

Trends In Publications of Review of Literature In Prosthodontic Journals - A Five Year Retrospective Study

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Abstract

Introduction: Review articles are the mirrors of published scientific literature. Retrospective study of these helps to determine the scientific growth and development in Prosthodontics. Also, there seems to be a need to explore current publication trend for literature in the field of Prosthodontics.

Purpose: Evaluate and analyse the publication trend in five highly indexed prosthodontic journals in the last five years.

Material And Method: Study was carried out for five highly indexed prosthodontic journals- Journal of Prosthetic Dentistry, Journal of Indian Prosthodontic Society, Journal of Prosthodontic Research, Journal of Advanced Prosthodontics, International Journal of Prosthodontics and Restorative Dentistry. All the

published articles were assessed, excluding the editorials, annual & book review, panel discussion, tips from readers and Glossary of Prosthodontic Terms. Data was interpreted to evaluate total number of articles, types of studies & the trends in publication in last five years in each of the five journals.

Results: Total of 2264 articles were published, out of which 135 articles were review articles that is six percent. The other 94% were the original research and case reports. Out of six percent of review articles, the 34.07% share were for Implantology and 2.96% were for Removable Partial Dentures.

Conclusion: Within the limitations of this study, it was concluded that there is an increase in review literature for the field of Implantology and a gradual downfall in the field of Removable Prosthesis. Increased application of

new technologies and new materials is evident with 25.18% of literature on topics of dental materials and with 8.88% of recent technologies. Hence, the prosthodontic research looks more inclined towards implantology, dental materials, fixed prosthesis, full mouth rehabilitation & occlusion and temporomandibular joint.

Keywords: Journals, Review Literature, Publication Trends, Retrospective Study.

Introduction

Dentistry has evolved over a period of time in its institutional and private practice much faster than expected in recent future. It could be either evidence based learning, teaching and even scientific research and publication. Institutional level research or individual clinical work publication is one of the major ways of reaching out to the scientific community and one of the recommendations of the Institute of Medicine in 1995.^[1] Research activities are representation of the development of a speciality. The level of growth and development of a particular specialty depends on the publication of the research works.^[2]

The topics of interest in research, review & case report have been in the phase of swift transformation from conventional model to newer trends, with utilization of new software, equipment and instruments.^[2] But, the huge quantitative growth in the research publication has raised many questions about the area of focus and qualitative publication and its systematic analysis. Trends and focus area needs to be assessed from time to time to understand the direction of growth of publication and its possible benefits and ill effects can be brought to the knowledge of the scientific community either for redirecting it or setting it as a new agenda in research work and publication for future generation.

There are numerous Prosthodontics speciality journals. Various Prosthodontic related articles are published in

many general dentistry journals also. There is very little evidence available about the quantitative and qualitative growth of prosthodontic research work publication. Hence, there arises necessity to review, analyse and assess the area of focus and the trend of publication in the prosthodontic field in a very simple scientific systematic manner so that one can understand the trend of publication in scientific journal. In scientific journals, the publications are examined ranging from review of literature and formulation of the research questions to ethics review and concluded that more detailed clarification is needed for better understanding.^[3]

In the beginning of the 21st century, several studies evaluated the quantity and quality of biomedical research publications globally.^[4-10] Specific bibliometric analysis has been conducted on published research in various fields.^[6-10] Publication is one of the paramount method of enlightening the scientific community about the latest developments in the scientific world.^[11] For the growth in the original research work as well as in day-to-day clinical practice, the most crucial element is the literature of the particular subject. Review articles are useful for both instructional and curricular developers and for researchers to identify critical issues to be built.^[2] Hence, it can be stated that the review articles are mirrors of the scientific work published.

The present study aims to evaluate and analyse the publication trend in five highly indexed prosthodontic journals - Journal Of Prosthetic Dentistry (JPD), Journal Of Indian Prosthodontic Society (JIPS), Journal Of Advanced Prosthodontics (JAP), Journal Of Prosthodontic Research (JOPR) & International Journal Of Prosthodontics And Restorative Dentistry (IJOPRD) - from January 2014 to December 2018 as far as review articles are concerned.

