

CHAPTER 8

BIBLIOMETRIC ANALYSIS OF LABIAPLASTY PUBLICATIONS WITH SCIENCE MAPPING METHOD OR BIBLIOMETRIC ANALYSIS OF LABIAPLASTY

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INTRODUCTION

While surgical procedures for the female external genitalia were previously performed only for medical reasons, nowadays they are also performed for aesthetic purposes. The most common of these surgical procedures is labiaplasty (1.2). Labiaplasty is the surgical reduction or reshaping of the labia majors and minors, which is often used to provide symmetry between the labia minora (3). In addition to aesthetic complaints, difficulty in sexual intercourse due to labia minor hypertrophy, irritation when using clothes, discomfort during exercise and cycling are the main reasons for application of labiaplasty (4).

The number of labiaplasty surgeries is increasing every year. It was found that a total number of 14,368 labiaplasty procedures were performed in the United States in 2020, and this number increased by 11.5% compared to 2019 and 44.5% compared to 2015 (5). In a center in China, it was stated that the cases of labiaplasty increased by about 20% every year, and there was no decrease in women's applications due to aesthetic reasons even in the Covid-19 pandemic (6).

Depending on the development of time, the information obtained on any study subject is increasing rapidly. The relations between fields are also increased with the increase in the amount of information. Data is getting more and more complex with each passing day, as the fields overlap each other. The interweaving of all these fields and increased data makes it difficult to examine the research area properly, makes it impossible to examine structurally and to determine their

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orientation. In order to examine the research area with a holistic perspective, new research methods are needed.

Bibliometric methods, are used to evaluate the performance and research models of authors, journals, and countries, and to identify collaboration among them (7.8).

The concept of bibliometrics can be expressed as the mathematical and statistical quantitative analysis of studies and the relations between those studies, which were produced by individuals or institutions in a certain field, period and region. It is academically important to determine the studies carried out in any field, the development and changes of these studies in the process, and the trends that may occur. Especially nowadays, when the literature has become extremely comprehensive, the importance of correct analysis of data has increased. Bibliometric methods get involved at this point. Bibliometric methods are used to analyze large volumes of data in the literature. The analyzes contain information about a scientific discipline, the studied subject, academic institutions, countries, authors, cooperation between authors (9.10).

One of the main uses of bibliometric analysis is science mapping (Science Mapping). This concept aims to examine and visualize the relationships of elements such as universities, scientists and scientific works, which are at the base of scientific disciplines (11).

The aim of our study is to examine the articles about Labiaplasty with the science mapping technique.

MATERIAL AND METHOD

Research Framework

The research framework of the labiaplasty study subject is presented in Figure 1. In order to be able to make a bibliometric analysis of the labiaplasty, a database containing qualified data was selected. For this purpose, the Web of Science Core Collection (WoS) database, which is accepted in academic platforms, was preferred. WoS is considered one of the most comprehensive and qualified databases (12).

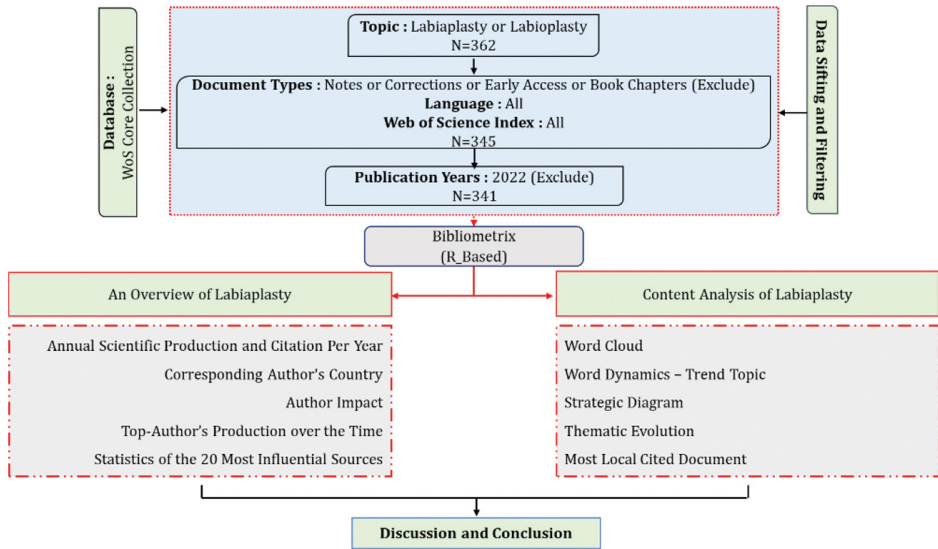


Figure 1. Workflow of Science Mapping

After the selection of the data set, the data were filtered. The WoS database was searched on 08 April 2022. Two spellings of the study area as “Labiaplasty and Labiaplasty” were also included in the data set. As a result of searching the database for Labiaplasty, 362 articles were found. The titles named “Notes or Corrections or Early Access or Book Chapters” were excluded from the study in order to extract irrelevant literature information and a total of 345 articles were reached. Finally, since the processes of the articles continued in 2022 in the current situation, the articles of 2022 were also excluded from the review and as a result, the study was conducted with 341 articles.

