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ORIGINAL ARTICLE

Analysis of Articles on Labioplasty with Science Mapping Technique

Labioplasti Konulu Makalelerin Bilim Haritalama Tekniği İle Analizi

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ABSTRACT

Objective: Labiaplasty is the surgical reduction of the labia minora. Labiaplasty has become increasingly popular in recent years. The aim of this study is to analyze the studies on labiaplasty in the literature with the science mapping technique.
Materials and Methods: The data used in this study were obtained from the Web of Science Core Collection, Scopus and PubMed databases, which contain abstracts and references from high quality and effective scientific articles. The dataset is assembled using the Python programming language and the underlying Pandas library. The obtained data were analyzed with Biblioshiny in R-Studio.
Results: The results of the analysis made on the basis of the countries of the responsible authors of the studies on labiaplasty show that the USA is ahead with a total of 85 articles according to the number of articles. Gemma Sharp is the author with the highest number of articles with 19 articles in terms of total number of articles. The source that publishes the most articles on labiaplasty is the Aesthetic Surgery Journal with 58 articles.
Conclusion: In our article, the subject of labiaplasty has been analyzed in terms of science mapping, which is the most interesting subject of the last period. It is considered that this study, which is frequently encountered in the literature, will shed light on the studies in its field.

Keywords: Labiaplasty, Science Mapping, Web of Science Core Collection, PubMed

ÖZ

Amaç: Labioplasti, labia minoranın cerrahi olarak küçültülmesidir. Labioplasti son yıllarda giderek daha popüler hale gelmiştir. Bu çalışmanın amacı literatürde yer alan labioplasti konulu araştırmaların bilim haritalama tekniği ile analiz edilmesidir.
Gereç ve Yöntem: Bu çalışmada yararlanılan veriler, yüksek kaliteli ve etkili bilimsel makalelerden alınan özetlerin ve referansların yer aldığı Web of Science Core Colection ,Scopus ve PubMed veri tabanlarından alınmıştır. Veri seti Python program dili ve onun altındaki Pandas kütüphanesi kullanılarak birleştirilmiştir. Elde edilen veriler R-Studio'nun içerisindeki Biblioshiny aracılığıyla ile analiz edilmiştir.
Bulgular: Labioplasti konusunda yapılan çalışmaların sorumlu yazarlarının ülkeleri bazında yapılan analiz sonuçları makale sayılarına göre ABD'nin toplam 85 makale ile önde olduğu görülmektedir. Gemma Sharp toplam makale sayısı bakımında 19 makale ile en çok makale yayınlayan yazar durumundadır. Labioplasti konusunda en fazla makale yayımlayan kaynak 58 makale ile Aesthetic Surgery Journal isimli dergidir.
Sonuç: Makalemizde son dönemin en çok ilgi duyulan konularında labioplasti konusu bilim haritalama yönüyle analiz edilmiştir. Çalışmamızın bu alandaki çalışmalara ışık tutacağı değerlendirilmektedir.

Anahtar Kelimeler: Labioplasti, Bilim Haritalama, Web of Science Core Colection, PubMed

Introduction

Labiaplasty refers to the surgical reduction of the labia minora. Secondary goals of this procedure include minimal invasiveness, optimal color/tissue matching, preservation of the vaginal entrance and neurovascularity. Labiaplasty has become increasingly popular in recent years. There is no widely accepted guideline for labiaplasty and it is done for a variety of reasons. Some of these are labia minor hypertrophy, dyspareunia, chronic urinary tract infections (1).

Labiaplasty is receiving increased attention. There is debate among healthcare professionals about how to manage a request for this surgery. The indications and outcomes of labiaplasty have not yet been systematically evaluated, and long-term outcomes have not been reported. The perception of normal labia minora appearance in women is influenced by culture, media, opinions of health professionals and the environment. The request for labiaplasty is generally based on dissatisfaction with the genital appearance, not on functional complaints (2)

More research is needed to examine the value of this therapy and the appropriate indications. The results of labiaplasty should be systematically analyzed to assess why women need this treatment and whether it is safe and effective (3,4).

Bibliometrics is the analysis of the works produced by the determined people/institutions in the determined area, in the determined time, and the relations between these works. Scientific publications are increasing in quantity. With this increase, it has become difficult to follow and analyze scientific developments. Changes in different disciplines or their dynamics should be followed by scientists. Those working in the academic field want to stay up to date and access the data they need at any time. These demands and needs have triggered the use of bibliometric methods (5,6).

