

Traditional vs. Modern Dentistry: A Comparative Narrative Review

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Abstract

There has been a tremendous growth in dental practice from ancient dentistry which relied on home remedies and cultural knowledge to modern dentistry that is characterized by technological innovation. Ancient dentistry provided affordability as well as accessibility but lacks scientific validation. In contrast, the modern one uses advanced technologies and artificial intelligence tools however it is not always supported by deep rooted beliefs and preferences of some people. This review aims to explore the new and old aspects of dentistry, comparing both in terms of their underlying philosophies, advantages and limitation.

Keywords: Traditional dentistry; Modern dentistry; Oral health care; Cultural belief; scientific evidence

I. INTRODUCTION

The era we are living in is called as digital or technological age. All the advancements which we are witnessing today were once started way before the machines and artificial intelligence were dominant influence in society and so was the dental practice. Dentistry has evolved massively, for instance, from silver fillings to tooth colored restorative material, from hand impressions to digitalized one and from extending the cavity preparation to preserving the natural tooth structure. It is no more restricted to extraction and fillings and has travelled towards esthetics and prevention.

II. DENTISTRY

Dentistry at Early Times

Dentistry has been practiced as far as 7000 BC ^{1,2}. Earlier it was not subdivided into specialties we have today and treatment was done in general manner ¹. Precise theories, etiology and pathogenesis of diseases were not known. It gradually flourished in progresses of civilization ¹. Egyptian text, Ebers papyrus, has information about various diseases and its treatment ¹. Teeth used to be united by gold wires in Egypt ¹. In china, acupuncture and aromatic powdered leaves were the source of recovery from tooth pain ¹³.

During 12 century BC, extractions were done using instruments called as *plumbeumodontagooon*¹. More studies and methods were used in attempts to evolve dentistry, for instance- eruption pattern of

teeth, treating decayed teeth and gum disease, extracting teeth by forceps by Hippocrates and Aristotle and teething pain, jaw fractures by Celsus¹. Fixed partial dentures and gold crowns were later given in 166-201AD ¹.

Traditional Methods Used In Dentistry

Traditional dentistry methods are techniques that dentist have used for a long period of time to diagnose, prevent and treat dental problems. These practices are usually associated with religious and spiritual domain of people ⁴. Traditional dentistry focuses more on treating pain due to various ailments of oral cavity and best substance to use as drugs are herbs. Various parts of plants including roots, stems, leaves and seed are traditionally used. Indian bay leaf, garlic, walnut, castorbean, amla are reported to be used for toothache and pyorrhea ⁴. For maintaining the oral hygiene, chewing sticks obtained from neem, miswak, babul are commonly used along with sesame oil for oil pulling⁴. For restorative purposes, amalgam is most versatile⁵. Extraction is done by barbers, blacksmith or commoners rather than dental professionals. Indigenous methods are also used such as using finger for brushing and substituting dentifrices for charcoal⁶.

Merits:

Foremost these practices are more preferred by people due to their long term beliefs. Herbs or medicinal plants for ailments is widely used to their

easy availability, little to no side effects and inexpensive. A systematic review of the effectiveness of traditional oral hygiene practices shows significantly improved hygiene by reducing plaque accumulation and gum inflammation⁶. Herbal dentifrices and mouthwashes were also effective for same⁶. Oil pulling shows microbial load reduction and indigenous methods offers accessibility and sustainability benefits⁶. Amalgam shows high strength and is economical, easy to use as well as durable for a long time⁸.

Limitations

Despite the wide use traditional oral hygiene methods, many lack scientific evidence⁶. Long term efficacy of these methods is not known⁶⁷. Moreover they take too much time to act and healing process is comparatively slow. Amalgam restoration is non-esthetic, and major disadvantage of its usage is use of mercury. Not only it causes physical harm to one but also raises environmental concerns regarding the waste generated during the procedure⁹. Indigenous methods practiced lacks clinical validation⁶. Extraction practices by untrained individuals by unsterilized instruments can lead to wide range of complication including contamination and delayed healing. In addition, absence of modern diagnostic tools in old treatment methods makes it quite difficult for one to truly diagnose various diseases.