Bibliometric Analysis

The Bibliometrix program was used to perform the bibliometric analysis of the data obtained from WoS. Bibliometrix is an open source software written in R. It is one of the most commonly used programs for scientific literature mapping (13).

General Analysis of Articles

The reviewed articles were analyzed in two parts. In the first part, articles, journals, researchers and institutions on Labiaplasty and the countries where the studies were conducted were examined. H, g and m indices were calculated within the scope of the examinations. In the second part, the intellectual structure of the Labiaplasty was analyzed through content analysis. Word and citation analyzes were used in content analysis. The focus, main subjects and thematic development levels of the researches were determined by intellectual structure analysis.

The H-index or Hirsch index was built by Jorge Hirsch in 2005. 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 (14).

The G-index was created by Leo Egghe in 2006. The H-index does not use the average of the number of citations to measure the citation performance of an article. The G-index was developed to address this shortcoming. Contrary to the H-index, highly cited articles are considered more (15).

When evaluating the academic success of young scientists, the fact that their articles do not have enough time to be cited is not taken into account. This is one of the criticisms about the h-index. A realistic criterion for young scientists can be an impact factor. One way to compare academic histories of different lengths is to proportion the h-index to years of active academic study. Like the H-index, this index developed by Hirsch is called the m-index (16).

Within the scope of content analysis, a word cloud was created for the keywords of the articles on Labiaplasty using the Bibliometrix method. The word cloud is a graphical display of current headlines about Labiaplasty. With the help of the word cloud, different relationship areas and the most dominant terms can be determined (17).

Content Analysis of Articles

Thematic mapping

Thematic mapping reveals the temporal dynamics of research areas. The thematic development of labiaplasty research between 1984 and 2021 was analyzed from a dynamic perspective. The research period (1984-2021) was divided into four subsequent sub-periods. The first sub-period was determined as 30 years (1984-2013) due to limited publications in the early years. The second sub-term (2014-2016), the third sub-term (2017-2019) and the fourth sub-term (2020-2021) was divided into 3 years, 3 years and 2 years of time periods, respectively and was included in the analysis.

Thematic mapping was done with word analysis in the Bibliometrix program, and strategic diagrams were created. Keywords of the articles are used in word analysis. The keywords of the articles are determined by the authors and are chosen from the words that will best represent the article. Since the keywords represent the article, the dynamics of the study subject can be determined by performing keyword analysis (18).

A strategic diagram reflects the interaction of actors in a research field over a period of time, it is a static description of the network structure of a scientific field. The variable can be revealed at a deeper level by analyzing the temporal dynamics of various configurations or interactions between networks in the same time period (19).

In the word analysis, the most repeated keywords are shown as theme clusters. The first 250 keywords were used in the analysis. The words in the clusters are the keywords with the highest frequency of use in the cluster. The size of the clusters reflects the frequency of use of the keywords. The sub-periods are divided into four periods. Each period shows different themes and two criteria were used to scale the periods, namely the theme clusters. These are centrality and density. Density constitutes the y-axis of the thematic map and Centrality constitutes the x-axis. The centrality and the density grades the importance of the chosen theme and the development, respectively (20.21).

- “Motor Themes”, is the theme for the first quarter. It forms the upper right part. It denotes high density and centrality. Keywords in this theme have strong interlinking (22).
- “Highly Developed and Isolated Themes”, is the theme for the second quarter. It forms the upper left part. This theme expresses higher density and lower centrality. They are important for the development of the study subject (22).
- “Emerging or Declining Themes”, is the theme for the third quarter. It forms the lower left part. They are emerging or diminishing themes. This theme has low centrality and intensity (22).
- “Basic and Transversal Themes”, is the theme for the fourth quarter. It forms the lower right part. It has low density, high centrality. The keywords in this theme have strong interlinking. This theme contains words that are frequently repeated and have strong associations (22).

Thematic Evolution Map

The Sankey Diagram was used to construct the thematic evolution map. In this diagram, each junction represents a set of themes. The size of the nodes is directly proportional to the number of keywords. Flow lines between nodes point to the direction of evolution of theme clusters over time. The edge width of the node is the sum of the connected elements (23).

Citation Analysis

The development dynamics of research subjects can be examined with citation analysis. In our study, citation analysis was performed to analyze the articles about Labiaplasty and their relationships. Local Citations: can be defined as the number of citations made by the articles in the data set used for an article. The Global Citation shows the number of citations to the article from the WoS core database. It is necessary to eliminate the effect of time in citation analysis. Because newly published articles do not have enough time to be cited. Annual Local Citations (LC/YYP) and Annual Global Citations (GC/YYP) parameters are used to eliminate this effect (24).

