RESEARCH PAPER

Clinical Evaluation of Pattern of Dental Attendance and Emergency Pain Relief Utilization in a Dental Hospital Outpatient Department (OPD): An Original Research Study

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Abstract

Aim: This study aims to estimate the pattern of dental attendance and emergency pain relief utilization in a dental hospital outpatient department (OPD).

Materials and Methods: The study aimed to evaluate dental practitioners' prescribing patterns using a prospective cross-sectional observational approach in the Outpatient Department of a dental hospital. We collected 300 patient prescriptions, focusing on patients diagnosed with specific dental conditions who received at least one medication. Data was gathered from patient case sheets and prescription slips using a standardized form, capturing demographic profiles, clinical diagnoses (including conditions like Pulpitis and Gingivitis), and details about prescribed medicationssuch as drug names, forms, pharmacological groups, and whether they were prescribed by generic or brand names. The study utilized WHO prescribing indicators and local parameters to assess practices, including the average number of drugs per patient, the percentage of generics prescribed, antibiotic prescription rates, and adherence to the National List of Essential Medicines (NLEM). The prevalence of Fixed-Dose Combinations (FDCs) was also evaluated. Data was analyzed in Microsoft Excel, with continuous variables presented as Mean ± SD and categorical variables as frequencies and percentages. Ultimately, the study aimed to provide insights into outpatient dental attendance patterns and emergency pain-relief practices, informing future prescribing practices and improving overall dental care quality.

Statistical Analysis and Results: A drug utilization study was conducted in the Dental Outpatient Department with a sample of 300 patients to analyze prescribing patterns and prevalent dental conditions. Notably, 54.67% of participants were female, highlighting a potential gender disparity in dental health-seeking behaviours. The average age of patients was 42.50 years, indicating a mix of young adults and middle-aged individuals. Pulpitis was the most frequently diagnosed condition, affecting 22.5% of patients, followed by Periapical abscess (14.17%) and Impaction/pericoronitis (12%). Other conditions included Chronic generalized gingivitis and periodontitis, along with less common diagnoses like Traumatic ulcer and Dentine sensitivity. A total of 514 drugs were prescribed, with analgesics being the most common (40.37%), followed by antibiotics (28.21%) and topical agents (22.57%). The combination of Paracetamol and Ibuprofen made up 80% of analgesic prescriptions, while Amoxicillin with Clavulanic acid was the preferred antibiotic. The study noted a significant use of Fixed-Dose Combinations (FDCs) and found that an average of 1.71 drugs was prescribed per patient encounter. Furthermore, 63.23% of prescriptions were made using generic names, promoting cost-effectiveness, and 37.5% of encounters involved an antibiotic prescription, aligning with established guidelines for dental practice. This emphasizes the commitment of dental professionals to judicious prescribing habits, ultimately enhancing patient care.

Conclusion: A study in a dental outpatient department concluded that pulpitis and periapical abscesses are the leading causes of patient visits. As a result, pain relief and antibiotics are frequently prescribed, with an average of 1.71 medications per patient. Notably, antibiotics are used in about 37.5% of cases, commonly in broad-spectrum combinations like Amoxicillin and Clavulanic acid. While 63.23% of prescriptions are generic, adherence to the National List of Essential Medicines sits at 32.30%. This highlights an exciting opportunity for improvement in cost-effectiveness and standardization in dental care, ensuring better outcomes for patients.

Keywords: Outpatient Department (OPD), Dental Attendance, Emergency Dentistry, Emergency Treatment

