in the Q1 category. In addition, the vast majority were journals have USA and England origins. When the WoS subject categories of the top 100 cited articles were examined, it was seen that these areas were consistent with the following journals in table 1 and were in a very good harmony.

Table 1.

**Top 15 List of Journals that Published Most Cited Obsessive Compulsive Disorder Articles**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Journal</th>
<th>Number of articles</th>
<th>Impact Factor*</th>
<th>Country</th>
<th>JCR Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Archives of General Psychiatry</td>
<td>14</td>
<td>14.48</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>2</td>
<td>American Journal of Psychiatry</td>
<td>13</td>
<td>13.655</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>3</td>
<td>Behaviour Research and Therapy</td>
<td>9</td>
<td>4.309</td>
<td>England</td>
<td>Q1</td>
</tr>
<tr>
<td>4</td>
<td>Biological Psychiatry</td>
<td>5</td>
<td>11.501</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>5</td>
<td>Journal of Clinical Psychiatry</td>
<td>4</td>
<td>4.023</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>6</td>
<td>Psychological Assessment</td>
<td>4</td>
<td>3.469</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>7</td>
<td>Journal of the American Academy of Child and Adolescent</td>
<td>3</td>
<td>6.391</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>8</td>
<td>Molecular Psychiatry</td>
<td>3</td>
<td>11.973</td>
<td>England</td>
<td>Q1</td>
</tr>
<tr>
<td>9</td>
<td>Neuropsychopharmacology</td>
<td>3</td>
<td>7.16</td>
<td>England</td>
<td>Q1</td>
</tr>
<tr>
<td>10</td>
<td>Biological Psychology</td>
<td>2</td>
<td>2.627</td>
<td>Netherlands</td>
<td>Q2</td>
</tr>
<tr>
<td>11</td>
<td>Brain</td>
<td>2</td>
<td>11.814</td>
<td>England</td>
<td>Q1</td>
</tr>
<tr>
<td>12</td>
<td>British Journal of Psychiatry</td>
<td>2</td>
<td>7.233</td>
<td>England</td>
<td>Q1</td>
</tr>
<tr>
<td>13</td>
<td>Clinical Psychology Review</td>
<td>2</td>
<td>9.904</td>
<td>England</td>
<td>Q1</td>
</tr>
<tr>
<td>14</td>
<td>Jama Journal of the American Medical Association</td>
<td>2</td>
<td>51.273</td>
<td>USA</td>
<td>Q1</td>
</tr>
<tr>
<td>15</td>
<td>Journal of Consulting and Clinical Psychology</td>
<td>2</td>
<td>4.358</td>
<td>USA</td>
<td>Q1</td>
</tr>
</tbody>
</table>

*Note. (*2018 Journal Citation Reports® (Clarivate Analytics)*

As in the journals where the articles were published, when the countries that the authors belong to were examined, it was observed that USA and England published the highest number of OCD articles as shown in Figure 4, followed by Canada and the Netherlands. Because of some authors writing more than one country, the number of articles was repeated and seemed to exceed 100.

It was understood that the researchers conducted OCD study with the colleagues in other countries. USA was located in the center and collaborated with many countries. This pattern of association was shown in Figure 5. The size of the text and the thickness of the lines described the degree of influence.
Figure 4. Geographic origin of the top 100 OCD articles

Figure 5. Geographic origin of the top 100 OCD articles and their citation interop connections
Figure 6 shows the universities/institutes that published the most articles in the top 100 list of OCD. Accordingly, the most influential universities were Harvard University (13 publications) and Yale University (12 publications), respectively. Massachusetts General Hospital was the third with 11 publications. In Figure 7, all universities and institutes in the top 100 list were included and their working associations were shown in the form of a network through clustering. It is apparent that some universities work harder with universities in their own countries, while others cooperated more with the universities from different countries of the world.