RESULTS

Overview

It is seen that the first study on labiaplasty was made in 1984. The number of authors mentioned in 341 articles examined is 958, and the number of studies with a single author is 52. While the number of studies per author is 0.356, the number of authors per study is 2.81 and the collaboration index is 3.48.

Annual Scientific Production and Citation Per Year

Annual scientific production and average citation per year on labiaplasty between 1984-2021 were obtained using Bibliometrix as shown in Figure 2. It is seen that the number of articles in the field of labiaplasty did not increase significantly from 2001 to 2009. Since 2010, there has been a rapid increase in the number of articles published annually. While the annual number of articles was 1 in 1984, it reached to 40 in 2020. The most publications were made in 2020.

In our study, the trendline, the trendline equation and the R^2 -confidence coefficient were added to the annual scientific production numbers graph. It is considered that the trendline attached to the graph represents data values more strongly if the reliability coefficient value is closer to 1. Our reliability coefficient value was 0.91 and very close to 1 and represented the obtained data very well. The equation representing the trend line is presented on the graph.

When the average citation per article was examined, the highest annual average citations with a value of 4.3 were reached in the articles published in 2004. The average number of citations per year was 3.3 in 2007 and 2008. It is seen that the average citation per year maintain a certain level over the years. It can be said that the number of citations of the publications in recent years is significant, especially since more recent publications require time to be cited.

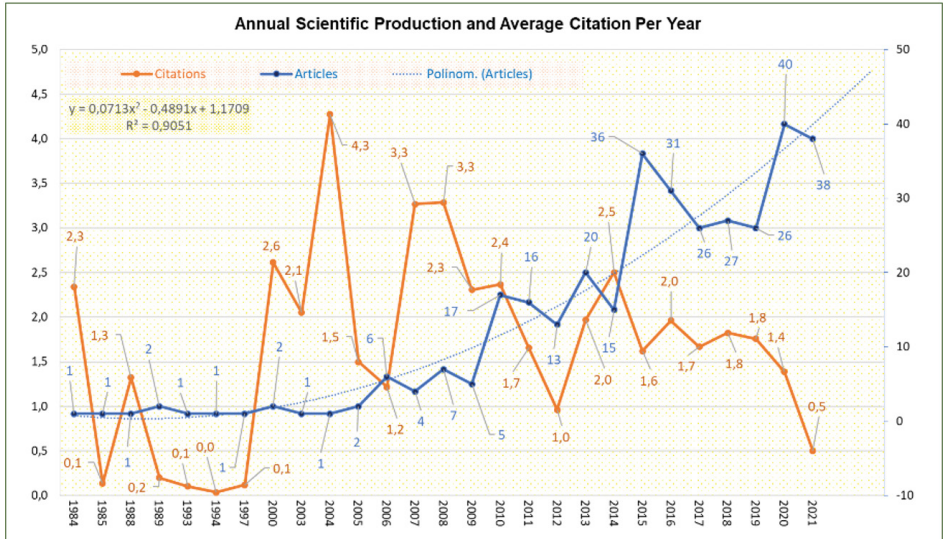


Figure 2. Annual Scientific Production and Citation Per Year

Country Statistics

Labiaplasty studies were analyzed in terms of countries. The top 20 countries are presented in Table 1. The table is given in order of total publication. According to the number of articles published in the field of labiaplasty, the USA, Australia, France, England, China and Turkey are among the leading countries.

While USA ranks first with 124 publications and Australia ranks second with 32 publications in single-country publications, USA ranked first with 115 publications and Australia ranked second with 28 publications in multiple country publications. The country with the highest MCP ratio, which is defined as the division of multiple country publications by the total publications number of the country, is Japan with a value of 0.6.

Table 1. Top 20 Countries in Labiaplasty Research

Country	TPC	SCP	MCP	MCP_Ratio
USA	124	115	9	0,0726
AUSTRALIA	32	28	4	0,125
FRANCE	18	17	1	0,0556
UNITED KINGDOM	17	16	1	0,0588
CHINA	14	14	0	0
TURKEY	11	9	2	0,1818
CANADA	10	6	4	0,4
ITALY	10	9	1	0,1
SWITZERLAND	8	5	3	0,375
EGYPT	7	6	1	0,1429
GERMANY	7	7	0	0
INDONESIA	6	6	0	0
DENMARK	5	5	0	0
JAPAN	5	2	3	0,6
NETHERLANDS	5	4	1	0,2
SPAIN	5	4	1	0,2
ARGENTINA	4	4	0	0
BRAZIL	4	4	0	0
INDIA	4	3	1	0,25
POLAND	3	3	0	0

TPC = Total number of publications by the corresponding author's country, SCP = Single country publications, MCP = Multiple country publications, MCP_Ratio=MCP/TPC

Author Statistics

The statistics of the top 20 authors who carried out the most influential studies on Labiaplasty between 1984-2021 are presented in Table 2. The table was created according to the h-index. In Table 2, the author's h-index, g-index, m-index, total citations (TC), total number of publications (NP), and first year of publication in the field of Labiaplasty (PY-baseline) are analyzed, respectively.