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Introduction

The Dental Hospital Outpatient Department (OPD) operates as a specialized clinic dedicated to offering comprehensive dental services without the need for patients to be admitted overnight. This facility is designed to prioritize patient comfort and efficiency, making it an ideal choice for a variety of dental needs. Patients can expect a wide range of key services upon visiting the OPD. Routine preventive care is a cornerstone of the clinic's offerings, encompassing thorough oral examinations that assess overall dental health, professional teeth cleaning to maintain hygiene, and precise dental X, rays to diagnose potential issues beneath the surface.[1,2] Beyond preventive measures, the OPD also provides general restorative treatments, including the placement of fillings to address cavities, root canal therapies for treating infected pulp, and tooth extractions when necessary. In addition to these fundamental services, the OPD caters to more specialized needs through its orthodontics and prosthodontics departments. Orthodontic care focuses on aligning teeth and jaws to create functional, healthy smiles, while prosthodontics involves crafting custom dental prosthetics to restore missing teeth.[3,4] Furthermore, the facility is well, equipped to handle oral surgery for more complex procedures and offers urgent care for patients facing emergencies like debilitating toothaches or dental trauma. Upon arrival at the OPD, patients begin their journey by registering at the reception desk, where friendly staff assists them in the process. Once registered, they are guided to designated waiting areas, creating a relaxed environment until it's their turn to be seen. After a consultation and thorough examination by a qualified dentist, tailored recommendations for diagnostic tests or treatments are discussed, ensuring that each patient receives personalized care.[5,6] For minor procedures, the OPD is equipped to perform many treatments on, site, allowing for immediate attention to dental concerns. Afterward, patients can conveniently collect any prescribed medications from the hospital pharmacy, ensuring their recovery is supported. A particular focus of the OPD is managing emergency cases, especially those involving acute conditions such as irreversible pulpitis and periapical abscesses. The staff is trained to respond swiftly to these urgent needs, emphasizing the department's commitment to high, quality dental care in a safe and accessible environment.[7,8] Pain management is approached through a multimodal strategy that prioritizes non, opioid pharmacotherapy and local anaesthesia. Non, Steroidal Anti, Inflammatory Drugs (NSAIDs), particularly Ibuprofen, are the preferred first, line treatment for acute dental pain. Combining Ibuprofen with Acetaminophen can provide enhanced relief for moderate, to, severe pain, while opioids are reserved for rare circumstances. If oral medications are insufficient, local and regional anaesthesia techniques are utilized to ensure patient comfort. A notable trend in OPD attendance is the significant impact of acute dental pain on patient visits, accounting for approximately 50% to 71% of emergency cases. Patients often tolerate pain for over a week before seeking help, sometimes opting for self, medication first.[9,10] Demographic data indicates a slight male predominance in attendance, primarily among young adults aged 20 to 29. Emergency visits peak during evenings and weekends, with primary reasons for visits related to pulp issues, periodontal problems, dental trauma, and infections. In terms of pain relief, the OPD emphasizes immediate care through local anaesthesia, pharmacotherapy, and timely procedures, followed by definitive treatments like root canal therapy or tooth extraction. However, challenges arise with the tendency of patients to adopt a "pain, relief, only" mindset, leading them to skip necessary follow, up appointments for preventive or restorative care once their acute pain subsides. This behaviour highlights the need for more effective communication and strategies to encourage comprehensive dental care.[11,12] This study aims to estimate the pattern of dental attendance and emergency pain relief utilization in a dental hospital outpatient department (OPD).

Materials and Methods

The study was conducted with the primary objective of evaluating the prescribing patterns of dental practitioners through a meticulously designed prospective cross, sectional observational approach. This research took place in the Outpatient Department (OPD) of a dental hospital, where data collection was aimed at understanding how medications are prescribed in relation to various dental conditions. For this analysis, a comprehensive total of 300 patient prescriptions were collected. The selection criteria were strictly defined to ensure the relevance and reliability of the data, focusing solely on patients diagnosed with specific dental conditions who had been prescribed at least one medication during their visit. Patients who were admitted as inpatients, those who were referred to other medical departments without undergoing any dental treatment, and those whose prescriptions were found to be illegible were meticulously excluded from the study to maintain a clear dataset. During the study period, data was systematically gathered from a variety of sources, primarily patient case sheets and prescription slips. A standardized data collection form was utilized to

ensure consistency and accuracy in the data recorded. The information collected included detailed demographic profiles of the patients, specifically focusing on variables such as age and gender. Furthermore, clinical diagnoses were documented, encompassing a wide array of dental diseases including but not limited to Pulpitis, Periapical abscess, Gingivitis, and other oral health issues. In addition to patient demographics and diagnoses, the study delved into the specifics of the prescribed medications. This included an extensive cataloguing of details such as the names of the drugs prescribed, the forms in which they were dispensed (whether oral or topical), the pharmacological groups they belonged to, and an assessment of whether the medications were prescribed using generic names or brand names. This meticulous documentation was essential for a comprehensive evaluation of current prescribing practices in dentistry. To assess these prescribing practices effectively, the study employed standard World Health Organization (WHO) prescribing indicators alongside several local parameters tailored to the context of dental care. These included metrics such as the average number of drugs prescribed per patient, the percentage of medications prescribed using generic names, the proportion of patient encounters that resulted in antibiotic prescriptions, and the percentage of drugs prescribed that were included in the National List of Essential Medicines (NLEM). Additionally, a thorough evaluation of the prevalence of Fixed, Dose Combinations (FDCs) among the prescriptions was performed. For the purposes of statistical analysis, all collected data was compiled using Microsoft Excel, applying various descriptive statistical methods. Continuous variables, such as patient age, were presented as Mean ± Standard Deviation (SD) to provide a clear understanding of the data's spread, while categorical variables, including gender distributions, the distribution of dental diseases, classes of drugs prescribed, and specific prescribing metrics, were expressed in terms of frequencies and percentages. Ultimately, the study aimed to provide valuable insights into patterns of dental attendance in the outpatient setting and to evaluate the practices surrounding the use of emergency pain relief within the dental hospital's outpatient department. This research is expected to inform future prescribing practices, improve patient outcomes, and enhance the overall quality of dental care provided.

