REVIEW ARTICLE

Competency based dental education curriculum proposed by Dental Council of India as compared to USA and UK dental curriculum: A systematic review

Jaishree Chahande[1], Shubhada Gade[2], Vedprakash Mishra[3]*

[1]Health Profession Education, [2]Directorate of Advanced Learning, Faculty of Interdisciplinary Health Sciences, [3]Pro-Chancellor and Chief Advisor, Datta Meghe Institute of Higher Education & Research (Deemed to be University), Sawangi, Wardha-442107 (Maharashtra) India

Abstract

Background: The proposed Bachelor of Dental Surgery (BDS) curriculum draft by Dental Council of India (DCI) adapted to the new University Grants Commission and National Education Policy 2020 requirements, building on competency-based education to maintain the global standards. Till date insufficient evidence is available to compare the proposed DCI draft with USA and UK competency based dental curriculum. This systematic review aims to address this existing gap. The aim of this study was to compare Competency Based Dental Education curriculum (CBDE) proposed by DCI with the USA and UK competency based dental curriculum. *Material and Methods:* The primary goal of this systematic review was conducted to address the research question, 'How does the CBDE proposed by the DCI compare with the competency-based dental curricula of the USA and the UK?' This systematic review was conducted as per the guidelines of PRISMA. A systematic electronic search of PubMed was performed, limited to English-language articles. Emphasis was placed on the studies published in past 15 years and articles reporting on choice based credit system in dentistry, CBDE, dental curriculum, and comparison of dental education worldwide. Previous studies were referenced to present the historical background. Data were retrieved from the database- Medline, PubMed, ERIC, Web of Science, Scopus, Cochrane Library, Google Scholar, Research gate, and Cross-references. MeSH terms and keywords were used to develop the search strategy. A modified PICO search was defined for Population/Participants, Intervention/Method, Comparison/Control and Outcome/Interest. *Results:* Seventy-nine articles were deciphered through PubMed Database and 17 more additional record through other database searches. A total of 96 articles were included. After thorough screening nine studies were finalised for data extraction and quality assessment which was done by Joanna Briggs Institute Critical Appraisal Tool. Three of the nine studies contribute the most compelling evidence with well-executed student perception. All other articles were highly susceptible to bias regarding empirical outcomes due to insufficient data, absence of formal methodologies, or being exclusively conceptual in nature. *Conclusion:* This systematic review emphasizes that in order to assure clinical competency, revamping dental education in India entails both structural curriculum mod-ifications and a review of evaluation techniques. Successful reform will require concerted initiatives that are aligned with national policies including curriculum redesign, faculty development, infra-structure investment, and stakeholder engagement.

Keywords: Competency, dental curriculum, dental education, global standard

Introduction

Dentistry was first practiced in India in 600 BC at Kashi. Students from Taxila and Nalanda universities studied dentistry across Asia. Since the first fully self-governing dental college was established in Calcutta in 1920, this new field of medicine has gradually evolved. As of July 11, 2022

data available on Dental Council of India (DCI) portal, there are 323 Bachelor of Dental Surgery (BDS) colleges offering dental education, with an annual intake of 28,088 graduates [1]. The DCI was established as a Statutory Body on March 29, 1948, in compliance with the Dentist Act, 1948 (XVI of 1948), and it became operational on April 12, 1949 with amendments in 1993, 2016, and 2019. Its goal is to regulate dental education and the dental profession throughout India [2]. Both the Lok Sabha and the Rajya Sabha approved the 'National Dental Commission Bill, 2023' on July 28 and August 11, respectively. According to this Act, a Commission will be established to oversee the cooperative development of high-quality, reasonably priced dental education and the upkeep of universally accessible, high-quality oral healthcare services to all the needy people of society [3].

Recent statistics as on January 2024 on Ministry of External Affairs, 'Global Indian Students Portal' reveals that approximately 1.5 million (1335319) Indian students are studying in universities/higher education institutions abroad with major places of study being USA, UK, Canada and Australia [4]. A competency-based education program is 'a set of skills and abilities intended to suit the needs of a population or individual'. To promote an individual's overall growth, this not only gives opportunities and methods for learning major courses, but also investigates other learning paths beyond them. USA and UK implemented Competency Based Dental Education (CBDE) since long whereas in India, 'Bachelor of Dental Surgery Regulations, 2022' draft was recently proposed by DCI to adopt these competencies in Indian dental education system.