**Figure 6. Institutions of origin of the top 10 among top 100 OCD articles**

**Figure 7. Institutions of origin of the top 100 OCD articles and their relations**
When researchers read an article, they often read its abstract first. The abstract of an article might give many ideas about the related work. Therefore, what is written in the abstract of the article is quite important. In academic articles, it is necessary to use an academic language appropriate to the subject and to know professional jargon. Therefore, the abstracts of the top 100 most cited articles have been examined and illustrated in Figure 8 by the data mining method and it was aimed to present an idea in terms of abstracts by analyzing all the words that have been used once. From this analysis, it is evident that concepts such as OCD, patient, study, treatment, child, effect, pathopsychology have been frequently used.

Figure 8. Map based text data of entire top 100 articles abstract field (1 occurrences)

As Figure 9 indicated, an analysis of the words used at least 10 times in the abstract sections of all top 100 most cited articles was also performed. Thanks to this analysis, it quickly provided a visual idea of which topics the articles focusing on. When Figure 9 was examined in detail, it can be understood that most of the studies focused on OCD and patient-centered, treatment, disease, obsessions and medical drugs.
Keywords are of great importance when conducting scientific research, especially when researching literature about an interest topic. It is necessary to perform the search with the right keywords to find targeted studies. For this reason, the keywords used were determined by analyzing the keywords of the 100 most cited articles about OCD by data mining method. According to this analysis, a total of 180 different keywords were found to be used in the top 100 articles and the most repeating one was identified as obsessive-compulsive disorder (21 times) was used. Some of the 180 items in OCD network were not connected to each other, thus, the largest set of connected items that consists of 156 items have been illustrated in Figure 10. In the keywords analysis performed in Figure 10 (while occurrences were 1), 180 related keywords were determined. These relationships were technically specified as "occurrences and total link strength". For example, the occurrences for obsessive-compulsive disorder (21-108) were 21, the total link strength was 108. For anxiety disorders (3-31), occurrences were 3 and the total link strength was 31. Occurrences and total link Strength were given in parentheses, respectively, for treatment (3-29), meta-analysis (4-27), ssri (2-26), response inhibition (3-24), and neuroimaging (3-22). Among the word connections, there were groups called "clusters" shown in different colors. For example, in figure 10, it was tried to be explained that there is a more pharmacological working group in cluster 1 (e.g., citalopram, cognition, compulsive, fluvoxamine, fluoxetine, neurobiology, pharmacology, serotonin, sertraline, ssri etc.). In this study, there were 17 clusters of various sizes detected by data mining method. For example,
there were words such as assessment, behavior therapy, familial, inhibition, multivoxel, outcome predictor, and symptom dimension cluster 5.

Figure 10. Most used author keywords in top 100 articles

In the top 100 most cited articles on the OCD issue, the top 10 productive authors with the most articles were listed in Table 2. Accordingly, the authors with the most articles were identified as Leckman JF and Mataix-Cols D.

Table 2.

**Top 10 Most Published Researchers on OCD among Top 100 Highly Cited Articles**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Author</th>
<th>Number of articles in top 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leckman JF</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Mataix-Cols D</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Abramowitz JS</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Baer L</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Chamberlain SR</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Rauch SL</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Robbins TW</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>Sahakian BJ</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Steketee G</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Fineberg NA</td>
<td>5</td>
</tr>
</tbody>
</table>
In Figure 11 below, the collaboration associations were clustered while evaluating each article. Some of the researchers were found to work as a team in more than one article. The authors that appeared alone in the top 100 list actually worked with more than one author, but they did not appear in the way as they did not have any other articles in the top 100 list.