It is based on performing various analyzes on data obtained from bibliometric databases. As a result of these analyzes, a panoramic view of the subject or

discipline can be obtained. In this way, information can be obtained about scientists, works and articles related to the subject or discipline, and information about their publication performances can be reached. Bibliometric analysis provides a comprehensive review of the literature and sees the subject at one point. In addition, it gives information about the citation performances of the works. This information obtained is important in the evaluation of the scientific competence of the works. The aging rate of the literature can be calculated by citation analysis studies performed with bibliometric methods. This determines the attitudes of libraries towards the relevant literature (7,8).

One of the main uses of bibliometrics is scientific mapping. Scientific mapping is the analysis of relationships between different elements that make up scientific disciplines, such as universities, various works, and authors. Science Mapping can also be defined as the visualization of a science discipline (9).

Bibliometric analysis is one of the three main methods used to analyze the existing literature. It can be defined as the quantitative analysis of scientific publication information with statistical and mathematical tools in order to examine data in different academic disciplines. It has two main uses: bibliometric performance analysis and science mapping. While performance analysis aims to evaluate the research and publication performance of individuals and institutions, science mapping aims to determine the structure and dynamics of scientific fields (8,10,11).

There are many software used for scientific mapping. Gephi, UCINET, Pajek, CoPalRed, Cytoscape, CiteSpace II, VOSviewer are some of the softwares.

The aim of this study is to analyze the studies on labiaplasty in the literature with the science mapping technique.

Materials and Methods

Creation of Bibliometric Data

In a scientific study, it is very important to obtain the studies that will be the subject of the data set in a suitable time period and from large databases in order to obtain the correct data and make the correct analyzes. The data used in this study were taken from the Web of Science Core Collection, Scopus and PubMed databases, which contain abstracts and references from high-quality and influential scientific articles (12).

In the literature review, it was seen that the term "labiaplasty" is expressed as "labioplasty" in some sources. It has been evaluated that both terms are used in the same sense and these two terms are taken as basis in the searches made.

In the Web of Science Core Collection database, the Science Citation Index Expanded (SCI-E), Social Sciences Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) indexes were selected and a search was made as "labioplasty (Topic) or labiaplasty (Topic)". The years between 1975 and 2020 were selected as the document type, Articles and Review Articles, and the language was English. 192 documents covering the dates 1984 to 2020 were reached.

A similar search was made in the Scopus database in the Article and Review document types. As a result of the search, 237 documents were found.

Advanced search options "labioplasty" and "labiaplasty" were searched in Pubmed database. The search included articles published in English in Article, Case Reports and Review document types covering the years 2020 and before. 193 documents published between 1982 and 2020 were reached. Seven articles that were accepted in 2020 and published in 2021 were removed from the data set, resulting in 186 documents.

The data set consisting of a total of 615 documents obtained from the Web of Science Core Collection, Scopus and Pubmed databases was combined using the Python programming language and the Pandas library under it, via the Visual Studio Code tool. Duplicate data were determined with the help of Pandas codes based on document Title and DOI numbers. It has been determined that there are 135 documents with this quality. As a result of deletion of duplicate data, 480 documents were included in the analysis.

Analysis of Data

The obtained data were analyzed by using the bibliometrix library in R-Studio, which is an R-based program, through the user interface program Biblioshiny. Biblioshiny has a web interface that allows bibliometric and visual analysis. It greatly reduces the data entry intensity and usage threshold of users. Biblioshiny and Tableau programs were used to visualize the analyzes made in this study. Since citation information is not included in the data obtained from Pubmed, analyzes related to citation in this study were made using Web of Science Core Collection and Scopus databases. The flow chart of the data acquisition, classification and analysis process is shown in Figure 1.

Thematic Development Analysis (Thematic Map), which is a longitudinal thematic map analysis, was applied to analyze the studies in the field of labiaplasty with a dynamic perspective. Thematic Map was first proposed by Callon et al. Thematic Map consists of two coordinates called centrality, which measures the importance of the chosen theme, and intensity, which measures the development of the chosen theme. The centrality is on the "x" axis and the density is on the "y" axis on the map. The importance of the theme of centrality in the field of research can be interpreted as

a measure of development, whereas density can be interpreted as a measure of development (10,13,14).

