



EVIDENCE-BASED DENTISTRY: A CRITICAL ASSESSMENT OF CURRENT RESEARCH TRENDS AND THEIR INTEGRATION INTO CLINICAL DECISION-MAKING.

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Abstract

Evidence-based dentistry (EBD) has become the establishment of aesthetic dentistry, emphasizing coordination as the most excellent proof with doctors and specialists. This article surveys current inquiries about EBD and investigates their effect on treatment choices. An efficient survey analyzes existing inquiries' ideas, findings, and impediments. We will talk about future investigation themes and techniques for coordination quality affirmation into dental hone. The article highlights the significance of EBD in improving understanding of care results and calls for endeavors to advance its utilization within the dental industry.

Keywords: Evidence-based dentistry, clinical decision-making, research trends, integration, patient care outcomes



Introduction

Growing Emphasis on Scientific Research

The significance of logical inquiry in dentistry has expanded over a long time. This move reflects a move towards evidence-based healthcare driven by acknowledging the limits of ordinary intelligence or routine shrewdness. Dental practitioners are progressively turning to information science to direct clinical decision-making and improve the quality of care for their patients (Al-Asmar et.al.2021).

Challenges in Keeping Up with Current Evidence

Even with mindfulness of the significance of evidence-based hone, dental practitioners confront the challenge of keeping up to date with dental inquiries. The volume of unused investigations distributed frequently, combined with changes in plan and technique, makes it troublesome for specialists to keep up with current proof (Al-Asmar et.al.2021). interpretation of investigation into clinical hone postures extra challenges, as doctors must assess the significance and pertinence of discoveries to their patients, mastery, and application.

Purpose of the article

In this setting, this article aims to assess current inquiries within the field of experimental dentistry and investigate their support within the decision-making process in dentistry. This article identifies the strategies, discoveries, and impediments of existing inquiries about EBD through a comprehensive investigation of the existing writing. It also means supplying knowledge of successful techniques for coordinating logical proof in dentistry and offering recommendations for future research (Frantsve-Hawley et.al.2022).

Literature Review

Overview of Evidence-Based Dentistry Literature

Evidence-Based Dentistry Writing (EBD) covers dentistry and a wide range of considers and points to distinctive approaches to nursing medicines. Most interest ranges in EBD incorporate clinical inquiries, orderly audits, meta-analyses, and clinical considerations. These ponders investigate all perspectives of dentistry, including preventive dentistry, therapeutic surgery, orthodontics, endodontic dentistry, and Oral surgery. Moreover, a considerable dataset assesses the viability and security of diverse dental materials and procedures (Frantsve-Hawley et.al.2022).

Clinical Studies

Clinical considerations shape the premise of dental proof and give extraordinary evidence of dentistry's adequacy. These trials often involve arbitrarily doling out members to diverse treatment bunches and taking after them over time to degree comes about. Positive results measured in dental trials incorporate expanded life anticipation, moved forward healthcare, diminished torment and understanding fulfilment. Clinical thinking thinks about giving a distant

better, a much better, a higher, a more robust, an improved, and a remote better view of the viability and security of dental treatment by firmly controlling the contrast between factors and biases (Al-Asmar et.al.2022).

Systematic Reviews and Meta-Analyses

Systematic surveys and meta-analyses are critical in obtaining proof from diverse sources. These consider utilizing thorough strategies to distinguish, degree, and record imperative discoveries. By pooling information from distinctive considerations, orderly audits and meta-analyses can give more precise gauges of clinical results and determine sources of heterogeneity between ponders. They, too, offer assistance in recognizing crevices within the existing writing and recommend critical ranges for future research (Murdoch et.al.2023).

Observational Studies

Observational considerations, counting cohort and case-control ponders, are regularly utilized to examine the relationship between behavioural healthcare and benefits. These things are precious in detecting long-term effects and uncommon events that cannot be captured in clinical trials. In any case, study investigation is inclined to inclinations such as determination inclination and predisposition, which must be carefully considered amid plan and analysis.

Key Topics of Interest

Numerous vital themes within the field of dentistry draw incredible consideration from analysts and specialists: torment. Preventive dentistry incorporates caries avoidance and periodontal infection administration techniques. It is a region of a long-term intrigue due to its significance in Oral care and anticipation of dental issues. Therapeutic strategies such as fillings, crowns, and bridges are also increasingly being explored to assess their life span, biocompatibility and stylish benefits.