Materials and Methods

Source of data: Retrospective study was conducted to analyze, interpret and critically evaluate the literature in the field of prosthodontics; the design of this study was totally based on five highly indexed prosthodontic journals namely Journal Of Prosthetic Dentistry (JPD), Journal Of Indian Prosthodontic Society (JIPS), Journal Of Advanced Prosthodontics (JAP), Journal Of Prosthodontic Research (JOPR) & International Journal

Of Prosthodontics And Restorative Dentistry (IJOPRD). The back volumes of most commonly referred Prosthodontic journal among the dental faculty are selected from the Navodaya Central Library and cross checked with journal website.

Method of Collection Of Data: Manual and Electronic search from Navodaya Education Trust Central Library and Website of respective journals from January 2014 to December 2018

Evaluation Chart- Selection of Journals and Data Extraction

❖ JPD ❖ JIPS ❖ JAP ❖ JOPR ❖ IJOPRD	❖ six volumes ❖ 150 issues ❖ Two supplementary issues
Total number of articles published – 2264	
Inclusion Criteria ❖ Review literature published between January 2014 to December 2018.	Exclusion Criteria ❖ Editorials ❖ Annual & book review ❖ Panel discussion ❖ Tips from readers. ❖ GPT 9
Total number of original research articles published – 1785 Total number of case reports published - 344 Total number of review articles published – 135	

For the selected articles, full texts were studied for gaining information about topic of the evaluation. The study was carried out manually, hence for the ease of analysis; the preliminary screening was done by segregating the topics

of published articles on the basis of the major fields of prosthodontics. The fields were grouped under nine broad categories and were abbreviated as codes mentioned in

Table 1.

Table 1 - Coding System For Segregation Of Topics

S. N.	Code	Content
1	I	Complete Denture & Overdenture
2	II	Removable partial Denture
3	III	Fixed Partial Denture
4	IV	Implants

5	V	Maxillofacial Prosthesis
6	VI	Full Mouth Rehabilitation and Occlusion
7	VII	TMJ
8	VIII	Basics & Dental Materials
9	IX	Recent Technologies (CBCT, CAD/CAM, Laser, 3D Printing, Forensic Odontology)

All the data obtained from the required sources was arranged systematically in the tabulated forms on the basis of each journal and year considered in the evaluation.

Results

Results showed that least number of articles was published as review articles followed by case reports and highest number for original research. Amongst all the published literature, the original research articles occupied a total of 79% slots and the review articles occupied only 6%.

Total number of articles published and the fluctuating trends in the literature of prosthodontics in last five years were statistically analyzed.

JPD has the most number of articles published and IJOPRD has the least number of total articles published among the five respective journals from year 2014- 2018 as depicted in Table 2.

Table 2: Total No. Of Articles Published In Each Journal From 2014 – 2018

Name of The Journal	Review Articles	Case Reports	Research Article	Total Number
JPD	55(4.51)	177(14.53)	987(81.03)	1218 (53.79)
JIPS	32(8.89)	99(27.5)	229(63.61)	360 (15.90)
JAP	6(1.74)	11(3.19)	327(95.05)	344 (15.19)
JOPR	33(14.53)	16(7.04)	178(78.41)	227 (10.02)
IJOPRD	9(7.89)	41(35.96)	64(56.14)	114 (5.03)
Total Number	135(5.96)	344(15.19)	1785(78.84)	2264 (100)

Table 3: Year Wise Segregation of Total No. Of Articles of Five Journals

Year	Name of Journal	Papers- N (%)			Total Number
		Review Articles	Case Reports	Research Articles	
2014	JPD	3(0.91)	39(11.8)	286 (87.19)	328
	JIPS	10 (8.40)	49 (41.17)	60 (50.42)	119
	JAP	3(3.94)	4(5.26)	69 (90.78)	76
	JOPR	8(25.80)	4(12.90)	19(61.29)	31
	IJOPRD	2 (8.33)	9 (37.5)	13(54.16)	24
	TOTAL	26(4.49)	105(18.16)	447 (77.33)	578
2015	JPD	12 (5.79)	28(13.52)	167(80.67)	207
	JIPS	6 (10)	9(15)	45 (75)	60