In Thematic Map, each balloon represents a cluster of networks. Balloon name is the word that belongs to that cluster and has a higher visibility value. Balloon size is proportional to cluster word occurrences. The position of the balloon is adjusted according to the centrality and density (15).

Thematic Map consists of four themes: Emerging Theme, Highly developed and Isolated Theme, Motor Theme and Basic Theme.

• Emerging Theme: It is located at the bottom left of the map. It has low values in terms of centrality and density. The themes included here are those that are emerging for the research topic or that will emerge from the research area. They are of low importance for the research field.

• Highly developed and Isolated Theme: Located at the top left of the map. They have low centrality and high density values. Although well developed, they are isolated. Although they are important for the development of the research subject, they have remained in the background in terms of necessity in the whole research field.

• Engine Theme: It is located at the top right of the map. They have high values of centrality and density. It includes developed and required themes. It is important in terms of structuring the research area. It consists of words with strong interconnections. They more commonly appear together which makes them relatively more advanced.

• Basic Theme: It is located at the bottom right of the map. They have high centrality and low density values. A lot of research has been done on the themes found here. They have well-developed interconnections and are of marginal importance to the research topic. (10,13).

In our study, the periodic development of the labiaplasty theme and its evolution over time were analyzed. For this purpose, the period between 1967 and 2020, when the first article was published, was divided into four time periods based on the annual publication distribution. For this purpose, the years 2006, 2012 and 2017 were determined as the cut-off point. By choosing Author's Keywords, the number of 250 words was taken as a basis. The default value of "5" has been selected as the minimum cluster frequency. Since three words are chosen for each cluster, the first three most used words are included in each cluster bubble. The first word is the word that represents that cluster.

Articles Fractionalized measures the contribution of an individual author to a series of published articles. The performances of the authors who published articles on labiaplasty were analyzed using this scale. (16).

The articles examined in our research were examined in terms of citations, and the h, g and m indexes were calculated. The "Hirsch index" or "h-index" was designed by Jorge Hirsch. If an author has X articles that have been cited at least X times by other authors, the author's h-index is equal to X (17).

The G-index was developed by Leo Egghe in 2006. It is an alternative to the h-index, which does not average the number of citations, to measure the global citation performance of a series of articles. According to Egghe, a disadvantage is that the h-index does not take into account the citation scores of the best articles. The index is calculated based on the distribution of citations received by articles published by a particular researcher. Unlike the h-index, the G-index gives more weight to highly cited articles. The G-index helps make the author's influence more noticeable by calculating the performance of the author's top articles (18).

The H-index is a less appropriate measure of academic achievement for young scientists because they do not have enough time to cite papers yet. It can take more than five years for an article to receive a significant number of citations, especially in the social sciences. For young scientists, the impact factor of the journal they publish may be a more realistic measure of final impact. One way to facilitate comparison among scholars with different academic careers is to divide the h-index by the number of years s/he has been academically active. This index is defined as the m-index (19).

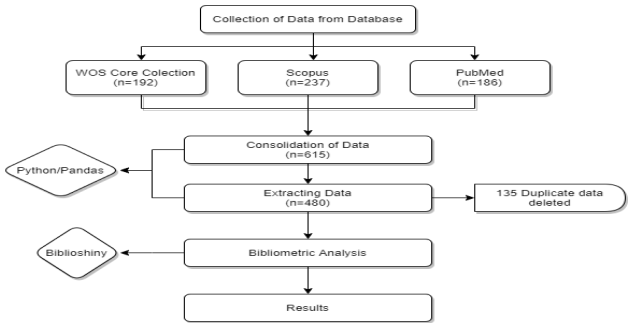

Figure 1: Flow Chart

Results

In the study, it was seen that 480 articles between 1967-2020 were obtained from 165 sources. 391 of the articles are research articles and 67 of them are review articles. 22 of them are case reports. The total number of authors is 1004 and 41 of them are single-titled studies. While the number of studies per author is 0.478, the number of authors per study is 2.09.

The result of the Annual Scientific Production analysis is shown in Figure 2. Accordingly, the first article was published in 1967 and the second in 1978. No article published between 1968-1977 was found. It is seen that there was no significant change in the number of articles between 1978 and 2006. In the period from

2006 to 2020, there is a continuous upward trend. The highest number of articles were published in 2020 with 70 articles.