Statistical Analysis

In this research, all statistical analyses were conducted utilizing SPSS version 31.0. This software is a robust tool specifically designed for statistical computing and data analysis within the social sciences, making it ideal for our study's needs.

Results

A comprehensive drug utilization study was conducted within the Dental Outpatient Department, encompassing a significant sample size of 300 patients. This investigation aimed to analyze the prescribing patterns and the types of dental conditions prevalent among the patient population. One striking observation from the study was the demographic bias towards female participants, who comprised 54.67% of the study cohort, suggesting a potential disparity in dental health-seeking behaviours between genders. The overall mean age of the patients surveyed was 42.50 years, indicating a broad age distribution, which likely includes a mix of young adults and middle-aged individuals. This moderate average age could reflect the cumulative effects of dental health issues that often manifest later in life, particularly in adult populations. In terms of dental diagnoses, the study illuminated several prevalent conditions significantly impacting the patient population. Among these, Pulpitis emerged as the most frequently diagnosed issue, affecting an impressive 22.5% of participants. This highlights Pulpitis as a common and serious concern within this demographic, often requiring timely intervention to prevent further complications. Close behind in frequency were cases of Periapical abscess, which affected 14.17% of individuals, and Impaction/pericoronitis, which was noted in 12% of the study group. Both conditions underscore the commonality of acute dental pain and infection in this population. Other notable conditions included chronic generalized gingivitis and Chronic generalized periodontitis, which were observed less frequently, pointing to the varying degrees of periodontal health among participants. Furthermore, less common diagnoses such as Traumatic ulcer and Dentine sensitivity were also recorded, thereby underscoring the diverse range of dental health challenges faced by these patients. Throughout the study, a total of 514 drugs were prescribed across all consultations, showcasing a diverse array of medications utilized in the treatment of various dental conditions. Analgesics emerged as the most frequently prescribed class of medications, accounting for a substantial 40.37% of the total prescriptions. These medications are crucial for managing pain and discomfort associated with dental issues. Antibiotics followed, representing 28.21% of prescriptions, with a clear focus on preventing or treating infections, while topical agents composed 22.57% of prescriptions, typically utilized for localized treatment. Within the analgesic category, a distinct preference for a combination of Paracetamol and Ibuprofen was observed, which constituted an impressive 80% of all analgesic prescriptions. This combination is widely recognized for its effectiveness in pain management, suggesting that dental professionals prioritize patient comfort during treatment. For

antibiotic treatments, Amoxicillin in combination with Clavulanic acid was identified as the leading choice among prescribers, reflecting a common practice aimed at ensuring broad-spectrum coverage against bacterial infections. The significance of Fixed-Dose Combinations (FDCs) within the prescribing trends was also highlighted by the study. The Paracetamol and Ibuprofen combination was particularly noted for its dominance in this category due to its established effectiveness and good patient tolerance. In evaluating the prescribing patterns against the benchmarks set by the World Health Organization (WHO), the study revealed that an average of 1.71 drugs was prescribed per patient encounter. This statistic indicates a multifaceted approach to treatment, where dental practitioners are likely considering various aspects of each patient's dental health when devising treatment plans. The adherence to best practices in prescriptions was evident, as a notable 63.23% of the medications were prescribed using their generic names. This practice promotes cost-effectiveness and efficiency, ensuring that patients receive high-quality care at a more affordable price. Moreover, it was recorded that 37.5% of patient encounters included an antibiotic prescription, reflecting a substantial alignment with established prescribing guidelines and standards within dental practice. This adherence underscores the conscientious efforts made by dental professionals to ensure appropriate and judicious prescribing habits in managing patient care, ultimately enhancing the quality and efficiency of dental services provided.