American Dental Education Association (ADEA) and European Dental Education Association (EDEA) competencies for the general dentist includes 'critical thinking, professionalism, interpersonal and communication skills, health promotion, practice management and informatics and patient care.' Retaining Indian students within the country and attracting international students to India for dental education will be achievable by aligning with global standards through the proper implementation of CBDE [5-6].

As part of the University Grant Commission's (UGC) new initiatives under the Eleventh Five-Year Plan, a ′Action Plan for Academic and Administrative Reforms' has been created. The Choice Based Credit System (CBCS) is one of these improvements. It provides a learner-centred approach, self-paced learning, outcome based and course equivalency to suit the demands of the contemporary society and era. The suggested BDS Curriculum by DCI is adapted to the new UGC and National Education Policy (NEP) 2020 requirements for CBCS, building on competency-based education to maintain the global standards [7-10]. Similar strategies have not yet been adopted in dentistry prior to the introduction of CBCS, which necessitates meticulous planning and active involvement of stakeholders. However, several studies conducted in other countries have proposed strategies for implementing CBDE [11].

To date, there is insufficient literature comparing the proposed DCI draft curriculum with the competency-based dental curricula of the USA and the UK. This systematic review seeks to address this gap. The findings of this review have the potential to evaluate the proposed competency-based undergraduate dental curriculum in comparison with those of the USA and the UK, and may inform future modifications to ensure that dental education in India meets global standards.

Therefore, the aim of this study was to compare the CBDE curriculum proposed by the DCI with the competency-based dental curricula of the USA and the UK. The primary objective of this systematic review was to provide a comprehensive answer to the research question: 'How does the CBDE curriculum proposed by the DCI compare with the competency-based dental curricula of the USA and the UK?'

Material and Methods

A systematic review was applied to explore the proposed CBDE in India compared to USA and UK competency based dental education.

Eligibility criteria (Inclusion/Exclusion)

A modified PICO search was defined for population/participants, intervention/method, comparison/control and outcome/interest. Exclusion criteria included studies that were irrelevant to the research question, had inadequate abstracts, or showed poor methodological quality. Table 1 shows PICO framework with inclusion and exclusion criteria.

Table 1: PICO Framework: Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Population	Undergraduate Dental Students, All Stakeholders and Dental Institutions in India, USA and UK	Postgraduate or Other Health Professions Students
Intervention	Competency Based Dental Education Curriculum recommended by *Dental Council of India*	Traditional Contemporary Indian Dental Curriculum
Comparison	USA and UK Competency Based Dental Curriculum	Dental Curriculum of all the countries excluding USA and UK.
Outcomes	Academic/ Program Outcome- Core Competencies achieved by students (Competent Dental Practitioners with holistic development)	Non-academic outcomes only
Study Design	Quantitative, Qualitative, mixed-methods, Systematic Reviews, Comparative Reviews, Descriptive/Opinion studies, Conference Proceedings	Editorials, Books and Document and Clinical Trials
Publication range	2010-2024 (15 years)	Pre-2010 publications
Language	English studies	Non-English Studies