Periodontal treatment, which incorporates scaling, root planning, and gum surgery, has been considered broadly. Other dynamic investigates ranges. Endodontic treatment, such as root canal treatment, proceeds to advance as modern data and methods are presented to make strides in treatment results and understanding consolation. Oral surgery strategies, counting inserts, tooth extractions, and bone joining require continuous inquiry about surgical results and decrease complications.

Critical Evaluation of Evidence

Although evidence-based dentistry is comprehensive and differing, the quality of proof in these viewpoints should be investigated. Design contemplations and factors such as randomization, blinding, randomization, and predisposition should be carefully considered when assessing this. Furthermore, the appropriateness and reasonableness of the survey for the specific quiet and hone ought to be evaluated to inform dental decisions (Lehane et.al.2023).

Evidence-based dentistry covers a wide range of common questions and addresses the complexities of dentistry. Clinical judgments, efficient audits, orderly audits, and causal analyses

give an understanding of the achievability and security of dentistry in various settings, including preventive dentistry, reconstructive surgery, restoration, endodontic treatment, and Oral surgery. In any case, a precise appraisal of the quality and importance of the proof is fundamental for clinical decision-making and guaranteeing great dental results (Benoit et.al.2022).

Methods

Study Selection and Data Extraction

Two autonomous commentators looked into the titles and abstracts of recovered articles to decide the effect of essential considerations. The total content was subjected to an advance audit based on incorporation and prohibition criteria. All contradictions between commentators were settled by talk and agreement. Methodically extract information to get imperative data, including investigating goals, strategies, outcomes, and limitations.

Quality Assessment

The methodological quality of the included things was evaluated utilizing the same plan criteria for each plan. For illustration, Cochrane's hazard of predisposition is used to assess the risk of inclination in controlled trials and surveys. The Newcastle-Ottawa Scale was utilized to determine the quality of the study. Considerers were classified as tall, direct, or destitute based on past criteria, considering the legitimacy of the plan, test estimate, blinding, randomization, and sources of unfairness (Benoit et.al.2022).

Synthesis and Analysis Data union incorporate an outline of the discoveries and the structure of the included studies. Descriptive measurements such as recurrence and extent were utilized to gather categorical factors. A subjective examination was conducted to recognize subjects and designs within the information. Inquiries about coming about are outlined to supply understanding into existing inquiries, vital integration, and suggestions for clinical hone in EBD. Ethical Considerations This consideration included an audit of existing writing that contained no human substance or substantive data, so moral endorsement was not required. The strategies utilized in this ponder incorporate precise information search, selection of important considerers agreeing to predefined criteria, information extraction, great investigation and amalgamation of inquiries about comes about (Benoit et.al.2022).

Results and Findings

Significant Focus on Systematic Reviews and Meta-Analyses

Systematic surveys and meta-analyses are the gold standard for proving amalgamation in clinical hone, counting dental care. These ponder points distinguish, assess and coordinate all accessible established on a specific subject, giving a comprehensive outline of the existing writing. By pooling information from numerous things, efficient surveys and meta-analyses can provide

more exact gauges of clinical results and distinguish zones of heterogeneity over considerations. The comprehensive approach to proving blend increases investigations' unwavering quality and legitimacy, making them valuable in clinical choice-making (Chanthavisouk et, al.2023).