Modern Dentistry

While traditional dentistry is based on cultural beliefs and limited scientific knowledge, modern dentistry utilizes advanced scientific knowledge and innovative technologies to provide more efficient healthcare. The practice in today's era uses digital x rays, CAD-CAM and artificial intelligence and it has made the work safer, faster and minimally invasive¹⁰. Pierre Fauchard, founder of modern dentistry, wrote the first scientific text on dentistry-*Le ChirurgienDentiste* (the surgeon-dentist)¹¹. Services provided in modern dentistry includes regular appointments for teeth cleaning¹⁰, Using tooth colored restorative material¹⁰, dental crowns for mutilated teeth¹⁰, root canal treatments¹⁰, digitalized impressions, intra oral scanning, treatment simulation, caries detection systems, digital smile design, virtual treatment planning, adhesive dentistry, dental implants, teledentistry, conscious sedation techniques and much more. Pain relief is done using mainly allopathic medicines unlike the older methods.

MERITS:

Modernization of dentistry has led to better treatment, diagnosis and prevention. Regular cleaning of teeth makes diseases difficult to appear and offers a healthier lifestyle¹⁰. Using tooth colored restorative material like composite gives esthetic and last much longer¹⁰.modern day dentistry also

provide elevated emergency services to avoid any delay in treatment¹⁰. A systematic review shows significant results of advanced digital technologies optimizing and maximizing dental practitioner capabilities during diagnosis and treatment planning procedure¹². AI approaches are reported to be outperforming humans in certain complex cases¹³. Digitalized impression has made the work cleaner and time efficient with reduced chances of error. Treatment simulation allows the patient to visualize the post treatment results and thus increases motivation. Atraumatic extraction with sterilized instruments also effectively reduces the chances of infection. Dental implants are placed to copy the natural roots of tooth and hence increase the retention. Allopathic medicines used work quickly and effectively to treat the pain and infection and are widely available across the globe. Digital record keeping produce less waste than older methods.

Limitations:

While modern dentistry has undoubtedly improved oral healthcare outcomes, certain challenges such as high cost, technological dependence and accessibility issues continues to be limitations in the field. Use of AI raises concerns about data breaches and misuse of information¹³. Many Independent dental practices uses third party software vendors whose security may be compromised¹⁴. Occupational health problems also persist such as percutaneous exposure incidents, dermatitis, respiratory disorders, eye problems, musculoskeletal disorders and much more¹⁵. Moreover people can be hesitant to utilize the care because of their belief and culture, for instance- believing white colored restorative material is only temporary and silver is permanent.

ASPECT	TRADITIONAL DENTISTRY	MODERN DENTISTRY
KNOWLEDGE BASE	Based on cultural beliefs and spiritual domain	Based on scientific evidence and research
DIAGNOSIS	Mainly clinical observation	Advanced Diagnostic tool like digital Radiography, CBCT available
TREATMENT PHILOSOPHY	Focused mainly on pain relief and disease management	More focused on prevention and preservation
MATERIALS USED	Herbal remedies Charcoals for hygiene Silver fillings	Allopathic medicines Adhesive restorative material
INFECTION CONTROL	Variable sterilization standards	Strict sterilization and infection control protocols
ACCESSIBILITY	Readily available	Require specialized facilities

COST	Easily affordable	Higher cost
EMERGENCY CARE	Limited scope of treatment	Specialized services available

III. CONCLUSION

Traditional as well as modern dentistry have made their respective contribution towards the betterment of oral health. Traditional one provides affordability, accessibility, cultural relevance and acceptance of natural remedies whereas the latter one is more scientific accurate and non-invasive due to the utilization of latest technology. Rather than seeing them as competing approaches, they can be seen as complementary parts of dental care. Knowing the strength and weakness of both the practices, one can provide more patient focused and better dental care.