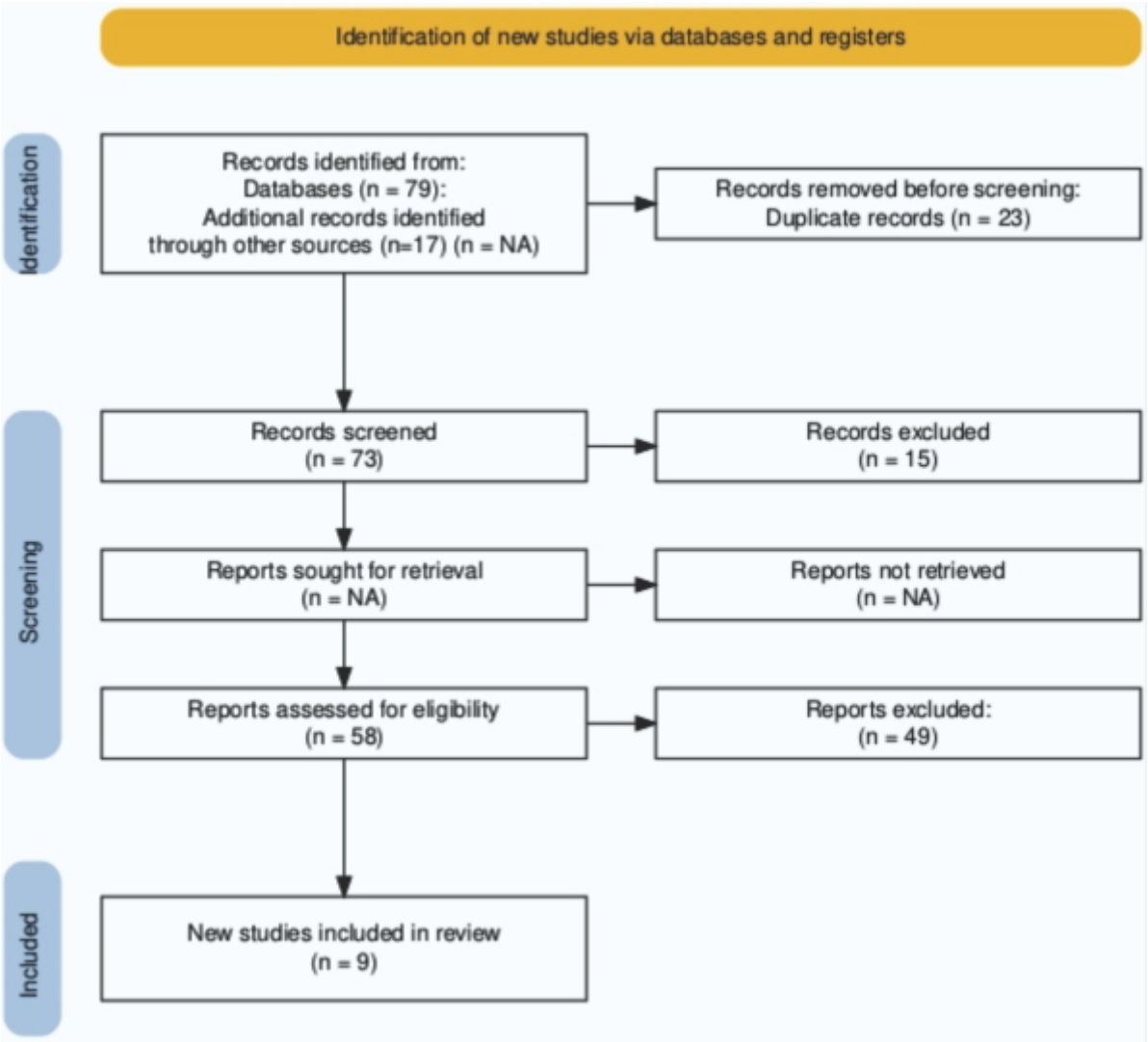

Figure 1: PRISMA Chart

Joanna Briggs Institute (JBI) levels of evidence for meaningfulness

To segregate the studies according to the JBI levels of evidence [12] for meaningfulness, need to focus the type and strength of its methodology, particularly as it pertains to qualitative research and studies of experience or perceptions.

JBI levels of evidence for meaningfulness scale 1-5 are as below: -

1. Qualitative or mixed-methods systematic review
2. Qualitative or mixed-methods synthesis
3. Single qualitative study
4. Systematic review of expert opinion
5. Expert opinion

Search strategy and searching databases

This systematic review was prepared as per the guidelines of Preferred Reporting Items of

Systematic Reviews and Meta-Analyses (PRISMA) [13]. A systematic electronic search of Pub Med was performed, limited to English-language articles. The studies were prioritized which published in past 15 years between January 2010-Decmber 2024 and articles reporting on any one or more on choice based credit system in dentistry, CBDE, dental curriculum, comparison of dental education worldwide. Earlier studies were considered to describe the historical context. The search was conducted using the database- Medline, PubMed, ERIC, Web of Science, Scopus, Cochrane Library, Google Scholar, Research gate, and Cross-references. The search was structured around relevant MeSH terms and Keywords.

Boolean Operators- AND, OR used to combine terms effectively.