Figure 11. Co-authorship unit of analysis in top 100 articles (for each article)

Altmetrics are expressed as a new evaluation criterion, which is being used in academic and scientific publishing, as an alternative to the impact factor and other evaluation methods. The most positive feature of the sub-metrics, which stands for “Article Level Metrics”, is that it measures not only the number of citations, but also the number of articles viewed and downloaded, and the impact on social media. Submetrics are designed to monitor and measure the effects of research online more comprehensively. The references made to the articles on social media channels such as Twitter, Wikipedia, Facebook, Patent, Blogs, News, and Google+ etc. and compile more precisely “mention” and scoring importance. If a person tweets about an article or writes a blog post, the system can detect it immediately. At the same time, altmetric, which collects data from traditional media, academic and scientific sites, analyzes
and presents this data to the user. www.altmetric.com is the where this application located. For this reason, in order to present an idea of a detailed submetric analysis of the top 10 list of articles with top 100 citations in OCD, it was given in Table 3 below. The color distribution in the donut, which shows the Altmetric score, was determined according to the number of posts and scoring criteria of the article in the submetrics. The article titled "Cognitive-behavioral therapy for adult anxiety disorders: A meta-analysis of randomized placebo-controlled trials" in the end of top 10 list has a very high altmetric score of 240.

Strengths, Limitations and Future Directions

The strength of the present study is to provide fast and direct access to evidence and current trends on obsessive compulsive disorder based on 100 most cited articles without resorting to complex statistical methods. On the other hand, only the total number of citations was presented within the scope of this study, and it is a subjective approach to make bibliometric analysis based on this citation, to prove the quality of the research. Also, if other databases had been used, the results of our work based on the WOS database might have changed. Findings obtained from existing studies might be cost effective in planning and financing future research projects. In the last decade, multiple evaluations that are defined as altmetrics measuring the power of scientific studies on social media are becoming more and more popular as alternative assessment options. In future studies, altmetric approach can also be explored in detail for quantitative analysis. The contend, method and focus of the future studies can be shaped as follows when the highly cited articles, figures and graphics have been examined in detail. The orientation in OCD treatment is progressing in the form of a combination of psychotherapy and medication. It is stated that the "Deep Brain Stimulation [DBS]" method, which is generally used to reduce tremor and prevent involuntary movements in patients with movement disorders, can be adapted to OCD patients. Studies on neurotransmitters seem to be combined and carried out together with detailed radiological brain imaging methods (e.g., examination of the relationship between serotonin and glutamate). Besides, behavioral therapy, cognitive behavioral therapy, humanistic psychology approach, psychodynamic therapy, psychopharmacotherapy, intensive and new pharmacological treatment, and rarely electroshock therapy have been offered as effective treatment options for OCD. It was also reported that Vagus nerve stimulations are generally useless in the treatment of OCD, and neurosurgery is still controversial. The fact that these issues are still being actively studied shows that researchers should continue focusing on these issues in their future work.
### Table 3.

**Sub-altmetric Distribution of Altmetric Score for Top 10 Articles on OCD**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Article Title</th>
<th>Altmetric Score</th>
<th>News Outlets</th>
<th>Blogs</th>
<th>Policy sources</th>
<th>Twitter</th>
<th>Facebook Pages</th>
<th>Wikipedia page</th>
<th>Patents</th>
<th>Other Platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The obsessive-compulsive inventory: Development and validation of a short version</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Children’s Yale-Brown obsessive compulsive scale: Reliability and validity</td>
<td>15</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication Comorbid psychiatric disorders in children with autism: Interview development and rates of disorders Serotonin transporter promoter gain-of-function genotypes are linked to obsessive-compulsive disorder</td>
<td>40</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
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Conclusion