According to the analysis of the authors of the articles; The authors with the highest h-index value are Sharp G (8), Hamori CA (6) and Veale D (6). The authors with the highest G index are Sharp G (13) and Hamori CA (10). The authors with the highest M-index are Sharp G (1), Mattiske J (0.625) and Tiggemann M (0.625). The author with the highest total number of citations is Goodman MP (341) and the author with the highest total number of articles is Sharp G (13).

Canales FL, who has started academic publication life in 2017, draws attention with h-index (3), g-index (3), m-index (0.5), total number of citations (48) and total number of publications (3).

Figure 3 shows the performance of authors who published articles in the field of labiaplasty over time. Considering the length of the article publication line, the authors who published on Labiaplasty for the longest time are Placik OJ (2010-2021), Goodman MP (2009-2020) and Creighton SM (2010-2021).

Table 2. Statistics of the 20 Most Influential Authors in the Field of Labiaplasty Research

Author	h_index	g_index	m_index	TC	NP	PY_start
SHARP G	8	13	1	234	13	2015
HAMORI CA	6	10	0,6	113	10	2013
VEALE D	6	6	0,545	245	6	2012
GOODMAN MP	5	6	0,357	341	6	2009
MATTISKE J	5	7	0,625	191	7	2015
PLACIK OJ	5	7	0,385	267	7	2010
TIGGEMANN M	5	7	0,625	161	7	2015
CARDOZO L	4	4	0,4	179	4	2013
ELLISON N	4	4	0,4	179	4	2013
ESHKEVARI E	4	4	0,4	179	4	2013
HUNTER JG	4	5	0,333	52	5	2011
KAVOUNI A	4	4	0,4	179	4	2013
ROBINSON D	4	4	0,4	179	4	2013
ALTER GJ	3	5	0,2	177	5	2008
CANALES FL	3	3	0,5	48	3	2017
COSTA A	3	3	0,333	146	3	2014
FURNAS HJ	3	5	0,5	54	5	2017
LI AY	3	3	0,5	48	3	2017
MICHALA L	3	4	0,231	119	4	2010
MIKLOS JR	3	3	0,20	220	3	2008

Note: NP = Number of publications, TC = Total citations, PY_start = Publication year starting.

The size of the circles in the figure indicates the excess number of articles in that year. Sharp G reached 5 publications in 2016, making it the most published author in a year on the study of Labiaplasty. The darkness of the circles in the figure indicates the total amount of citations the author has received per year. Sharp G

reached the highest number of citations in 2016 with 19 citations. The fact that the author has received high citations in recent years shows his/her effectiveness in the field of Labiaplasty. Furnas HJ and Canales FL started their publication life in 2017 and made considerable publications in the field of labiaplasty in a short time and received citations.

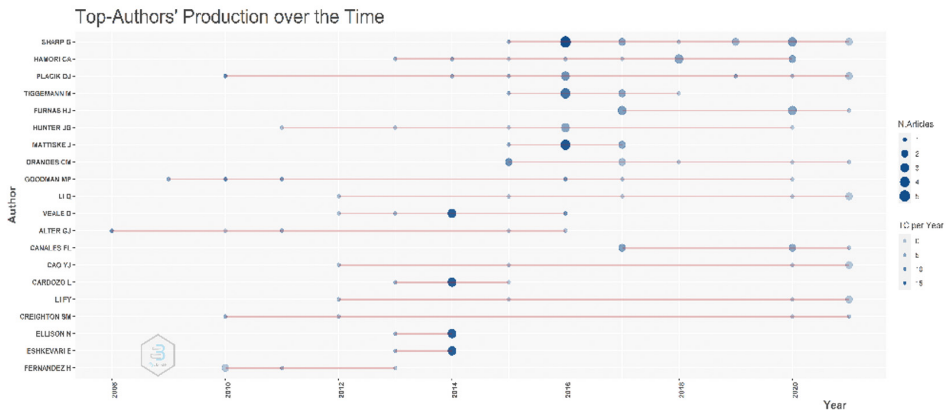


Figure 3. Production of Top Writers Over Time

Journal Statistics

Articles on labiaplasty have been published in a wide variety of journals. The analyzed 341 articles were published in 95 different journals. The number of articles and the journal's h-index were analyzed to identify the most influential journals in the field of Labiaplasty research.

Table 3 shows the top 20 journals according to the number of articles. 50.7% (173/341) of the total articles were published in these journals. Aesthetic Surgery Journal is the journal with the most publications, representing 11.7% (40/341) of the total articles. The most cited journal on labiaplasty is Plastic and Reconstructive Surgery (807).