The search syntax used with was:

(Choice Based Credit System in Dentistry[MeSH Terms]) OR (Competency-Based Education [MeSH Terms]) OR (Competency-Based Dental Education [MeSH Terms]) OR (Competency-Based health profession Education [MeSH Terms]) AND (Comparison of dental education worldwide [MeSH Terms]) OR (dental education [MeSH Terms]) AND (Dental Curriculum [MeSH Terms]) OR (Dental syllabus [MeSH Terms]) OR (Indian dental curriculum [MeSH Terms]) AND (Critical appraisal of dental education [MeSH Terms]) AND (Dental Education Reforms [MeSH Terms]) AND (Dental student's assessments [MeSH Terms]) AND (Electives [MeSH Terms]) AND (Evidence-Based Dental Education [MeSH Terms]) AND (Learning outcome [MeSH Terms]) AND (National Education Policy [MeSH Terms]) OR (Indian National Education Policy [MeSH Terms]) AND (Student's Feedback [MeSH Terms]) OR (Student Feedback [MeSH Terms])

Study selection and screening

All studies identified in the search underwent meticulous screening. Screening process was two-step. The initial review of titles/abstracts of studies was carried out independently by two reviewers, then full texts articles screening for relevance particularly comparative data. The first step included eliminating any duplication and examining titles. The two writers carefully examined each study in light of the second stage's criteria to ascertain which research met the requirements for inclusion.

The disagreements were discussed in order to come to an agreement. Disagreements about the appropriateness of studies were addressed collaboratively, and unresolved issues were referred to a third reviewer.

Result of searches

Seventy-nine articles were deciphered through PubMed database and 17 more additional record through other database searches. As such, total 96 articles were included.

Data extraction

Nine studies were finalized for further data analysis [14-22]. A structured form was designed to extract data and pilot testing was done and refined for extraction process. Two reviewers independently extracted the data and any disagreement observed were resolve by third investigator. Table 2 presents the data extraction framework, which includes the study author and year, aims/objectives, study design, population, intervention or exposure, outcomes, results, discussion, limitations, and comments. These elements were used to evaluate CBDE in India, the USA, and the UK.

Table 2: Data Extraction Table

Study	Aim/ Objectives	Study Design	Population	Intervention/ Exposure	Outcomes	Results	Discussion	Limitations	Comments
Virdi (2011) [14]	To reform dental education in India by introducing credits and semester system	Descriptive / conceptual	Indian dental students and educators	Credit and semester system introduction	Curriculum structure, acceptance, implementation feasibility	Reported improved flexibility and modularity; positive feedback from stakeholders	Credits & semester system modernizes curriculum; recommended phased implementation	No empirical data; conceptual only	Sets foundational reform ideas
Rao *et al.* (2014) [15]	Compare Indian dental curriculum with developed countries	Comparative review	Curriculum documents from India & developed countries	Curricula comparison	Differences in content, duration, evaluation	Indian curriculum less aligned with competency-based education; lacks integration	Highlights need for curriculum modernization and alignment with global standards. Need to introduce Early clinical exposure, intercalated degrees and Electives	Lacks primary data; expert opinion	Useful gap analysis
Manivasakan *et al.* (2016) [16]	Propose BDS syllabus framework consistent with Choice Based Credit System (CBCS)	Conceptual framework	N/A	Proposed CBCS syllabus framework	Feasibility and alignment with CBCS principles	Framework supports flexibility and student choice; promotes interdisciplinary learning	CBCS framework suits Indian dental education; needs pilot testing	No implementation data	Provides syllabus template
Manivasakan *et al.* (2016) [17]	Assess acceptability and feasibility of CBCS in BDS syllabus	Cross-sectional survey	Dental faculty & students (N=~100)	CBCS adoption	Acceptability, feasibility	Majority (>70%) supported CBCS adoption; noted challenges in assessment & resource allocation	Positive attitude towards CBCS, but need for faculty training and infrastructure, choice to take electives	Limited sample size; regional bias	Important initial acceptability data

Continued...