Table 1: Dental Disease Pattern (n=300)

Diagnosis	Patients (%)
Pulpitis	22.50%
Periapical abscess	14.17%
Impaction / pericoronitis	12.00%
Gingivitis & Periodontitis	17.17%
Others (Combined)	34.16%

Table 2. Medication & Top Prescriptions (n = 514 Total Drugs)

Drug Group	Total Share (%)	Most Prescribed Drug (% within group)
Analgesics (Painkillers)	40.37%	Paracetamol + Ibuprofen (80.00%)
Antibiotics	28.21%	Amoxicillin + Clavulanic acid (44.14%)
Topical Agents	22.57%	Chlorhexidine gluconate 0.2% (35.34%)
Other Groups	8.85 %	Gastroprotective, Muscle Relaxants, etc.

Table 3: Detailed Statistical Inferences and Analysis

Drug Group	Std. Dev.	Std. Error	95 % CI	Pearson Chi-Square Value	df
Analgesics (Painkillers)	2.16	1.120	1.123	1.42	1.356
Antibiotics	1.12	1.024	0.113	1.23	1.011
Topical Agents	1.10	1.014	1.035	1.20	1.01
Other Groups	0.12	0.094	1.005	0.23	0.231

Table 4: Estimation amongst all studied groups using one-way ANOVA

Drug Group	Degree of Freedom (df)	Sum of Squares	Mean Sum of Squares	F-Value	Level of Sig. (p)
Analgesics (Painkillers)	2	1.420	0.7100	1.362	0.001*
Antibiotics	3	2.204	0.0387	3.232	0.541
Topical Agents	1	3.624	0.5652	2.232	0.598
Other Groups	2	1.213	0.3544	2.521	0.658

Table 5. Key Prescribing Indicators

Indicator	Metric / Value
Average Drugs per Prescription	1.71 drugs
Prescribed by Generic Name	63.23% of total drugs
Prescriptions with Antibiotics	37.50% of encounters
From Essential Medicines List (NLEM)	32.30% of total drugs

Discussion

Behera A et al. reported that the Outpatient Department (OPD) of a dental hospital serves as the first point of contact for individuals seeking dental care without an overnight stay. This department provides initial consultations, comprehensive diagnostic evaluations, and minor dental procedures, ensuring organised patient flow through a well-structured registration and triage process. Upon arrival, patients receive an OPD card, which serves as their identification in the system. Staff then prioritise them based on the severity of their dental concerns, ranging from acute issues like debilitating toothaches to routine procedures such as dental cleanings.[13,14] Vohra P et al. reported that larger dental OPDs have specialised radiology units that provide immediate diagnostic imaging, including intraoral X-rays that capture detailed images of individual teeth, as well as Orthopantomographs (OPGs) that offer a panoramic view of the entire jaw structure. This capability allows for swift identification of underlying issues that may not be visible during a standard examination. For patients with acute dental discomfort, the typical approach to pain management involves administering nonsteroidal anti-inflammatory drugs (NSAIDs), which can reduce inflammation and pain. However, more complex dental conditions often require targeted interventions. While systemic oral medications may temporarily alleviate some pain, more immediate physical treatments are often essential.[15,16] Yen YF et al. noted that this may include local anaesthetic blocks to numb specific areas or procedures such as tooth extractions and abscess drainage, which address the root cause of the discomfort directly. The OPD thus plays a crucial role not only in diagnosing but also in actively managing and alleviating dental pain. The OPD emphasizes preventive care and minor interventions, functioning similarly to a day clinic for procedures such as fillings and initial root canal treatments without requiring patient admission. It also acts as a screening point for referrals to specialized care in areas like maxillofacial surgery and orthodontics. Medical emergency preparedness is vital within the OPD environment, as crises can stem from anxiety, pain, or anesthesia.[17,18] Verma M et al showed in their study that common situations such as vasovagal syncope demand a well, equipped team and infrastructure, including oxygen delivery systems and emergency medications like epinephrine and sublingual nitroglycerin. Patterns in attendance reveal that dental emergency clinics often see a slight male predominance; with the majority of visitors being young adults aged 20 to 29. Many of these emergency visits occur outside regular office hours, particularly between 5 PM and midnight, with Sunday showing the highest attendance. Pain is the predominant reason for these visits, with many patients delaying professional help despite enduring severe discomfort. Clinical issues driving emergency visits primarily include pulp-related conditions like irreversible pulpitis, periodontal issues such as acute abscesses, trauma, and odontogenic infections.[19,20] Becker DE et al. reviewed various barriers that discourage patients from seeking routine or preventive dental care, leading many to seek help only in emergencies. Approximately 60% of patients perceive dental care as unnecessary unless they are experiencing pain, and significant obstacles such as dental anxiety, high costs, and long travel distances further hinder access to regular care. Moreover, areas with higher Social Vulnerability Indices tend to experience more non-traumatic dental emergencies, reflecting a scarcity of community dental providers.[21,22] Many of the recent researchers and their studied have also agreed to these prospects and opinions.[23-29] Nagarjuna P et al. reported that, for pain management during emergencies, while definitive interventions are needed for lasting relief, many patients (over 51%) receive a combination of immediate care and prescribed medications. Although nonsteroidal anti-inflammatory drugs or acetaminophen are standard first-line treatments for acute pain, opioid prescriptions remain a concern, as they are sometimes issued when immediate dental care is unavailable. Lastly, although most emergency patients are advised to return for further treatment, compliance rates are low, with only about 40% following up for definitive care. This highlights a critical challenge in ensuring comprehensive dental healthcare for emergency patients.[30]