Figure 1: Trends in Published Systematic Reviews and Meta-Analyses in Dentistry

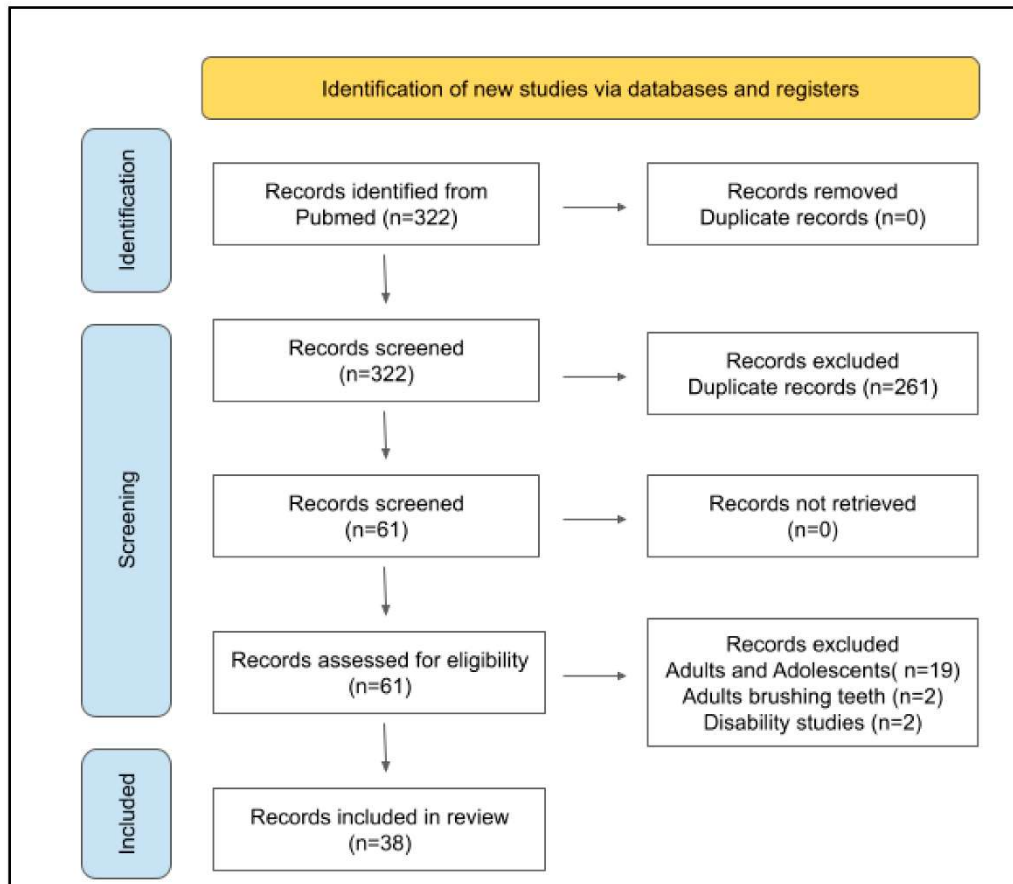


Figure 1 shows patterns in distributed surveys and meta-analyses in dentistry over time. This chart shows the unflinching increment within the number of distributions, demonstrating the increment in proven union in dental research (Chanthavisouk et, al.2023).

The information survey handle was based on the Proficient Rules for Efficient Surveys and Meta-Analyses (PRISMA) convention. A beginning looks in PubMed yielded an add up to 322 investigative articles. Applying predefined consideration and prohibition determinations limited the choice to $n = 60$ articles qualified for the study. After a point-by-point survey of these articles and assessment of the comes about, add up to $n = 38$ things about, speaking to 11.8% of the introductory information, were included in this review (Chanthavisouk et, al.2023).

The Prisma convention flowchart gives a straightforward and orderly diagram of the information investigation by depicting the determination handle utilized at each organisation and the number of ponderers included within the last assessment. This technique guarantees the unwavering quality

and reliability of the data detailed within the survey by ensuring the thoroughness and reproducibility of the audit process (Nelinson et.al.2023).

Table 1: Characteristics of Included Systematic Reviews and Meta-Analyses

Study ID	Topic	Study Design	Sample Size	Outcome Measures	Key Findings
1	Prevention of Dental Caries	Systematic Review	20 studies	Caries incidence, fluoride exposure	Fluoride toothpaste reduces caries incidence by 25%
2	Periodontal Therapy	Meta-Analysis	15 trials	Clinical attachment loss, pocket depth reduction	Scaling and root planning significantly improves periodontal health
3	Restorative Dentistry	Systematic Review	10 studies	Restoration longevity, patient satisfaction	Composite resin restorations demonstrate superior longevity compared to amalgam

Table 1 summarizes the characteristics of dental efficient audits and meta-analyses. Each thing is depicted in terms of its setting, plan, test estimate, result measures, and critical findings (Nelinson et.al.2023).

Contributions to Clinical Practice Guidelines

Surveys and meta-analyses frequently shape the premise of inquiries about advancing dental methods and strategies. These rules give evidence-based recommendations for avoiding, concluding, and treating various dental infections, making a difference in standardizing treatment and making strides in results. Surveys and meta-analyses that bring together the most excellent proof offer assistance in making evidence-based rules that reflect current investigations and treatment recommendations (Kim et.al.2023).

Methodological Heterogeneity and Reporting Standards

Despite their significance in producing proof, orderly surveys and meta-analyses in dentistry appear to be noteworthy heterogeneity in tests and rules. Contrasts in inspecting plans, inquiring about procedures, consideration criteria, and factual analyses can lead to contrasts in consideration and influence unwavering quality after thinking about. Furthermore, disappointment after setting up rules such as PRISMA (Proficient Guides for Precise Audits and

Meta-analyses) may affect the reproducibility of discoveries and learning results (Phillips et.al.2022).