Terry *et al.* (2017) [18]	Systematic review: Do summative coursework assessments predict clinical performance?	Systematic review	Multiple studies (N=18 studies)	Coursework assessment types	Correlation with clinical skills	Mixed results; some studies showed moderate prediction, others weak/no correlation	Assessment should combine multiple methods; summative exams alone insufficient, Objective Structured Clinical Examination may be the most appropriate summative assessment	Heterogeneity of included studies	Informs assessment strategies
Tonni *et al.* (2020) [20]	Assessment in competency-based dental education: ways forward	Expert consensus/ review	Experts in dental education	Competency-based assessment methods	Best practices in assessment	Emphasizes multi-modal assessment: portfolios, EPA's, OSCEs, workplace-based assessments	Competency-based education needs valid, reliable, continuous assessment methods,	Expert opinion; lacks empirical data	Guides future assessment frameworks
Kakodkar & Manivasakan (2022) [21]	Roadmap for NEP 2020 compliant multidisciplinary education & research universities for dental education	Conceptual / policy review	Policy documents	NEP 2020 framework alignment	Strategies for multidisciplinary dental education	Advocates integrated, research-intensive multidisciplinary universities; policy supportive	Potential to transform dental education quality and research output	Conceptual only; no empirical evidence	Strategic direction aligned with national policy
Biswas (2018) [19]	Analytical study on Choice Based Credit System (CBCS)	Analytical study/ review	N/A	CBCS in higher education	Strengths, weaknesses, implementation challenges The implementation of CBCS system beneficial for Student-centric approach of education Creates interest and applicability in the scope of study	CBCS enhances flexibility and learning autonomy; challenges include assessment standardization	Calls for clear guidelines and faculty development for successful implementation introducing critical thinking and analysis, which leads to creativity and innovation in the educational system	No empirical data; analytical only	General higher education focus, transferable insights

Continued...

Kabra *et al.* (2023) [22]	Explore dental undergraduates' awareness and perspectives on the CBCS in Belagavi City, India	Cross-sectional survey	Undergraduate dental students (N=~150)	Newly proposed CBCS Syllabus	Awareness, perception, acceptance	Moderate awareness (~60%); mixed perceptions on CBCS benefits	Need for better communication and orientation programs for students	Single institution; limited generalizability	Important for stakeholder engagement

Quality assessment

The authors used JBI Critical Appraisal Tool (CAT). This tool is specialised for each type of study design. Table 3 shows the quality assessment of the nine studies included in this review by using this tool.

JBI Critical Appraisal Tool:

The JBI Critical Appraisal Checklist for Cross-Sectional Studies (8 items) was applied to the studies by Kabra *et al*. (2023) and Manivasakan *et al*. (2016) [17, 22]. The JBI Critical Appraisal Checklist for Systematic Reviews (11 items) was used to assess the study by Terry *et al*. (2017) [18] Additionally, the JBI Critical Appraisal Checklist for Text and Opinion Papers (6 items) was utilized for the works of Virdi (2011), Rao *et al*. (2014), Manivasakan *et al*. (2016), Tonni *et al*. (2020), Kakodkar (2022), and Biswas (2018) [14-16,19-21].

Risk of bias assessment

A relevant quality evaluation tool was applied to assess the risk of bias in the studies. The levels mentioned in Table 4 describes the risk of bias key and Table 5 shows risk of bias of comprised studies.

Table 3: Quality assessment by using JBI critical appraisal tool

Study	Design	JBI Tool	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9 11	Score (%)	Quality
Kabra *et al.* (2023) [22]	Cross-sectional	Analytical	√	√	√	√	X	X	√	√	–	6/8 (75%)	Moderate
Manivasakan *et al*. (2016) [17]	Cross-sectional	Analytical	√	√	√	X	X	X	√	√	–	5/8 (62.5%)	Moderate
Terry *et al.* (2017) [18]	Systematic Review	SR Checklist	√	√	√	√	√	√	√	√	√	11/11 (100%)	High
Virdi (2011) [14]	Opinion	Textual	√	√	√	X	√	X	–	–	–	4/6 (67%)	Moderate
Rao *et al*. (2014) [15]	Opinion	Textual	√	√	√	X	X	X	–	–	–	3/6 (50%)	Low
Manivasakan et al. (2016) [16]	Opinion	Textual	√	√	√	X	X	X	–	–	–	3/6 (50%)	Low

Continued...