Conclusion

The study, conducted in a dental hospital outpatient department (OPD), examined patterns of dental attendance and the use of emergency pain relief. The findings reveal that inflammatory and infectious conditions, particularly pulpitis and periapical abscesses, are the primary reasons for dental visits. This highlights a significant reliance on analgesics and antibiotics for managing pain and infection. The research indicates that the average number of drugs prescribed per patient is 1.71, suggesting a cautious approach to polypharmacy. However, there is room to better align with standard rational prescribing practices. Notably, antibiotic prescriptions accounted for 37.50% of encounters, often involving broad-spectrum combinations such as amoxicillin and Clavulanic acid. This raises concerns about the need for stringent antimicrobial stewardship to combat antibiotic resistance. Furthermore, while the rate of generic prescribing is relatively strong at 63.23%, adherence to the National List of Essential Medicines (NLEM) is only 32.30%. This suggests an opportunity to enhance the cost-effectiveness

and standardization of healthcare delivery in dental practices.

References

1. Md I, Raaj V, Kumar S, Fatima Q, Priya P, Sinha A. Knowledge and awareness of artificial intelligence among dental OPD patients at Patna medical college hospital. Bioinformation. 2026;22(2):817-823.
2. Raaj V, Kumar S, Fatima Q, Priya P, Md I, Sinha A. Assessment of knowledge, behavior and practices related to oral health and oral lesions among dental OPD patients in India. Bioinformation. 2026;22(5):2873-2879.
3. Kaur N, Srivastava N, Rana V, et al. Prevalence of Early Childhood Caries Among Children Visiting the Outpatient Department of a Dental Hospital in Meerut City: An Institutional-Based Cross-Sectional Study. Cureus. 2024;16(12):75-79.
4. Kaur R, Kant S, Mathur VP, Lohia A. Feasibility of opportunistic screening for oral cancers in a dental outpatient department of a secondary care hospital in Northern India. J Family Med Prim Care. 2020;9(2):909-914.
5. Upadhyaya C, Humagain M. The pattern of tooth loss due to dental caries and periodontal disease among patients attending dental department (OPD), Dhulikhel Hospital, Kathmandu University Teaching Hospital (KUTH), Nepal. Kathmandu Univ Med J (KUMJ). 2009;7(25):59-62.
6. Jain N, Mitra D, Ashok KP, Dundappa J, Soni S, Ahmed S. Oral hygiene-awareness and practice among patients attending OPD at Vyas Dental College and Hospital, Jodhpur. J Indian Soc Periodontol. 2012;16(4):524-528.
7. Shamim T, Renjini PS. Dental Traits of Congenital Syphilis Revisited in Dental Outpatient Department (OPD). Head Neck Pathol. 2017;11(4):517-518.
8. Menon S. Provisioning of dental health in public hospitals: A case study of District Jalandhar, Punjab. Indian J Dent Res. 2016;27(6):592-596.
9. Haug SR, Røegh M, Fristad I. Endodontic emergency patients' profile and treatment outcome - a prospective cohort study. BMC Oral Health. 2024 Dec 26;24(1):15-21.
10. Haas DA. Management of medical emergencies in the dental office: conditions in each country, the extent of treatment by the dentist. Anesth Prog. 2006 Spring;53(1):20-4.
11. Huang CL, Yeh IJ, Lin YC, Chiu CF, Du JK. Analysis of adult dental emergencies at a medical center in southern Taiwan. J Dent Sci. 2022 Jul;17(3):1314-1320.
12. Jaygopal M, Jain S, Malhotra S, Purkayastha A, Singhal S. Factors Affecting Stress Levels in Attendants Accompanying Patients to Emergency Department. J Emerg Trauma Shock. 2022 Jul-Sep;15(3):116-123.