Trend Line has been added to the chart. The equation and p-value representing the Trend Line are shown on the graph. Trend Line also highlights the increasing trend in the number of articles.

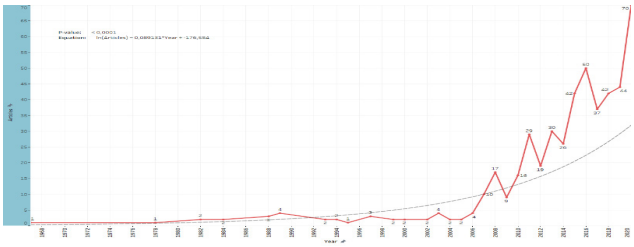

Figure 2. Annual Scientific Production

Country Statistics

The results of the analysis made on the basis of the countries of the responsible authors of the studies on labiaplasty are presented in Table 1. Table 1 is arranged to be the first 10 countries according to the number of articles. It is seen that the USA is ahead of other countries with a total of 85 articles (31%). The USA is followed by Australia with 31 studies and the United Kingdom with 17 studies, respectively. In terms of collaborating with authors from other countries, the United States has the lowest prevalence. The collaborative study is only 0.08%, with seven. All of the authors of 78 studies conducted by the USA are from their own countries. The country with the highest rate of collaboration is Canada with 44%. Canada collaborated with authors from other countries in four of the nine studies it conducted.

When we look at the cooperation between countries, it is seen that there are three clusters. The USA has worked most intensively with Italy, France and Canada. Australia, on the other hand, collaborated most intensively with the United Kingdom. Since the total number of articles of USA is higher than other countries, the number of countries with which it cooperates is higher than the others (Figure 3).

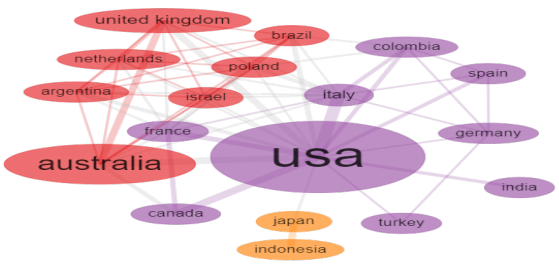

Figure 3: Countries Cooperation Network

Table 1: Most Influential Countries (By Corresponding Author)

Country	TCP	Freq	SCP	MCP	MCP_ Ratio
USA	85.00	0.31	78.00	7.00	0.08
Australia	31.00	0.11	28.00	3.00	0.10
United Kingdom	17.00	0.06	17.00	0.00	0.00
Italy	12.00	0.04	11.00	1.00	0.08
Turkey	11.00	0.04	9.00	2.00	0.18
Chinese	11.00	0.04	11.00	0.00	0.00
France	10.00	0.04	9.00	1.00	0.10
Japan	9.00	0.03	6.00	3.00	0.33
Canada	9.00	0.03	5.00	4.00	0.44
Holland	8.00	0.03	7.00	1.00	0.13

TPC = Total number of publications by corresponding author's country, SCP = Single country publications, MCP = Multi-country publications, MCP_Ratio=MCP/TCP

Author Statistics

In Figure 4, the names and statistics of the top 10 authors who produced the most articles on labiaplasty and contributed the most to the subject are given. Gemma Sharp is the author who has published the most articles with 19 articles. However, in terms of Articles Fractionalized analysis, Christine A Hamori is the most contributing author (Articles Fractionalized=9.87). Articles published by Sharp outnumber those published by Hamori, but Sharp has a higher number of co-authors than Hamori. Therefore, although the number of articles is small, Hamori's contribution to the subject of labiaplasty was higher.

Figure 5 shows Author Production Over Time. Since there are no citations in the data from the Pubmed database, Web of Science and Scopus data were used in this analysis (296 articles in total). The size of the bubbles in the figure is proportional to the number of articles and the color tone is proportional to the number of citations. It is seen that Sharp, which is at the forefront in the total number of articles, published its first article in 2015 and the highest number of articles in 2016 (n=4). It can also be said that Sharp is the author with the highest number of citations per year. Sharp is followed by Cardozo L. It is seen that the highest rate of articles and citations on a yearly basis was in 2014. It is seen that Saharp G has published articles every year since 2015. It can be said that the author is the most influential author in this field with a citation rate of 19.00 in 2016.