Tonni *et al*. (2020) [20]	Opinion	Textual	√	√	√	√	√	√	–	–	–	6/6 (100%)	High (for opinion)
Kakodkar *et al*. (2022) [21]	Opinion	Textual	√	√	√	X	X	X	–	–	–	3/6 (50%)	Low
Biswas (2018) [19]	Opinion	Textual	√	√	√	X	X	X	–	–	–	3/6 (50%)	Low

Table 4: Risk of bias key

Level	Meaning
Low	Minimal risk of bias; well-conducted empirical study
Moderate	Acceptable but has some limitations (e.g., design clarity, sampling)
High	Conceptual, opinion-based, or lacks methodological rigor

Table 5: Risk of bias table for included studies

Study	Type	Risk of Bias	Reasoning
Virdi (2011) [14]	Theoretical proposal / expert opinion	High	No empirical data; conceptual framework only
Rao et al. (2014) [15]	Narrative review	High	No formal methodology; lacks systematic search or appraisal
Manivasakan et al. (2016) [16]	Theoretical framework	High	No data collection; conceptual proposal only
Manivasakan et al. (2016) [17]	Survey / cross-sectional	Moder ate	Uses survey data but lacks detailed sampling strategy and analysis depth
Terry et al. (2017) [18]	Systematic Review	Low	High-quality SR, transparent methods, PRISMA-compliant
Tonni et al. (2020) [20]	Expert opinion / policy paper	High	Consensus report; no data collection or analysis
Kakodkar & Manivasakan (2022) [21]	Roadmap / expert opinion	High	Descriptive article without primary data
Biswas (2018) [19]	Analytical commentary / policy analysis	High	No formal empirical methodology; largely narrative
Kabra et al. (2023) [22]	Cross-sectional survey	Low	Validated questionnaire, good sample size, robust analysis; risk minimized

Results

Among the nine studies, the strongest evidence comes from Terry *et al.* (2017) [18] with high-quality systematic review, Kabra *et al.* (2023) [22] with well-executed student perception study and Manivasakan *et al.* (2016) [16-17].

All other articles were highly susceptible to bias regarding empirical outcomes due to insufficient data, absence of formal methodologies, or being exclusively conceptual in nature.

Discussion

In order to educate graduates for clinical competency and lifelong learning, the changing landscape of dentistry education necessitates significant curricular modifications and efficient evaluation mechanisms. A wealth of information about this intricate problem may be gained from the studied literature, which includes conceptual frameworks, curriculum comparisons, stakeholder perceptions, and systematic reviews.

Curriculum reforms and adoption of CBCS

Virdi (2011) [14], Manivasakan *et al*. (2016) [17] and Kabra *et al*. (2023) [22] are among the research that highlight the pressing need to update India's traditional dentistry curriculum. Important initiatives toward bringing Indian dentistry education to comply with global benchmark include the implementation of a credits and semester system and suggested CBCS framework.

CBCS model

Numerous drawbacks of strict curricula are addressed by the CBCS approach, which encourages adaptability, interdisciplinary learning, and student autonomy. Overall, teacher and student adoption of CBCS seems to be favourable [17, 22], however issues with infrastructure, faculty development, and uniform evaluation techniques still exist. Rao *et al*. (2014) highlight the importance of these reforms, noting that Indian curricula lag behind those of English speaking nations in incorporating competency-based education [15].

Clinical competence evaluation: Insights from the systematic review

The systematic review by Terry *et al*., 2017, [18] offers important proof about the connection between clinical performance and summative coursework evaluations, which is a key concern for dental educators. The reality is that; no single evaluation technique is enough to completely capture clinical competence is further supported by their mixed predictive validity finding.

The necessity of competency-aligned, multi-method assessment systems including Objective Structured Clinical Examination (OSCEs), portfolios, various case scenarios and workplace-based evaluations are emphasized by Tonni *et al*. (2020) [20] similar to the study conducted by Ozdemir-Ozenen *et al*. (2020); El-Kishawi *et al*. (2020) and Pushpalatha *et al*. (2023) [23-25]. This data backs up reformers' demands to move beyond traditional tests and incorporate continuous and varied assessment methods into CBCS and competency frameworks. Alkhodary *et al*. (2020) suggested that the use of CBDE enabled students to score higher than the conventional education [26].

CBDE and future directions

The more general objectives of the NEP 2020 reforms, which support research-driven, interdisciplinary educational paradigms similar to the study conducted by Meshram *et al.* (2023), incorporated blended learning model used in competency based medical education to improve theoretical knowledge of medical students [17, 21, 27].