In addition, the number of citations per article, which shows the ratio between the number of citations and the number of articles for each journal, was also analyzed. The Journal of Sexual Medicine offers the highest value, with an average of 46 citations per article. The journal with the highest h index is Plastic and Reconstructive Surgery (14), the journal with the highest g index is Plastic and Reconstructive Surgery (28) and the journal with the highest m index is Aesthetic Surgery Journal (1,2).

When the h index (2), number of citations (9) and number of publications (3) of the journal Plastic and Reconstructive Surgery-Global Open, which started its publication life in 2017, is evaluated; it is possible to say that it has become effective in the field of research very quickly.

Table 3. Statistics of 20 Most Influential Journals in the Field of Labiaplasty Research							
Element	PY_Start	h index	g index	m index	TC	NP	TC/ NP
AESTHETIC SURGERY JOURNAL	2011	14	22	1,2	576	40	14
PLASTIC AND RECONSTRUCTIVE SURGERY	1984	15	28	0,4	807	37	22
AESTHETIC PLASTIC SURGERY	2010	7	15	0,5	233	18	13
ANNALS OF PLASTIC SURGERY	2009	4	8	0,3	71	10	7
JOURNAL OF SEXUAL MEDICINE	2007	6	8	0,4	364	8	46
INTERNATIONAL UROGYNECOLOGY JOURNAL	2013	5	7	0,5	124	7	18
JOURNAL OF LOWER GENITAL TRACT DISEASE	2010	5	7	0,4	57	7	8
JOURNAL OF PEDIATRIC AND ADOLESCENT GYNECOLOGY	2008	5	7	0,3	106	7	15
BJOG-AN INTERNATIONAL JOURNAL OF OBSTETRICS AND GYNAECOLOGY	2007	4	6	0,3	159	6	27
JOURNAL OF PLASTIC RECONSTRUCTIVE AND AESTHETIC SURGERY	2009	3	4	0,2	136	4	34

Table 3. Statistics of 20 Most Influential Journals in the Field of Labiaplasty Research (CONTINUES)

AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY	2014	3	3	0,3	43	3	14
BODY IMAGE	2014	3	3	0,3	45	3	15
CURRENT SEXUAL HEALTH REPORTS	2019	1	1	0,3	3	3	1
FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY	2013	3	3	0,3	21	3	7
GYNECOLOGIE OBSTETRIQUE & FERTILITE	2012	2	3	0,2	13	3	4
JOURNAL OF CRANIO-MAXILLOFACIAL SURGERY	1989	3	3	0,1	64	3	21
OBSTETRICS AND GYNECOLOGY	2009	2	3	0,1	72	3	24
PEDIATRIC SURGERY INTERNATIONAL	1994	1	2	0,0	5	3	2
PLASTIC AND RECONSTRUCTIVE SURGERY-GLOBAL OPEN	2017	2	3	0,3	9	3	3
ANNALES DE CHIRURGIE PLASTIQUE ESTHETIQUE	2010	2	2	0,2	18	2	9

NP = Number of publications, TC = Total citations, TC/NP = Citations per paper, PY_start = Publication year starting,

Content Analysis

In this section, keyword analysis and citation analysis were performed using bibliometric methods to identify the main elements of the Labiaplasty study subject.

Frequency Analysis for Keywords

Bibliometrix was used to obtain data on the keyword frequency (repetitions) of the labiaplasty study subject and the data obtained are presented in Figure 4. The word cloud is a graphical display of the latest subjects in the study field of Labiaplasty. In Figure 4, the top 50 emerging keywords preferred by the authors are visualized. The size of the keywords in the image is directly proportional to the frequency of their appearance in the data set.

The most used keywords are “labiaplasty” and “labia minora”. However, keywords such as “female genital cosmetic surgery”, “labia minora reduction”, and “labial hypertrophy” draw attention in the word cloud. On the right side of the figure, the number of usage of the 10 most used keywords is shown.



Figure 4. Word Cloud and Number of Repetitions of Keywords in the Labiaplasty Research Area

KEYWORDS TREND ANALYSIS

The change and trend of author keywords over time is presented in Figure 5. In order to analyze the labiaplasty issue in different time periods, the time period from 1997 to 2021 is divided into five equal time zones. The first ten keywords of the authors were examined. From 1997 to 2021, the amount of use of all keywords were increased. While the word labiaplasty was used twice between 2002-2006, it was used 331 times between 2017-2021. The keywords labia minora, labiaplasty and labial hypertrophy are increasingly used together with labiaplasty.

The upper graph in Figure 5 shows the change in the amount of usage of 10 keywords over time, and the lower graph shows the years in which the keywords are used frequently. While the keywords of hypertrophy, labia reduction and

cosmetic genital surgery were used more frequently in the 2010s, the keywords of female, female genital mutilation and clitoris were used more frequently today.

The keyword of labiaplasty (88) and the keyword of labia minora (36) reached the highest number of uses in 2017 and 2021, respectively.