	JAP	1 (1.44)	2 (2.89)	66 (95.65)	69
	JOPR	5(18.51)	2(7.40)	20 (74.07)	27
	IJOPRD	3 (13.63)	7 (31.81)	12 (54.54)	22
	TOTAL	27 (7.01)	48 (12.46)	310 (80.51)	385
2016	JPD	11(5.09)	38(17.59)	167(77.31)	216
	JIPS	6(8.82)	20(29.41)	42(61.76)	68
	JAP	0	3(4.28)	67(95.71)	70
	JOPR	7(17.5)	5(12.5)	28(70)	40
	IJOPRD	2(8.69)	10(43.47)	11(47.82)	23
	TOTAL	26(6.23)	76(18.22)	315(75.53)	417
2017	JPD	12(5.68)	27(12.79)	172(81.51)	211
	JIPS	6(10.16)	12(20.33)	41(69.49)	59
	JAP	1(1.44)	2(2.89)	66(95.65)	69
	JOPR	3(5.56)	1(1.85)	50(92.59)	54
	IJOPRD	2(8.33)	8(33.33)	14(58.33)	24
	TOTAL	24(5.75)	50(11.99)	343(82.25)	417
2018	JPD	17 (6.61)	45(17.50)	195(75.87)	257
	JIPS	4(7.40)	9(16.66)	41(75.92)	54
	JAP	1(1.66)	0	59(98.33)	60
	JOPR	4(5.34)	10(13.34)	61(81.34)	75
	IJOPRD	0	7(33.34)	14(66.67)	21
	TOTAL	26(5.56)	71(15.2)	370(79.22)	467

Table 3 reveals that maximum number of articles were published in the year 2014 followed by 2018, 2016, 2017 and 2015 in that order.

Table 4: Year Wise Segregation of Review Articles of Five Journals

Year	Name of Journal	Codes									Total Number
		I	II	III	IV	V	VI	VII	VIII	IX	
2014	JPD	0	0	1	1	0	0	0	1	0	3
	JIPS	1	0	0	4	1	1	1	2	0	10
	JAP	1	0	0	0	0	0	0	2	0	3
	JOPR	0	2	0	0	0	0	0	5	1	8

	IJOPRD	0	0	0	1	0	0	0	0	1	2
2015	JPD	1	0	1	5	0	1	0	4	0	12
	JIPS	1	0	0	1	0	1	1	1	1	6
	JAP	0	1	0	0	0	0	0	0	0	1
	JOPR	0	0	0	2	0	0	0	3	0	5
	IJOPRD	0	0	0	0	0	0	0	2	1	3
2016	JPD	1	0	2	6	0	0	0	1	0	10
	JIPS	1	0	0	2	0	1	0	1	1	6
	JAP	0	0	0	0	0	0	0	0	0	0
	JOPR	0	0	0	2	0	1	0	2	2	7
	IJOPRD	0	0	0	0	1	1	0	0	0	2
2017	JPD	3	1	2	5	0	0	0	2	0	13
	JIPS	0	0	0	2	1	0	2	1	0	6
	JAP	0	0	1	0	0	0	0	0	0	1
	JOPR	0	0	0	1	0	0	0	2	0	3
	IJOPRD	0	0	0	0	1	0	0	0	1	2
2018	JPD	0	0	1	7	0	0	1	4	4	17
	JIPS	0	0	0	3	1	0	0	0	0	4
	JAP	0	0	0	0	1	0	0	0	0	1
	JOPR	2	0	3	4	0	0	0	1	0	10
	IJOPRD	0	0	0	0	0	0	0	0	0	0

Table 4 reveals that the maximum number of review articles published in 2014 (26) and year 2016 and 2017 comprised of the least articles published in 2018 (32) followed by 2015 (27), and 2014 (26) and year 2016 and 2017 comprised of the least number of review articles (25).

Table 5: Total No. Of Review Articles Published In Each Journal from 2014 – 2018

	2014	2015	2016	2017	2018	Total
JPD	3(5.45)	12(21.81)	10(18.18)	13(25.63)	17(30.90)	55
JIPS	10(31.25)	6(18.75)	6(18.75)	6(18.75)	4(12.5)	32
JAP	3(50)	1(16.67)	0	1(16.67)	1(16.67)	6
JOPR	8(24.24)	5(15.15)	7(21.21)	3(9.09)	10(30.30)	33
IJOPRD	2(22.22)	3(33.33)	2(22.22)	2(22.22)	0	9

Graph 1: Total No. Of Review Articles Published In Each Journals From 2014 To 2018