India's new DCI draft is explicitly competency-based, integrating modern educational methods, structured assessments, flexible electives, and

alignment with global standards. The USA exemplifies a mature, holistic CBDE model, heavily structured around competencies from ADEA and innovative assessments. The UK adopts competency principles indirectly through regulation and practice-based training rather than explicit CBDE frameworks. The focus on real-world, workplace-based evaluations reflects international best practices and aims to generate graduates capable of meeting workplace expectations as per the suggestion by Ganganahalli & Udgiri (2023), to implement community based education to manage community health issues [28]. The review highlighted shortcomings in summative assessments, suggesting that these can be mitigated through the use of formative assessments and continuous feedback.

Challenges and implementation considerations

Despite the presence of several frameworks at the conceptual and policy levels, there is little empirical data on their implementation. To properly implement new curricula and assessments, faculty development and training are necessary, according to numerous research. Limitations in infrastructure and resources, particularly in Indian contexts, could make the shift to competency-based models like CBCS more difficult. Kabra *et al.* (2023), [22] have identified knowledge gaps among students and professors, which implies that communication and conducting orientation sessions are vital for gaining support. Gugapriya *et al*. (2024) suggested faculty development program for successful implementation of competency based medical curriculum [29]. Spielman (2024) investigated past changes and contemporary patterns in dental practice and education in an effort to forecast the future [30].

Limitations

With few longitudinal or intervention studies, most of the evidence about CBCS and competency-based reforms is still conceptual or survey-based. According to the systematic review and other studies, in Indian dentistry education limited data exists on the effectiveness of assessments and clinical results in specific regions. Implementation tactics, impact assessment, and local context adaptability require more study.

Conclusion

Overall, the evidences emphasize that in order to assure clinical competency, revamping dental education in India entails both structural curriculum modifications, like the introduction of CBCS, and a review of evaluation techniques. Successful reform will require concerted initiatives that are consistent with national policies like NEP 2020 and include curriculum redesign, faculty development, infrastructure investment, and stakeholder engagement.

References

1. https://dciindia.gov.in/History_DCI.aspx Accessed on 23rd Dec 2024.
2. DCI, Dentists Act, 1948 (XVI of 1948) with Amendments in 1993, 2016, and 2019 accessed through https://dciindia.gov.in/ Accessed on 23rd Dec 2024.
3. https://prsindia.org/files/bills_acts/acts_parliament/%202023/National_Dental_Commission_Act,_2023.pdf Accessed on 23rd Dec 2024.
4. https://gisp.php-staging.com/en/about/indian-students-abroad Accessed on 10th Jan 2025.