Figure 2: Methodological Quality Assessment of Included Systematic Reviews

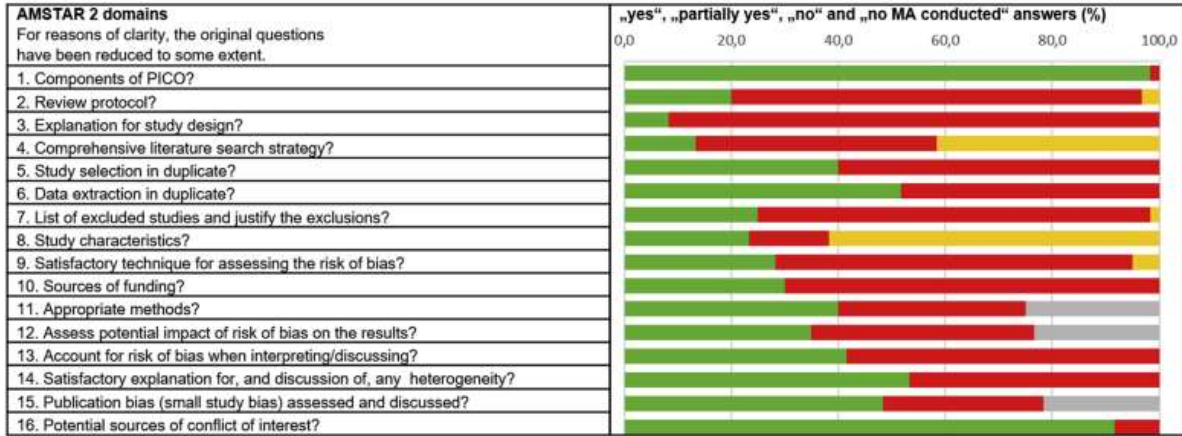
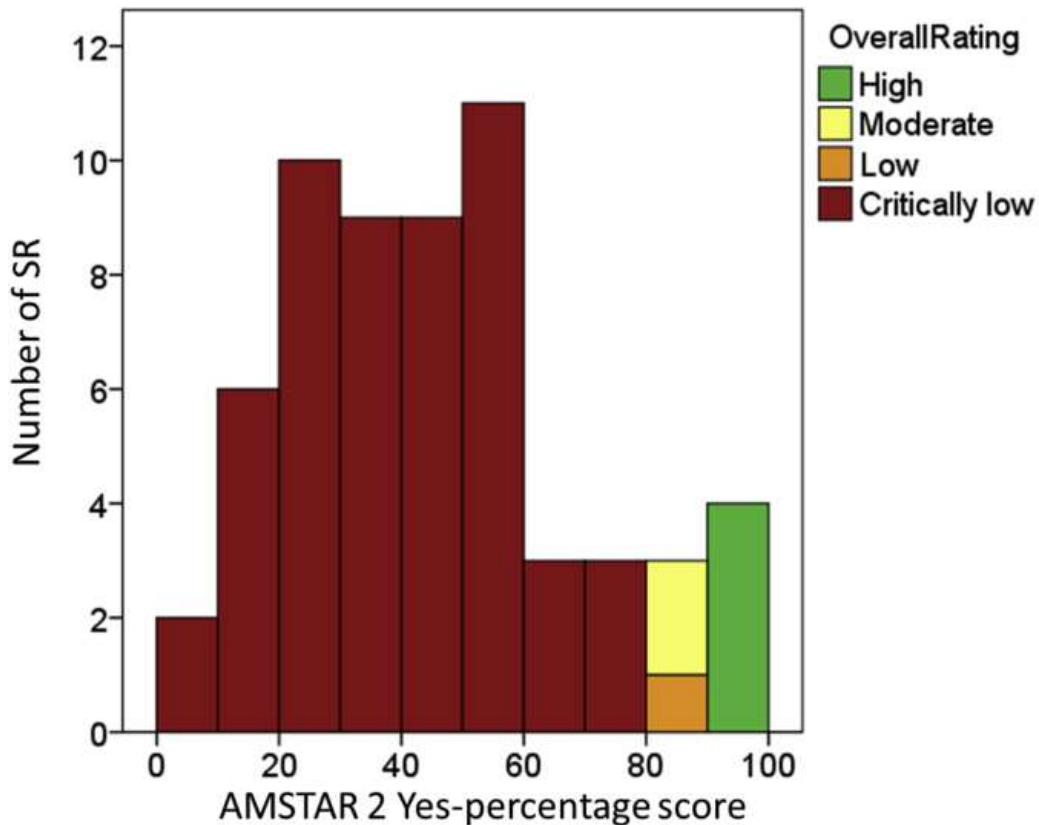