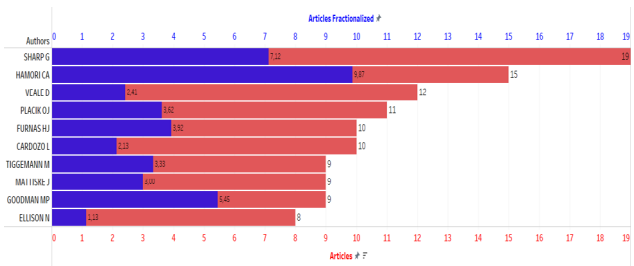

Figure 4: Top 10 Authors Who Produced and Contributed the Most Articles.

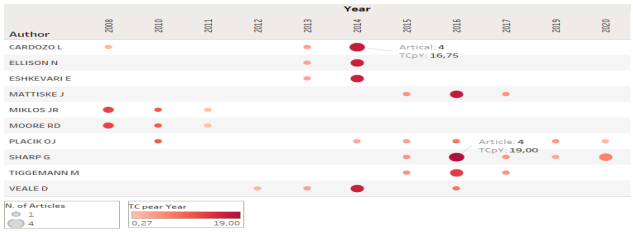

Figure 5: Authors' Production Over Time

Resource Statistics

According to the results of the analysis, information about the first 10 sources where labiaplasty studies were published is in Figure 6. Accordingly, the source that published the most articles on labiaplasty is the Aesthetic Surgery Journal with 58 articles. Aesthetic Surgery Journal is followed by the journal Plastic and Reconstructive Surgery with 35 articles. The Aesthetic Surgery Journal published the most articles on labiaplasty every year between 2013 and 2020, in 2016 (n=15). The largest number of articles were published in 2020.

The analysis results of the top 10 most effective sources in studies in the field of labiaplasty are given in Table 2. Since there is no citation analysis in the data obtained from the Pubmed database, Web of Science and Scopus data were used in this analysis (296 articles in total). The h-index and g and m-index can be used as criteria to identify the most effective sources. It can be said that the resource named Aesthetic Surgery Journal is the most effective resource in the field of labiaplasty. It is seen that this resource, whose total number of citations is 529, has the highest value in other indexes along with the h-index. In the second place, there is a resource named Plastic and Reconstructive Surgery, which has the highest number of citations but has lower index values.

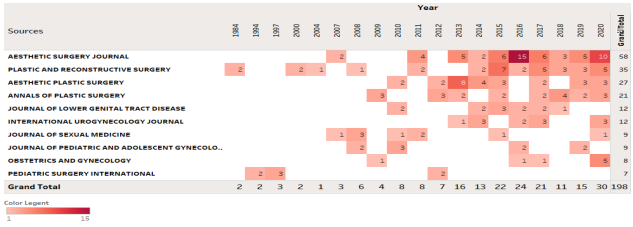

Figure 6: Performance of Resources Over Time

Figure 7: Most Frequently Used Keywords and Word Cloud

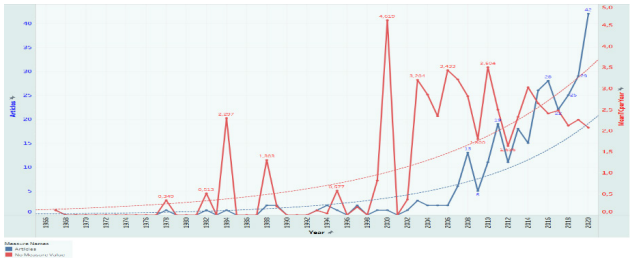

Figure 8: Annual Scientific Production and Citation

Table 2: Most Influential Resources (Top 10)

Source	h_ index	g_ index	m_ index	TC
Aesthetic Surgery Journal	14.0	22.0	0.9	529
Plastic and Reconstructive Surgery	13.0	16.0	0.3	624
Journal of Sexual Medicine	8.0	11.0	0.5	479
Aesthetic Plastic Surgery	7.0	14.0	0.6	205
Journal of Pediatric and Adolescent Gynecology	5.0	5.0	0.4	96
Journal of Lower Genital Tract Disease	5.0	6.0	0.4	47
International Urogynecology Journal	5.0	10.0	0.6	117
Annals of Plastic Surgery	5.0	9.0	0.4	96
Obstetrics and Gynecology	4.0	5.0	0.7	33
Journal of Cranio-Maxillofacial Surgery	3.0	4.0	0.1	81