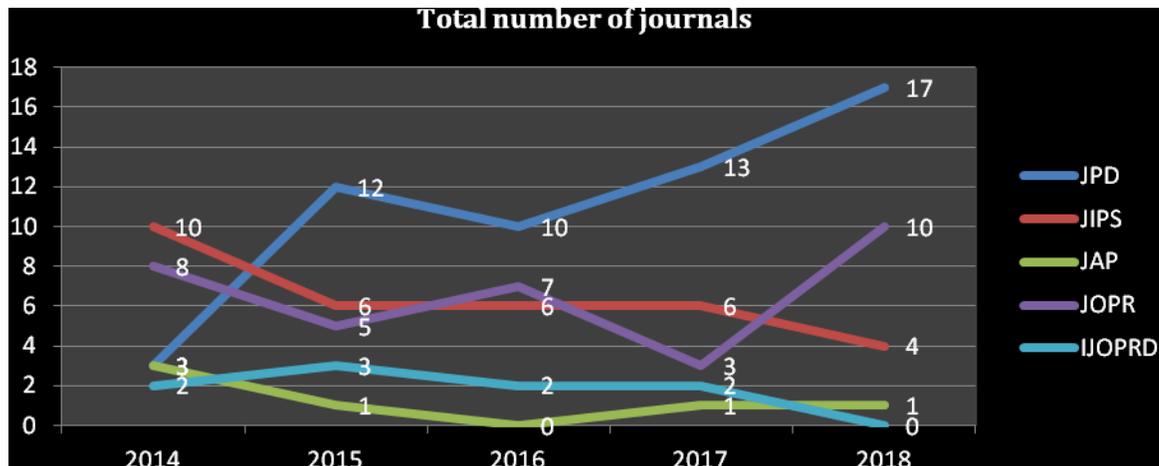


Table 5 and Graph 1 reveals the highest number of review articles published in JPD (55) followed by JOPR (33), JIPS (32) and the least for IJOPRD (9) as well as JAP (6).

Table 6: Topic Wise Segregation for Five Journals For Five Years

Sr. No.	Code	Name Of The Journal					Total Number
		JPD	JIPS	JAP	JOPR	IJOPRD	
1	I	5 (45.45)	3 (27.27)	1(9.09)	2 (18.18)	0	11(8.14)
2	II	1(25)	0	1 (25)	2 (50)	0	4 (2.96)
3	III	7(70)	0	1(10)	3 (30)	0	11 (8.14)
4	IV	24 (52.17)	12(26.08)	0	9 (19.56)	1 (2.17)	46 (34.07)
5	V	0	3(50)	1(16.67)	0	2(33.33)	6 (4.44)
6	VI	1(16.67)	3 (50)	0	1(16.67)	1(16.67)	6 (4.44)
7	VII	1(20)	4 (80)	0	0	0	5 (3.70)
8	VIII	12(34.28)	5(14.28)	2(5.71)	13 (37.14)	2(5.71)	34 (25.18)
9	IX	4 (33.33)	2 916.67)	0	3(25)	3 (25)	12 (8.88)

Table 6 reveals the most number of articles in review literature were published for implant dentistry (46), followed by basic sciences and dental materials (34), recent advancements and technologies (12), complete

Discussion

It is observed that there is a meagreness of information about publication trends in the field of prosthodontics. This study interpreted that there is a huge variation in the type of articles being published in the highly indexed journals. Out of 2264 total number of articles considered

denture & fixed partial denture (11), maxillofacial prosthesis and full mouth rehabilitation & occlusion (6), TMJ (5), removable partial denture (4).

for this study, 1785 were original articles followed by 344 case reports and 135 review articles. It indicates 6% of review literature and 94% of case report and original research as depicted in Table 3. It is observed that original research articles take a major share of publication space followed by case report and review of literature. Research