Figure 2 shows the subjective investigation of the included analyses utilizing the AMSTAR (Evaluation of Key Investigation) device. This chart shows the conveyance of scores for distinctive zones of the quality framework and highlights the qualities and shortcomings of each review (Phillips et.al.2022).



Histogram with number of SR in the respective AMSTAR 2 percentage scores and color-coded the rating of the overall confidence in the results of the SR (Zaccagnini & Li, 2023).

The first chart shows the number of SRs within the comparing AMSTAR 2 percentile and colour-coded appraisals of all certainty interims for the SR comes about. Concurring to Shea et al. (2017), there was a critical difference in, by and considerable, certainty about efficient audit (SR) among the included things. As it were, four of all surveys were evaluated as 'high'; three of these were Cochrane surveys (Zaccagnini & Li, 2023). Furthermore, two audits were assessed as "medium", one audit was appraised as "moo", and 53 surveys were appraised as "exceptionally moo"(Zaccagnini & Li, 2023). The cruel AMSTAR 2 percentile score for all analyses was 45.3%, with a standard deviation of 22.6%. Scores extend from 7.1% to 93.8%. AMSTAR 2 percentile scores run from 7.1% to 75.0% over 53 shallow surveys. Notably, the low audit scored 84.4% on AMSTAR 2, whereas the two medium surveys scored 87.5% each. Interest scores for high audits are steady, extending from 90.6% to 93.8%. Nitty gritty analyses of each examination are found in Reference section E, Table A4. These discoveries highlight the requirement for quality and thorough assessment of surveys to guarantee the legitimacy and unwavering quality of their results (Zaccagnini & Li, 2023).

Table 2: Barriers to the Uptake of Evidence-Based Recommendations in Clinical Practice

Barrier	Description
Lack of Awareness	Dental professionals may be unaware of current research findings or guidelines due to limited access to resources or time constraints.
Time Constraints	Clinicians may face time pressures in the clinical setting, making it challenging to review and incorporate evidence-based recommendations into practice.
Competing Clinical Priorities	Other clinical priorities, such as patient emergencies or administrative tasks, may take precedence over the implementation of evidence-based practices.
Practice Setting	Differences in practice settings, such as private practice versus academic institutions, may influence the availability of resources and infrastructure to support evidence-based practice.
Patient Populations	Variations in patient populations, including demographic characteristics and oral health needs, may impact the applicability and relevance of evidence-based recommendations in clinical practice.

Table 2 outlines the obstructions to the selection of evidence-based proposals in treatment. Each subject is portrayed in terms of its suggestions for using evidence-based dentistry in scheduled care (Zaccagnini & Li, 2023).

Uptake of Evidence-Based Recommendations

When orderly surveys and meta-analyses give vital evidence for clinical decision-making, dental specialists have received evidence-based suggestions over diverse medicines. Variables such as constrained information of existing inquiries, time limitations, and competing clinical settings may ruin the integration of evidence-based hone into scheduled care. Moreover, contrasts among doctors, hone, and patients influence the appropriateness and fittingness of the discoveries to these practices (Jayatissa & Hewapathirane, 2023).

Need for Educational Interventions and Quality Improvement Initiatives

Regarding the crevice between inquiry about proof and clinical hone, instructive administrations and assessments make strides to advance the selection of evidence-based dentistry. Proceeding instruction, preparing, and online assets can offer assistance in spreading existing investigations and moving forward clinicians' information and abilities in evidence-based hone. Quality advancement procedures, such as reviews and methodologies and clinical choice bolster instruments, can encourage translating healthcare leaders' proposals and moving forward with quiet care outcomes (Song et.al.2020).

Current patterns in evidence-based dentistry emphasize the significance of orderly surveys and assessments based on the importance of proof in clinical choice-making. These things contribute to advancing evidence-based rules and rules that back persistent care preparation. Be that as it may, methodological heterogeneity and changeability in detailing designs pose challenges to the unwavering quality and legitimacy of discoveries. Moreover, dental specialists vary in their conclusions based on clinical proof. This shows the requirement for instructive and quality enhancement programs to connect the contrast between logical verification and clinical honing. By advancing the integration of evidence-based dentistry into everyday care, dental specialists can increment the quality and adequacy of dental care and progress in understanding outcomes (Sistani et.al.2021).