TC: Total Citation

Frequency Analysis for Keywords

Frequency analysis for Keywords, Most Relevant Words and Word Cloud, made according to Authors Keyword and Keyword plus, are shown in Figure 7. The Word Cloud consists of the first 25 most frequently used words. Each word is colored with different colors. Word sizes are directly proportional to their frequency of use. The list of the first 10 words with the frequency of use is given in the form of a table. According to both Authors Keyword and Keyword plus, the most frequently used words were "humans" and "female". It is seen that the term labiaplasty, which is the subject of the research, is used separately in the Authors Keyword as labiaplasty and labiaplasty, but it is not used at all in Keyword Plus. The reason for this is that the search criteria are made to include Title, Abstract and Keywords.

Annual Citation Analysis

Annual Scientific Production and Citation Per Year analysis results on labiaplasty are shown in Figure 8. When the citations received by the articles are examined, it is seen that the most citations were made in 2000 (4,619 citations). It is observed that there is a fluctuating course in the number of articles and citations between 2003 and 2015. A Trend Line representing both article and citation counts has been added to the figure. As can be seen from the Trend Line, the number of articles published and cited tends to increase.

The cluster consisting of four parts in the thematic map analysis is shown in Figure 8. Accordingly, there were 13

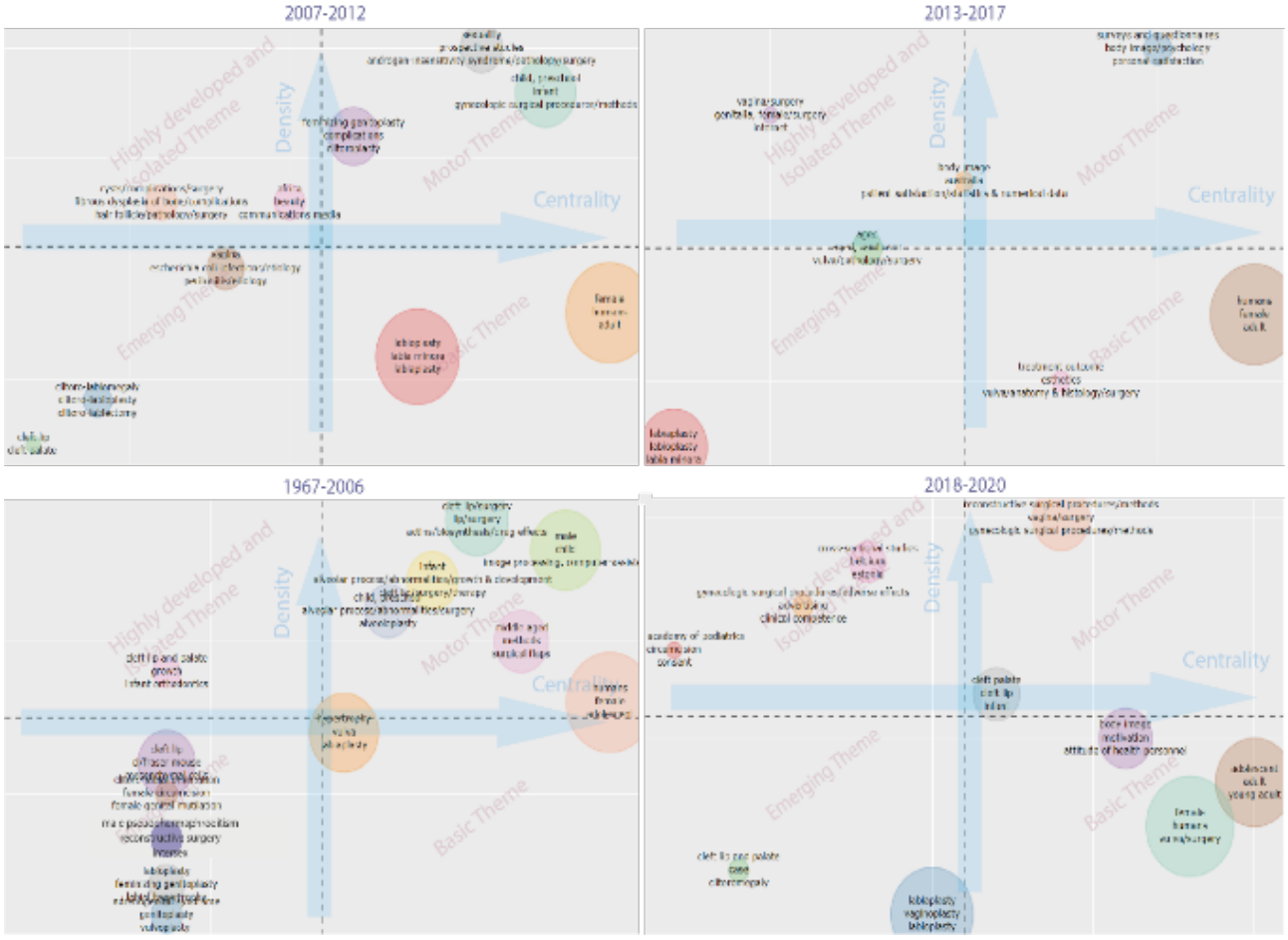

Figure 9: Thematic Map

clusters in the first period, 1967-2006, 10 clusters in the 2007-2012 period, 7 clusters in the 2013-2017 period, and 10 clusters in the 2018-2020 period. In the first period, it is seen that dense clustering is in the motor theme (Figure 9).

The cluster represented by the word "humans" and the word "female" in the second place was at the center of the period. In terms of density, it is in the middle. The word "adolescent", which was in the third place in the same cluster, left its place to the word "adult" in the next two periods. Recently, it is seen that the word "adult" has been replaced by the term "young adult".

It is seen that the word "labioplasty", which constitutes the search criterion of this study, is in the middle and within the main theme in terms of density, and close to the right and within the basic theme in terms of centrality. The word "labiaplasty" appears in the developing theme. It is assumed that it has just appeared.

In the next period, the term "labiaplasty" appears in the main theme, increasing its importance and development. In the second period, "labiaplasty" and "labiaplasty" are in the same cluster. In the third period, it is seen that both terms move away from the research area and are included in the same cluster as the developing theme. Recently, it is seen that both words have increased their importance and approached the basic theme by maintaining their development in the same cluster at the same level. The term "reconstructive surgical procedures/methods" is one of the most important and developed terms in research recently.