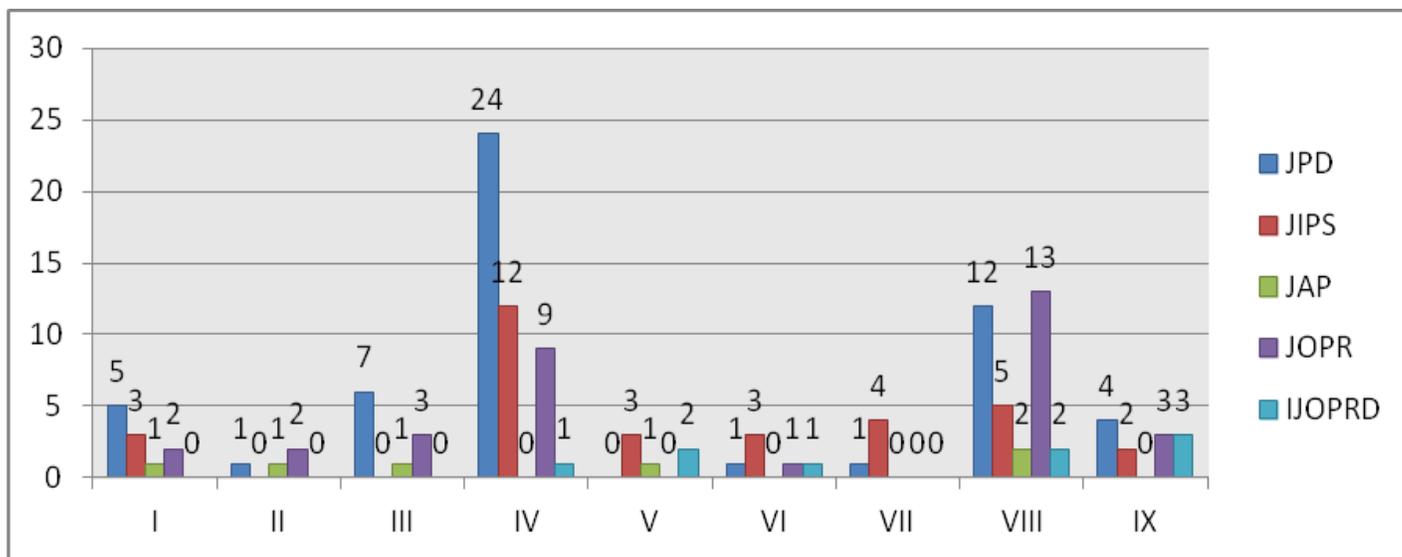
work done at the individual and institutional level is published as original research article in journal. Case reports contribute as the early steps towards the research articles.^[12] It is a good indicator for original research to be a major share as they are considered to be the backbone of dental research.^[13]

In this study, we explored five journals for their article type, trends in topics and their variation in the last five years from 2014-2018. It was observed that most number of articles 1128 were published in JPD followed by 360 in JIPS, 344 in JAP, 227 in JOPR & the least 114 in IJOPRD. Among these journals, a variation has been observed quantitatively in last five years. 2014 had 578 total number of published articles making a total of 25.53%. In the successive year thereafter, there was a sharp decrease in the number of articles published. Year 2015 contributed only 385 total number of articles which occupies only 17% of total publications in the five

journals considered. An upliftment was observed with contribution of 417 articles in 2016 & 2017 each comprising of total of 18.41% and 467 articles which occupies 20.62% of space of total articles in 2018.

When prosthodontic literature was systematically studied, a deviation of trend was observed with respect to assorted subject variation as depicted in **Graph 2**. From the nine categories drawn out of the observed variety of topics, implant dentistry category shared the most number of articles with 34.07% and the lowest was for removable partial denture with at least as 2.96%. Basic sciences & dental materials comprised of 25.18%, followed by recent technologies with 8.88%, followed by complete denture & overdenture and fixed partial denture having contributed 8.14%, maxillofacial prosthesis & full mouth rehabilitation & occlusion with 4.44% each and Temporomandibular Joint for 3.70%.

Graph 2: Topic Wise Segregation for Five Journals for Five Years



Most studies related to dental implants have been published under sections of implant surface modifications, immediate loading versus conventional loading, short implant, sinus lifting and custom implant using three dimensional pointing. The results of the study also point out that implant research is focusing towards enhancing

predictability success rate, decreasing time period of treatment, and making it most esthetically acceptable restoration.^[14] This prevails to be one of the major reasons for increasing literature in implant dentistry. The awareness among the common man through social media, advertisements and also the increased marketing and

funding from the companies have led to the huge utilization of implants.

Trends observed in study reflect another recent change in the current scenario of dentistry. That is the use of digital technology in dental treatment, also called “Digital Dentistry”. It first emerged as CAD/CAM. After introduction of zirconia, the popularity for CAD/CAM increased even more. Because of its excellent mechanical properties, it can be expanded to the molar region or to FPDs.^[15] And hence, the branch of crown and bridge is still flourishing and hence also comprising a good number of articles in literature study. Due to the availability of recent technologies like CBCT, Digital Scanners, and CAD/CAM, the field of dental materials, full mouth rehabilitation, occlusion and temporomandibular joint is on the verge of growth. It can be stated that these topics would occupy more number of slots in the upcoming literature. Most of the complex biomechanical restorations like distal extensions; removable partial situations have been overcome by placement of implants. So, universally the removable partial denture is on a downturn.