REFERENCES:

- Hussain, Akhter; Khan, Faizan Ahmed. History of dentistry. Archives of Medicine and Health Sciences 2(1):p 106-110, Jan-Jun 2014. | DOI: 10.4103/2321-4848.133850.
- Coppa, A., Bondioli, L., Cucina, A., Frayer, D. W., Jarrige, C., Jarrige, J., Quivron, G., Rossi, M., Vidale, M. & Macchiarelli, R. (2006). Early Neolithic tradition of dentistry. Nature, 440 (7085), 755-756.
- Dabry PP. Medicine among the Chinese Consul of France in China. Member of the League Asian Paris. 1863
- Bolloor VA, Hosadurga R, Rao A, Jenifer H, Pratap S. Unconventional dentistry in India - an insight into the traditional methods. J Tradit Complement Med. 2014 Jul;4(3):153-8. doi: 10.4103/2225-4110.130951. PMID: 25161919; PMCID: PMC4142452.
- Bharti, Ramesh & Wadhvani, Kulvinder & Tikku, Aseem & Chandra, Anil. (2010). Dental amalgam: An update. Journal of conservative dentistry : JCD. 13. 204-8. 10.4103/0972-0707.73380.
- Shahzad M, Ahmad HA, Ambadi S, Peterson S, Yang I. Traditional Oral Hygiene Practices and Their Effectiveness: A Systematic Review of the Evidence. Oral Health Prev Dent. 2026 Feb 11;24:107-118. doi: 10.3290/j.ohpd.c_2475. PMID: 41670379; PMCID: PMC12895338.
- Janakiram C, Venkitachalam R, Fontelo P, Iafolla TJ, Dye BA. Effectiveness of herbal oral care products in reducing dental plaque & gingivitis - a systematic review and meta-analysis. BMCComplMedTher. 2020;20:1-12. doi: 10.1186/s12906-020-2812-1.
- Alanazi LM, HelalAlqallaf Z, alghamdi WM, Alanazi AM, Alqarni SM, Alfozan M, et al. The Hazardous Effects of Dental Amalgam Fillings in Human Body: A Systematic Review. J. Pharm. Res. Int. [Internet]. 2021 Nov. 11 [cited 2026 Jun. 3];33(49B):45-54. Available from: <https://journaljpri.com/index.php/JPRI/article/view/4091>
- Konakanchi A, Alla RK, Rao SP, Kandikantla P, Ganta GK, Vallabhaneni S. Dental Amalgam Waste in Dentistry: Sources, Environmental Impact and Management Strategies. Int J Dent Mater [Internet]. 2025 Dec. 31 [cited 2026 Jun. 3];7(4):109-1.
- Monga DK, Bhateja S, Arora G. Dentistry in the modern era. J Surg Allied Sci 2019;1(4):68-70.
- Christodoulou M, Hunt M. Pierre Fauchard and the birth of modern dentistry: Le ChirurgienDentiste, ouTraité des Dents. Faculty Dental Journal [Internet]. 2025 Jul 1 [cited 2026 Jun 5];16(3):82-3. Available from: <https://research.ebsco.com/plink/ac41abc4-7d74-3cab-8d61-f31738ef45df>
- Elad L, Hijazi T, Muwaquet S. Current Trends in Modern Dentistry: Diagnostic Sensitivity of AI in Detecting Dental Conditions. A Systematic Review and Meta-Analysis. J Dent Oral Biol. 2024; 9(2): 1229. ISSN: 2475-5680
- Semerici ZM, Yardımcı S. Empowering Modern Dentistry: The Impact of Artificial Intelligence on Patient Care and Clinical Decision Making. Diagnostics (Basel). 2024 Jun 14;14(12):1260. doi: 10.3390/diagnostics14121260. PMID: 38928675; PMCID: PMC11202919.
- Sailer I. Digital Privacy in Modern Dentistry: Protecting Patients Beyond Their Teeth. International Journal of Prosthodontics [Internet]. 2025 May 1 [cited 2026 Jun 5];38(3):277-8. Available from: <https://research.ebsco.com/plink/ca46cdfd-3eb0-3cb6-8663-b0a6c1ae551f>
- Leggat, Peter & Kedjarune, Ureporne & Smith, Derek. (2007). Occupational Health Problems in Modern Dentistry: A Review. INDUSTRIAL HEALTH. 45. 611-621. 10.2486/indhealth.45.611.