Discussion

Scientific publications are increasing rapidly in terms of quality and quantity. The volume of scientific literature is expanding in such a way that it is impossible to keep track of it. This situation has brought along the fact that the needed data can only be accessed by spending a lot of time and effort. Academicians need to access up-to-date data quickly. These needs and expectations have triggered the use of bibliometric methods.

Topics can be studied in depth using bibliometrics. Information such as scientists, published works, journals, countries and academic performances can be accessed. Bibliometric analysis provides to see the literature at one point. In addition, it gives information about the citation performances of the works.

In our study, the articles between the years 1967-2020 were examined. During this period, 480 articles matching the criteria of the study were reached. 391 of these articles are research articles. While the number of studies per author is 0.478, the number of

authors per study is 2.09.

Looking at the results of the Annual Scientific Production analysis, it is seen that there was no significant increase in the number of articles until 2006. The upward trend that started after this year still continues. This trend is important in that it overlaps with the historical development of labiaplasty. The first article about labiaplasty was published in the European Journal of Obstetrics and Gynecology in 1978 under the title of "Benign Enlargement of Labia Minora". It coincides with 1984 when the medical literature started to talk about cosmetic vaginal surgery and labiaplasty took place in this agenda. Most of the articles in the literature during this period were published in the Journal of Plastic Reconstructive Surgery. The Vaginal Rejuvenation operation, which was later to be patented and turned into a trademark, was carried out for the first time in 1996. At the beginning of the 2000s, labiaplasty began to reach large masses and increase its popularity. A smooth genital operation without visible inner lips, called "Barbie", was performed for the first time in 2005. The American College of Obstetricians and Gynecologists states that women should be informed about both the long-term benefits and potential risks and complications of labiaplasty. It published a paper on this subject in 2007 and discussed the procedure. In the article published in the British Journal of Medicine in 2011, it was reported that 40% of the women examined wanted Vaginal Rejuvenation. Labiaplasty procedures continue to increase rapidly every year. The graph obtained in our study confirms this historical course (20–22).