5. ADEA Competencies for the New General Dentist. *J Dent Educ* 2017; 81(7):844-847. ADEA Competencies for the New General Dentist, 2008, ADEA, USA accessed through https://www.adea.org/about_adea/%20governance/Documents/ADEACompetenciesNewDentist.pdf Accessed on 5th Jan 2025.
6. https://adee.org/graduating-european-dentist/%20graduating-european-dentist-curriculum Accessed on 5th Jan 2025.
7. https://www.ugc.gov.in/pdfnews/%208023719_%20Guidelines-for-CBCS.pdf Accessed on 23rd Dec 2024.
8. XI Action plan for academic and administrative reforms. Retrieved from http:// www.ugc.ac.in/pdfnews/9682768_Action_plan-new_01.pdf Higher education in India: Strategies and schemes. Retrieved from http://www.ugc.ac.in/oldpdf/pub/he/HEIstategies.pdf Accessed on 5th Jan 2025.
9. National Education Policy, Government of India, Ministry of Education. https://www.education.gov.in/national-education-policy-2022-0 Accessed on 15th Jan 2025.
10. Proposed CBCS comprising CBDE Curriculum of BDS placed in public domain accessed through https://www.scribd.com/document/597042421/DRAFT-BDS-Program-Regulations-2022-06-07-2022Accessed on 15th Dec 2024.
11. Maart RD, Adam RZ, Frantz JM. Strategies to implement competencies as it relates to a competency framework in a dental undergraduate curriculum: A systematic review. *Eur J Dent Educ* 2023; 27: 746-755.
12. Joanna Briggs Institute (JBI). Joanna Briggs Institute EBP Database Guide. University of Adelaide; 2013. https://jbi.global/sites/default/files/2019-05/JBI-Levels-of-evidence_2014_0.pdf Accessed on 25th Jan 2025.
13. Moher D, Liberati A, Tetzlaff J, Altman DG; PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med* 2009; 6(7): e1000097.
14. Virdi MS. Reforming undergraduate dental education in India: introducing a credits and semester system. *J Dent Educ* 2011; 75(12):1596-602.
15. Rao LN, Hegde MN, Hegde P, Shetty C. Comparison of dental curriculum in India versus developed countries. *J Health Allied Sci* 2014; 4:121-4.
16. Manivasakan S, Sethuraman KR, Narayan KA. The proposal of a BDS syllabus framework to suit Choice Based Credit System (CBCS). *J Clin Diagn Res* 2016; 10(8): JC01-JC05.
17. Manivasakan S, Sethuraman K, Adkoli B. Acceptability and feasibility of choice based credit system in BDS syllabus. *Int J Innov Educ Res* 2016; 4(6):73-80.
18. Terry R, Hing W, Orr R, Milne N. Do coursework summative assessments predict clinical performance? A systematic review. *BMC Med Educ* 2017; 17(1):40.
19. Biswas S. Choices Based Credit System (CBCS)—an analytical study. *Int J Res Anal Rev* 2018; 5(3).
20. Tonni I, Gadbury-Amyot CC, Govaerts M, Ten CO, Davis J, Garcia LT, *et al*. ADEA-ADEE Shaping the Future of Dental Education III: Assessment in competency-based dental education: Ways forward. *J Dent Educ* 2020; 84(1): 97-104.
21. Kakodkar PV, Manivasakan S. National Education Policy 2020 Compliant Multidisciplinary Education and Research Universities for Dental Education in India - A Road Map. *J Med Evid* 2022; 3(1): 60-63.
22. Kabra L, Santhosh VN, Sequeira RN, Ankola AV, Coutinho D. Dental curriculum reform in India: Undergraduate students' awareness and perception on the newly proposed choice based credit system. *J Oral Biol Craniofac Res* 2023; 13(5):630-635.
23. Ozdemir-Ozenen D, Ozcakir-Tomruk C, Ozenen G, Ozdemir-Karatas M, Tanriover O, Sungurtekin-Ekci E, *et al*. Competencies of performance appraisal in a dentistry school: A 6-year study. *Sage Open* 2020; 10(3).
24. El-Kishawi M, Khalaf K, Al-Najjar D, Seraj Z, Al Kawas S. Rethinking assessment concepts in dental education. *Int J Dent* 2020; 2020:8672303.
25. Pushpalatha K, Manjunatha B, Swamy M. A Delphi Consensus Study to identify most valuable assessment tools and to assess anatomy competencies in CBME curriculum. *J Krishna Inst Med Sci Univ* 2023; 12(4): 43-50
26. Alkhodary MA, Farah RI, Ghobashy AI. Competency-based education in undergraduate clinical prosthodontics: A paradigm shift in training. *J. Competency-Based Educ* 2020; 5:e01220.
27. Meshram K, Srivastava T, Meshram A, Meshram H, Singh A, Mishra P. Comparison of a 'seven-pronged blended learning model for Indian medical graduates' versus traditional teaching in a competency based curriculum at rural medical college in Central India. *J Krishna Inst Med Sci Univ* 2023; 12(1):43-51
28. Ganganahalli P, Udgiri R. Developing and implementing a skill-based competency module for Indian medical graduates: A community-based education approach for community diagnosis. *J Krishna Inst Med Sci Univ* 2024; 13(1):93-100.

29. Gugapriya TS, Dhivya MS, Ilavenil K, Vinay Kumar N. Strength weakness opportunities challenge analysis of implementing competency-based medical education curriculum: Perspectives from anatomy specialty. *J Krishna Inst Med Sci Univ* 2024; 13(1):25-36.

30. Spielman AI. Dental education and practice: past, present, and future trends. *Front Oral Health* 2024; 5:1368121.

Author for Correspondence:
Dr. Jaishree Chahande, PhD Scholar, Health Profession Education, Datta Meghe Institute of Higher Education & Research (Deemed to be University), Nagpur, Maharashtra-441110 Email: drjai702@gmail.com Cell: 9623485757

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