The clinical significance of this study was that a) In this digital era, skills of impression making using conventional methods may become insignificant when compared to newer trends such as digital impression and digital models, where we can eliminate complex procedures like selecting trays, preparing and using materials, disinfecting impression, sending impression to lab etc and b) complex biomechanical forces in situations like distal extensions, cantilever bridges, pier abutments etc are managed effectively with the introduction of dental implants.

The limitation of this study is that the data pertaining to prosthodontic articles in the five journals of the last five years may not reflect the overall review literature output in the field of Prosthodontics. The methodology used in

this study to evaluate review articles for topic wise segregation of literature is likely to result in variation from actual representation through data. However, within limited scope this study provides index view on trend in prosthodontic publications and topic wise distribution to know the direction of research publication.

Conclusion

Review article serves the purpose to succinctly review recent progress in a particular topic. It provides a crucial overview of the existing literature on the topic. It describes how the proposed research is related to prior research in statistics. Most importantly, it shows the originality and relevance of the research study. This study evaluated trends in prosthodontic research activity and assessed subject wise literature from 2014 to 2018. Within the limitations of this study, the following conclusions were drawn.

1. Review of literature comprises quantitatively very less number of articles as compared to original researches and case reports.
2. There is an increase in literature for the field of implantology with lions share of 34.07% and a gradual downfall with respect to removable partial denture with 2.96% since last five years.
3. Increased application of new diagnostic aids, new materials and digital technologies is evident with 25.18% of literature on topics of dental materials and with 8.88% of recent technologies.

References

1. Field MJ, Jeffcoat MK. Dental education at the crossroads: A report by the Institute of Medicine. J Am Dent Assoc 1995;126:191-95.
2. Sukotjo C, Yuan JCC, Bordage G. A content analysis of dental education research as reported in two journals. J Dent Educ 2010;74:1106-12.

3. Cook DA, Bordage G, Schmidt HG. Description, justification, and clarification: a framework for classifying the purposes of research in medical education. *Med Educ* 2008;42(2):128–33.
4. Soteriades ES, Rosmarakis ES, Paraschakis K, Falagas ME. Research contribution of different world regions in the top 50 biomedical journals (1995–2002). *FASEB J* 2006;20:29-34.
5. Rahman M, Fukui T. Biomedical publication-global profile and trend. *Public Health* 2003;117(4):274-80.
6. Falagas ME, Michalopoulos AS, Bliziotis IA, Soterides ES. A bibliometric analysis by geographic area of published research in several biomedical fields, 1995–2003. *CMAJ* 2006;175(11):1389-90.
7. Michalopoulos A, Bliziotis IA, Rizos M, et al: Worldwide research productivity in critical care medicine. *Crit Care* 2005;9:258-65.
8. Michalopoulos A, Falagas ME. A bibliometric analysis of global research production in respiratory medicine. *Chest* 2005;128(6):3993-98.
9. Rosmarakis ES, Vergidis PI, Soteriades ES, Paraschakis K, Papastamataki PA, Falagas ME. Estimates of global production in cardiovascular diseases research. *Int J Cardiol* 2005;100(3):443-9.
10. Tas F. The contribution of countries and world regions in productivity of oncological publication. *Ann Oncol* 2008;19(11):1962-68.
11. Charan J, Saxena D. Prevalence and trends of publication of negative studies in prominent Indian Medical Journals. *Int J Innov Med Educ Res* 2015:1-4.
12. Dharmani CKK, Kumar U, Singh N. A Retrospective analysis of trends of publications of a Pediatric Dentistry Journals from India. *Quest Journals Journal of Medical and Dental Science Research* 2018;5(4):07-12.
13. Shamim T. Publication trends in the journal of forensic dental sciences 2009-2012. *J Scientometric Res* 2013; 2(2) :152-6.
14. Hong DGK, Oh J. Recent advances in dental implants. *Maxilofacial Plastic and Reconstructive Surgery* 2017;39(1):23-33.
15. Miyazaki T, Nakamura T, Matsumura H, Ban S, Kobayashi T. Current status of zirconia restoration. *J Prosthodont Res* 2013;57(4):236–61.