Obsessive-compulsive disorder [OCD] is a condition generally characterized by the presence of obsessions and compulsions. Obsessions refer to the recurring and disturbing thoughts resulting in ritualistic or compulsive behaviors to alleviate stress evoked by the obsessions. Biological factors and environmental causes lead to development and maintenance of OCD with different symptoms. Some of these symptoms can be listed as fear of contamination, over concern for symmetry, perfectionism, feeling stressed when things are not regular, feeling uncomfortable with shaking hands, continuous hand washing, counting things and much more. Behavioral/ Cognitive Behavioral therapies can be applied as a treatment method focused on reducing distorted thoughts, which are frequently seen among OCD patients. In addition, fundamentally, medicines can be used to increase serotonin levels in the brain. Considering all these situations, OCD is a complex phenomenon that should be conceptualized and investigated through a multidisciplinary perspective. For this reason, when studies on this subject were examined, it became clear that OCD is examined in many different categories. The article by Parmar and his colleagues (Parmar et. al., 2019) used the Google Scholar database, yet they did not employ data mining in their research. Using data mining with strong algorithms and coding with a multidisciplinary perspective in our article that shows our strong originality, and it is the first study as it can be seen in the open literature. Researchers engaging academic or field reading are under the risk of losing their direction while trying to cover extensive literature. Thus, it will be useful to read the corner stone articles and works that can be called cult while starting to investigate and familiarize with a subject. In addition, which countries are the pioneers, which universities or institutes are closely interested in this OCD subject, who are the influential authors in the field have been investigated. Also, how is the timeline and focus of the studies in the OCD field changes, what are the effective academic journals, and their features and much more comprehensive information is important to shed light on readers. Large amount of evidence on a particular subject often indicates the topicality and popularity of the subject. In the OCD research metrics, bibliometric analysis has been perceived to have many advantages, such as facilitating the analysis of larger datasets, examining trends in subject areas, analyzing specific content, and predicting emerging trends for future research. Since bibliometric research on OCD in psychology reveals many different types of pioneering work, it makes an important contribution to clinical practice, such as quickly accessing scientific and credible research on the subject.
As a result of the bibliometric analysis, the 100 most cited articles on OCD have been identified. Besides, the amount of publication and citations of these articles over the years, the types of the articles, the journals and the features of these journals, predominant countries in these articles have been revealed. In addition, their correlations and networks, universities and institutes which are at the forefront of these articles, analysis of the abstract sections of the articles, analysis of their keywords have been carried out comprehensively. In addition, the top 10 most cited authors were identified. In recent years, the altmetric score, which offers a different and alternative evaluation method, has been introduced and the altmetric scores of the articles in the top 10 lists are included. It is thought that this study will give ideas to those who want to do research on OCD from different professions and provide access to fundamental most cited works quickly.
References


https://doi.org/10.1016/j.jad.2016.02.021


Obsesif Kompülsif Bozukluğun Bibliyometrik ve Altmetrik Analizi ve Görselleştirilmesi: En Çok Alıntı Yapılan 100 Etkili Çalışma

Özet

D. N. Başhan  

A Bibliometric Analysis and Visualization of Obsessive Compulsive Disorder

ve hangi kelimenin istatistiksel olarak kullanıldığını hesaplayarak görüntülenmesini sağlar. En çok alıntı yapılan 100 makalenin literatürünün nicel analizi, OKB araştırmalarının uluslararası durumunu geniş bir perspektiften gösterebilir ve OKB'ye genel bir bakış sağlayabilir. Bu makalede OKB konusunda en çok atıf alan ilk 100 makalenin türleri, kategorileri, yayın yılları ve atıfları, en çok atıf alan makale dergileri ve özellikler, yayınların menşei ve ülkeler arası ilişkiler, OKB konusunda en çok atıf almış ilk 100 makaledeki en etkili olan üniversiteler ve enstitüler, veri madenciliği yöntemiyle oluşturulan OKB ile ilgili ilk 100 makalenin özeti ve anahtar kelime analizi, en iyi 10 verimli yazar ve güncel altmetrik etkileri yer almaktadır. OKB'nin daha iyi anlaşılmasını, karmaşık koşullara rağmen daha kişiselleştirilmiş ve birey hedefli tedaviye yönelmesi gerektiği literatürde vurgulanmıştır. Ayrıca, geleceğe bakıldığında, OKB'yi teşhis etmek, izlemek ve tedavi etmek için gelişmiş farklı modellerden ve dijital araçlardan da faydalanacağı öngörülmektedir. Bu çalışmanın OKB konularında çalışmak isteyen araştırmacılara birçok vonden yol göstereceği düşünülmektedir.
### The Top 100 Most Cited Articles in OCD Field

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D. N. Başhan

A Bibliometric Analysis and Visualization of Obsessive Compulsive Disorder


D. N. Başhan

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