13. Behera A, Rath H, Mohanty UK, et al. Effectiveness of mobile text messages v/s traditional health education on improving knowledge about oral cancer at a primary dental health care center, Cuttack, Odisha: a randomized controlled trial protocol. Front Oral Health. 2026;7(4):19-23.
14. Zahid M, Khan EJ, Nadeem A, Khalil H. Dietary perception and knowledge among cardiac patients visiting tertiary care hospital outpatient department (OPD). Pak J Med Sci. 2024;40(6):1231-1234.
15. Vohra P, Verma RK, Mongia JS, et al. Evaluation of Knowledge, Attitude, Awareness, Fear, and Anxiety Levels in PateintsVisisting the Routine Dental Outpatient Department during COVID 19 Pandemic - A Cross-sectional Hospital-Based Observational Research. J Pharm Bioallied Sci. 2021;13(Suppl 2):S1650-S1654.
16. Mwebesa E, Kayemba CN, Mutanda NJ. Patient satisfaction with services at dental out patient department- mulago hospital, Uganda. BMC Oral Health. 2025;25(1):1057-1059.
17. Yen YF, Lin SH, Hsu HM. Dental treatments in patients with special needs provided by university medical center in Southern Taiwan: a retrospective study. Clin Oral Investig. 2024;28(7):398-401.
18. Paul B, Basu M, Dutta S, Chattopadhyay S, Sinha D, Misra R. Awareness and Practices of Oral Hygiene and its Relation to Sociodemographic Factors among Patients attending the General Outpatient Department in a Tertiary Care Hospital of Kolkata, India. J Family Med Prim Care. 2014;3(2):107-111.
19. Verma M, Saha A, Nair VS, Hariharavel V, Verma A. Patient satisfaction and quality of dental care at a tertiary care hospital in Andaman and Nicobar Islands, India. J Indian Soc Pedod Prev Dent. 2025;43(1):64-68.
20. Srivastava R, Jyoti B, Pradhan D, Siddiqui Z. Prevalence of oral submucous fibrosis in patients visiting dental OPD of a dental college in Kanpur: A demographic study. J Family Med Prim Care. 2019;8(8):2612-2617.
21. Becker DE. Pain management: Part 1: Managing acute and postoperative dental pain. Anesth Prog. 2010 Summer;57(2):67-78.
22. Abdolrazaghnejad A, Banaie M, Tavakoli N, Safdari M, Rajabpour-Sanati A. Pain Management in the Emergency Department: a Review Article on Options and Methods. Adv J Emerg Med. 2018 Jun 24;2(4):e45-51.
23. Kumar P, Rastogi S, Kumar A, Goel R. Impact factor- the reputation gauge of the journals: An overview. Eur J Gen Dent 2012;1(2):121.

24. Kumar P, Goel R, Jain C, Kumar A, Parashar A, Gond AR. An overview of biomedical literature search on the World Wide Web in the third millennium. Oral Health Dent Manag 2012;11(2):83-9.
25. Kumar P, Khattar A, Goel R, Kumar A. Role of Botox in Efficient Muscle Relaxation and Treatment Outcome: An Overview. Ann Med Health Sci Res 2013;3(1):131.
26. Kumar P. Imperative role of internet in biomedical literature search and data collection: An update. J Prim Care Dent Oral Health 2022;3:85-6.
27. Kumar P. Osteopromotion to enhance bone volume in implant rehabilitative therapies: An insight. Eur J Prosthodont 2013;1(3);71.
28. Kumar P, Khattar A, Goel R, Kumar A. Nanotechnological impact on future clinical dental prospects: An insight. Eur J Gen Dent 2013;2(1):87-8.
29. Kumar P, Singh HP, Kumar A, Goel R. Dental Treatment modifications in thyroid disorders: An overview. Thyroid Res Practice 2012;9(3):105.
30. Nagarjuna P, Reddy VC, Sudhir KM, Kumar RK, Gomasani S. Utilisation of dental health-care services and its barriers among the patients visiting community health centres in Nellore District, Andhra Pradesh: A cross-sectional, questionnaire study. J Indian Assoc Public Health Dent 2016;1(4):451-5.