It has been determined that the USA has published approximately as many articles as the sum of the 10 countries that follow it. Canada stands out in terms of international studies. Countries that have a say in the academic field such as the USA, China, England and Germany are also leading the studies on labiaplasty. When all medical publications are taken into account, while the USA, China, England and Germany rank first in the world, Turkiye ranks 16th. According to the data of our study, it is noteworthy that Turkiye ranks fifth in terms of publications on labiaplasty. This situation shows the advanced level of Turkiye in aesthetic gynecology. It has been determined that Turkiye's cooperation with the USA and Germany comes to the fore (23).

A study investigating cosmetic procedures in 106 countries published by the International Society of Aesthetic Plastic Surgery (ISAPS) shows that significant advances have been made in the field of labiaplasty. It has been determined that labiaplasty is the fastest growing field of aesthetic surgery. According to the results of the research, while the number of labiaplasty procedures performed in 2016 increased by 45%, the countries with the highest number of labiaplasty procedures are the USA, Brazil, Russia, and Germany. Turkey is the sixth country with the highest number of labiaplasty applications after these countries. When the countries where the most general gynecological aesthetic operations are performed are examined, in addition to the countries listed above, Mexico, Colombia and Argentina draw attention. These issues were reflected in the research data. Clusters of cooperation between countries show that Australia, Brazil and Argentina, and the USA and Colombia are working together intensively (24).

The author Gemma Sharp, who has produced and contributed to the largest number of articles, has focused her studies on women's motivations for genital plastic surgery and the psychological consequences of this surgery. Research findings have been widely published in the international media. She is currently employed at Monash University's Monash Alfred Psychiatric Research Center she. However, in terms of Articles Fractionalized analysis, Christine A Hamori is seen as the author who contributed the most to the subject of labiaplasty.

When we look at the sources where labiaplasty studies are published, it is seen that the source that publishes the most articles is the journal named Aesthetic Surgery Journal. This journal is an international peer-reviewed journal focusing on scientific developments and clinical techniques in aesthetic surgery. The impact factor is 4.283. It is the official publication of the Aesthetic Society. It is also the official journal of the British Society of Aesthetic Plastic Surgeons, the Canadian Society of Aesthetic Plastic Surgery and the Rhinoplasty Society. It can be said that Aesthetic Surgery Journal is the most effective resource in the field of labiaplasty. It was determined that this journal received 529 citations in the analysis of the total number of citations. In addition, it is seen that it has the highest value in the g and m indexes, which are the other indices, together with the h-index.

The journal named Plastic and Reconstructive Surgery follows the Aesthetic Surgery Journal in terms of number of articles. The journal is the official publication of the American Society of Plastic Surgeons. Impact factor is 4,235. The journal has more citations than the first source. Despite this, it is placed in the second rank because its index values are lower.

These two journals are the publication organs of extremely important and effective organizations in which plastic and aesthetic surgeons who have a voice in the world are members. This explains the fact that journals stand out in terms of the number of articles published compared to others (25).

It is seen that the word "labioplasty", which constitutes the search criteria of this study, is in the middle in terms of density and close to the right in terms of centrality and within the basic theme. This is an expected result and reveals the quality of the data of our study. The main theme is the main focus of the study subject and the most repeated and most related words are included in this theme. Similarly, the term "labiaplasty" appears as the main theme in the next period.

In the third period, both terms moved away from

the research area and were included in the same cluster in the developing theme. In the last period, both words have kept their development in the same cluster at the same level, increasing their importance and approaching the basic theme. The reasons for these have been examined. Therefore, the results of labiaplasty were focused on in the third period covering the years 2012-2017. This has led to the shift of the term labiaplasty to the emerging theme. Instead of labiaplasty, terms such as "vulva anatomy" and "treatment outcome" emerged as the main theme. The last period, 2018-2020, is a period in which the labiaplasty trend is very high. This has resulted in the term getting closer to the main theme again. It is considered that the term "reconstructive surgical procedures/methods" has recently come to the fore among the developed and important terms in research, as a result of the rising trend of labiaplasty.

In our article, the subject of labiaplasty, which is the most interesting subject of the last period, has been analyzed in terms of science mapping. It is considered that our study will shed light on the studies in this field. A limitation of our research is the absence of citation data in the PubMed database. Because of this limitation, citation analyzes were performed on data obtained from other databases.

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