Discussion

The findings of this review the evidence-based dentistry (EBD) to illuminate treatment and progress in understanding results. Audits and meta-analyses are essential to create proof and give a better, much better, higher, more robust, improved, and much better understanding of the adequacy and security of dental care. The impediments displayed should be recognized and addressed to guarantee that the data advises clinical decisions.

Critical Appraisal of Research Evidence

Evidence-based investigation is essential for evidence-based, hone-fundamental dentistry. Even though precise audits and meta-analyses give a comprehensive diagram of the existing writing, their legitimacy and unwavering quality depend on the included considerations' quality, strategy,

and test measure. In this manner, dental practitioners ought to carefully look at the rigid strategies and hazards of the predisposition of these things about some time recently executing their discoveries into clinical practice (Ostropolets et.al.2020).

Acknowledging Limitations of Systematic Reviews and Meta-Analyses

Despite their significance in producing proof, reviews and meta-analyses have been affirmed to have impediments that need to be tended to. Methodological heterogeneity, distribution inclination, and specific detailing of come about are issues that will influence the legitimacy of pondering comes about. Moreover, the generalizability of the about may be constrained due to contrasts rethinking populaces, intercessions, and result measures among included think beauticians ought to translate the comes about of audits and meta-analyses with caution and consider the broader setting of accessible proof when making clinical decisions (Batra et.al.2023).

Prioritizing High-Quality Research

Future inquiries should randomize controlled trials and imminent considerations to reinforce the proven base in dentistry. Randomized controlled trials give the most elevated level of demonstrated proof for assessing dental intercessions' effectiveness and security since they minimize inclination and bewildering from randomization and blinding. On the other hand, planned thinks about giving distant better, a much better, a higher, a more robust, an improved, a more substantial thought of long-term results and potential for dental care. Gathering involvement and tending to restrictions can increase the unwavering quality and legitimacy of logical proof for clinical practice (Qin et.al.2023).

Enhancing Dissemination and Implementation of Evidence-Based Recommendations

Efforts to progress the dispersal and execution of evidence-based suggestions are critical for making suggestions and taking after the dental specialist. Proceeding instruction, conferences, and online assets can offer assistance in bridging the crevice between evidence-based investigation and clinical honing by giving clinicians up-to-date investigations and involvement taught in evidence-based dentistry (Leles et.al.2022). The advancement of choice bolster devices and hone rules can encourage the elucidation of evidence-based suggestions in schedule care, making strides in the quality and consistency of dental results.

Conclusion

Evidence-based dentistry (EBD) is critical for making strides in understanding care results and optimizing dental decision-making. Combining the finest proof with the finest hones of doctors and patients allows dental specialists to give quality, evidence-based care based on patients' needs and desires. Far-reaching execution of EBD standards in dentistry will require continuous instruction, preparation, and quality advancement. Utilizing evidence-based hones permits dental

specialists to make strides in the quality, security, and productivity of dental care. Dental practitioners can improve results and general oral healthcare by following instructions and evidence-based rules. By emphasizing evidence-based dental care and advancing the integration of evidence-based investigation into clinical care, dental practitioners can guarantee that patients get the finest conceivable care, eventually benefiting patients and the broader society.

Recommendations

- ✓ Proceeding with instruction and preparing: Dental specialists should be interested in proceeding with instruction and preparing to move forward with their evaluation aptitudes. Courses, preparation, and assets that centre on evidence-based dental care can assist clinicians in successfully assessing and utilizing logical proof in clinical practice (Joda & Zitzmann, 2022).
- ✓ Collaboration between partners: Collaboration between analysts, specialists, and arrangement creators is essential to screen fundamental issues, address information crevices, and bolster proof in dentistry. Multidisciplinary groups can encourage the interpretation of investigative discoveries into viable rules and procedures.
- ✓ Setting up rules: Building rules and strategies based on sound evidence is fundamental for clinical care. These rules should be overhauled frequently to reflect modern inquiries and suggestions from specialists within the field.
- ✓ Execute quality change plans: Quality advancement plans should be executed to screen and progress utilizing evidence-based suggestions in dentistry. Standard audits, input procedures, and execution pointers can offer assistance in recognizing regions for enhancement and back evidence-based care.

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