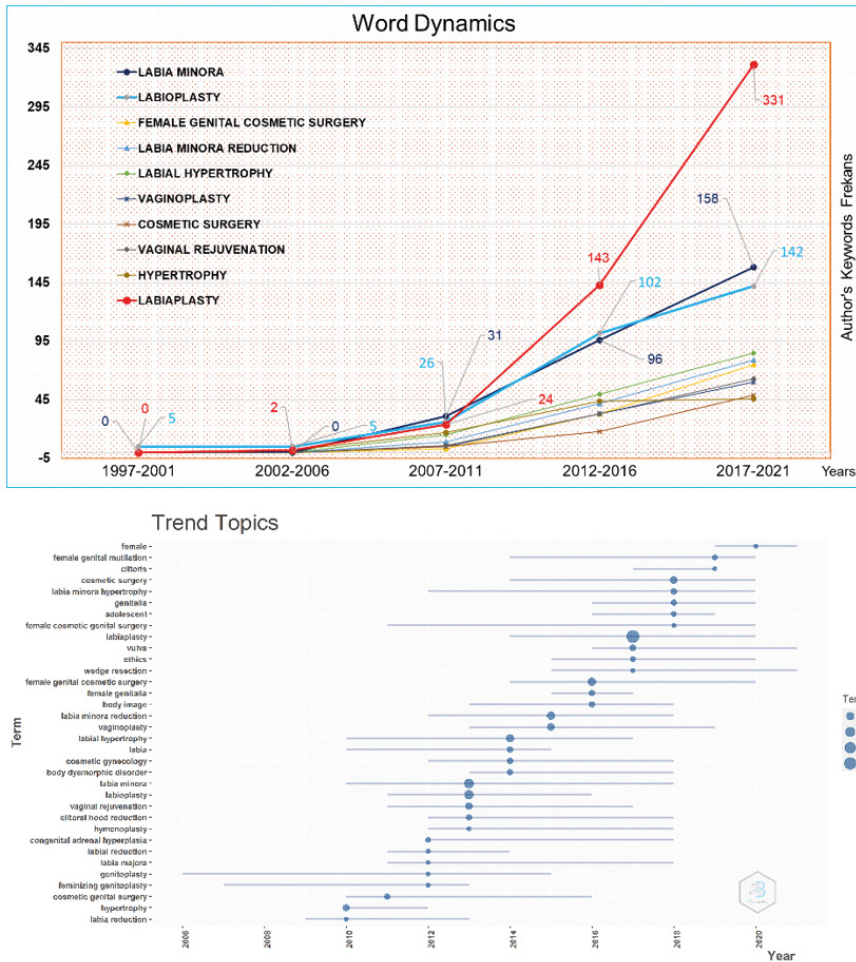


Figure 5. The Change and Trend of Keywords in the Field of Labiaplasty according to Keyword Frequency

Thematic Development Analysis

Strategic diagrams of labiaplasty study subject are presented in Figure 6.

“Engine Themes” is the 1st quarter theme and is located in the upper-right section. In the 2020-2021 period, “cosmetic surgery, vulva” keywords presented the first

cluster and the second cluster was presented by the following keywords “female, genitalia”.

“Highly Developed and Isolated Themes” is the 2nd quarter theme and is located in the upper-left section. No themes emerged from the keywords in the 2020-2021 period.

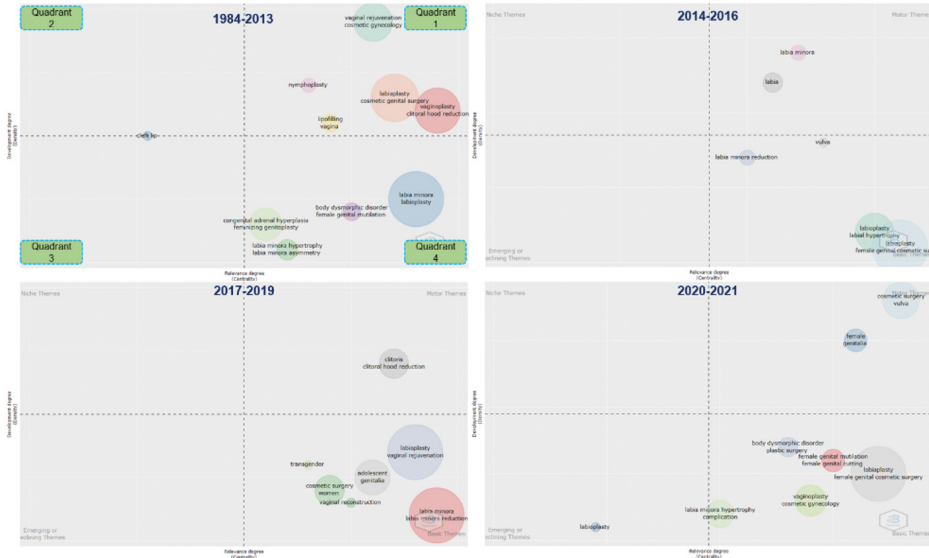


Figure 6. Strategic Diagram for Labiaplasty Research (1984–2021)

“Emerging or Declining Themes” is the 3rd quarter theme and it is in the lower-left part of the thematic map. In the years 2020-2021, the keyword “labiaplasty” represented the first cluster.

“Basic and Transversal Themes” is the 4th quarter theme and is located in the lower right part of the thematic map. In the 2020-2021 period, “labiaplasty, female genital surgery”, “vaginoplasty, cosmetic gynecology”, “labia minora hypertrophy, complication”, “female genital mutilation, female genital cutting” and “body dysmorphic” keywords represented the first, second, third, fourth and fifth clusters, respectively.

In addition to the four-term Thematic Map, the four-term thematic evolution mapping presented in Figure 7 was used to evaluate the development and change of labiaplasty themes over the years.

The principles in Figure 6 were used while creating the Thematic Evolution Map in Bibliometrix. When the diagram is examined, there are 4 themes in the

first period, 6 themes in the second period, 5 themes in the third period and 6 themes in the last period. Since the width of the node is proportional to the size of the associated keywords, Labiaplasty fed more keywords in the 1984-2013 period, although it is present in every period. While it was fed from the keyword “labia minora” in the period of 2014-2016, it fed the “adolescent” keyword.

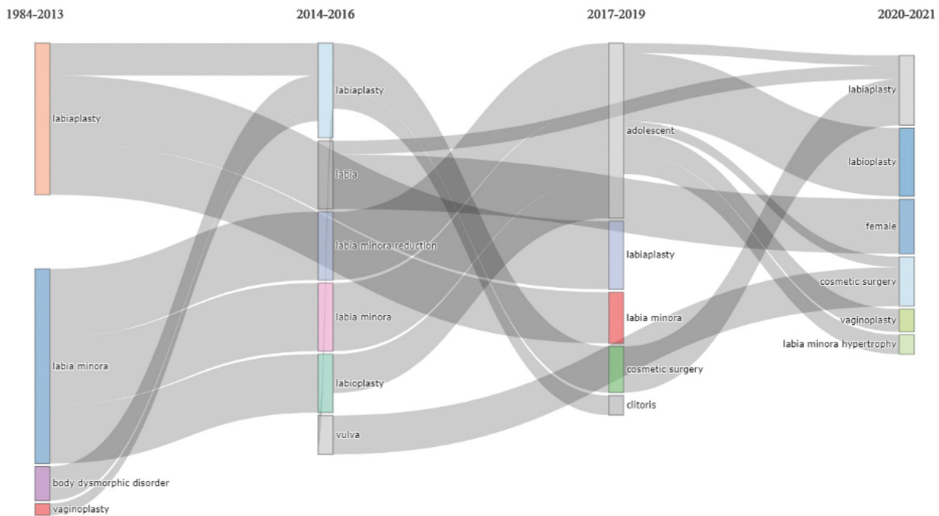


Figure 7. Thematic Development of Labiaplasty Research (1984–2021)

While the last period of 2020-2021 was fed by the keywords “adolescent, labia, cosmetic surgery”, the keywords “labiaplasty, female, cosmetic surgery, vaginoplasty, labia minora hypertrophy” matured in the sub-periods and took place as a theme.

Citation Analysis

In Table 4, the 20 most cited articles on the study of Labiaplasty are listed according to their local citation (LC) numbers. “Alter GJ, 2008” article and “Goodman MP, 2010” article have been listed as the most effective articles on the field of Labiaplasty with 98 local citations and 134 general citations, respectively. The most cited article in recent years belongs to “Goodman MP, 2016” with LC (43) and GC (59) values. Annual Local Citations (LC/YYP) and Annual Global Citations (GC/YYP) concepts have been used to eliminate the disadvantage caused by the limited citation time of the articles published in recent years. The article with the highest LC/YYP value is “Alter GJ, 2008”, and the article with the highest GC/YYP value is “Goodman MP, 2010”.

Table 4. 20 Most Cited Local Articles in the Field of Labiaplasty

Document	YP	LC	LC/ YYP %	GC	GC/YYP %	LC/GC Ratio %
ALTER GJ, 2008, PLAST RECONSTR SURG	2008	98	7,000	128	9,143	76,56
CHOI HY, 2000, PLAST RECONSTR SURG	2000	78	3,545	100	4,545	78,00
GOODMAN MP, 2010, J SEX MED	2010	71	5,917	134	11,167	52,99
HODGKINSON DJ, 1984, PLAST RECONSTR SURG	1984	69	1,816	89	2,342	77,53
GIRALDO F, 2004, PLAST RECONSTR SURG	2004	61	3,389	77	4,278	79,22
MIKLOS JR, 2008, J SEX MED	2008	59	4,214	83	5,929	71,08
VEALE D, 2014, PSYCHOL MED	2014	47	5,875	59	7,375	79,66
ORANGES CM, 2015, AESTHET SURG J	2015	47	6,714	64	9,143	73,44
MOTAKEF S, 2015, PLAST RECONSTR SURG	2015	45	6,429	59	8,429	76,27
PARDO J, 2006, INT J GYNECOL OBSTET	2006	43	2,688	59	3,688	72,88
GOODMAN MP, 2016, AESTHET SURG J	2016	41	6,833	53	8,833	77,36
BRAMWELL R, 2007, BJOG-INT J OBSTET GY	2007	40	2,667	64	4,267	62,50
SHARP G, 2016, AESTHET SURG J	2016	40	6,667	49	8,167	81,63
LIAO LM, 2010, BJOG-INT J OBSTET GY	2010	39	3,250	67	5,583	58,21
BRAUN V, 2010, J WOMENS HEALTH	2010	39	3,250	107	8,917	36,45
KATO K, 1988, UROLOGY	1988	38	1,118	45	1,324	84,44
ELLSWORTH WA, 2010, AESTHET PLAST SURG	2010	37	3,083	43	3,583	86,05
VEALE D, 2014, INT UROGYNECOL J	2014	37	4,625	57	7,125	64,91
LISTA F, 2015, AESTHET SURG J	2015	34	4,857	37	5,286	91,89
GOODMAN MP, 2011, J SEX MED	2011	33	3,000	84	7,636	39,29

Year of Publication (YP), Local Citations (LC), YYP= Year 2022-Year of Publication, Global Citations (GC)

Another concept developed for the most cited authors is Local Citation Percentage. According to the percentage of Local Citations, the most influential article is “Lista F, 2015” with a value of 91.89%.

CONCLUSION

In this study, it is aimed to examine the articles about labiaplasty, which is frequently used and interesting in female genital surgery, with the science mapping technique. Within the scope of the research, 341 articles published between 1984-2021 in the WoS database were examined.

It was found that the first article on labiaplasty was in 1984 and the articles increased especially after 2010 and were published mostly in 2020 (40 articles). The increasing demand for labiaplasty for medical or aesthetic purposes (25,26) is also effective in increasing the number of academic studies on this subject.

USA, Australia, France, England, China and Turkey are among the leading countries when countries are evaluated according to the number of articles published in the field of labiaplasty. The USA ranks first in the total number of publications (124), single-country (115) and multiple-country (9) publications. The country with the highest MCP ratio, which is defined as the division of multiple-country publications by the total number of publications of the country, is Japan with a value of 0.6.

In terms of authors, the highest number of citations is cosmetic gynecologist Goodman MP (341) from the USA, and the highest total number of articles is published by Sharp G (13) from Monash University Psychiatry Research Center, Australia. Plastic surgeon Canales FL from Stanford University, who started publishing in this field a few years ago (2017), is a remarkable researcher with his h-index (3), g-index (3), m-index (0.5), total number of citations (48) and total number of publications (3).

When evaluated in terms of journals, it was seen that 341 articles were published in 95 different journals, and Aesthetic Surgery Journal was the journal with the most publications on this subject (11.7% of the total articles). The most cited journal on labiaplasty is Plastic and Reconstructive Surgery (807). The Journal of Sexual Medicine offers the highest value, with an average of 46 citations per article. On the other hand, Plastic and Reconstructive Surgery-Global Journal draws attention with the number of citations and publications on this subject, although it started its publication life in 2017. It makes us think that journals with high impact factors and being the official journals of professional societies are effective in their preference and leading in this field.

As expected, the most frequently used keyword in the field of labiaplasty is “labiaplasty” and it was used 331 times in publications between 2017-2021. Labia minora, labiaplasty, female genital cosmetic surgery, labia minora reduction and labial hypertrophy are the other most common keywords. While the keywords of “hypertrophy, labia reduction and cosmetic genital surgery” were used more frequently about Labiaplasty in the 2010s, the keywords of “female, female genital mutilation and clitoris” are used more frequently today. Female circumcision, which means cutting the clitoris and external genitalia of women for cultural reasons and without medical need, is still practiced in some underdeveloped countries, especially in Africa. It is estimated that 200 million women worldwide are circumcised and 3 million women are at risk (Sakeah &ark., 2018). It is evaluated that these topics/keywords are discussed in order to draw attention to female circumcision, which is accepted as one of the types of violence against women, to scientifically demonstrate that it does not benefit and to prevent it.

Considering the citation analysis, “Alter GJ, 2008, Aesthetic labia minora and clitoral hood reduction using extended central wedge resection” and “Goodman MP, 2010, A large multicenter outcome study of female genital plastic surgery” were accepted as the most effective articles on Labiaplasty study by reaching the local citation number of 98 and general citation number of 134, respectively. The most cited article is “Goodman MP, 2016, Evaluation of body image and sexual satisfaction in women undergoing female genital plastic/cosmetic surgery” with LC (43) and GC (59) values.

It is evaluated that this research is original and will contribute to science in terms of its research subject and science mapping with R-based Bibliometrix analysis method.

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