**Title:** Universities turning blind eye to the ground realities in dental education.

**Author List**

1. Dr.Pradnya Kakodkar ( Corresponding Author)

MDS,

Deputy Director

Dr D Y Patil Vidyapeeth, Pimpri, Pune.

Email:Pradnya.kakodkar@gmail.com

Mobile:9881409089

2. Dr Pushpanjali K

Prof and HOD

Faculty of Dental Science

M S Ramaiah University, Bengaluru.

Email: [drpushpa14@gmail.com](mailto:drpushpa14@gmail.com)

Mobile: 8050656592

**Corresponding author:**

Dr.Pradnya Kakodkar

Deputy Director

Dr D Y Patil Vidyapeeth, Pimpri, Pune.

Email:Pradnya.kakodkar@gmail.com

Mobile:9881409089

**Funding: Nil**

**Conflict of Interest: Nil**

**Universities turning blind eye to the ground realities in dental education.**

**Abstract:**

Presently, in education, this new wave of Systematic review (SR) methodology as LD has been recommended for postgraduate dental students through the Universities. No doubt it is a progressive step towards growing academically but there are some ground realities which the University are turning a blind eye. This article narrates the present situation and also recommends steps for improvement.

**Introduction**

According to the Dental Council of India (DCI)1, the undergraduate dental training program leading to Bachelor of Dental Surgery (BDS) degree is a minimum of five years. At the completion of the training, the graduate is competent in Practice management, Patient care (diagnosis, treatment planning, treatment ) Communication and Community resources and General skills.

Masters in Dental Surgery (MDS) is a three year postgraduate course in nine different disciplines of dentistry. BDS graduate clears the entrance test and takes admission for post-graduation. In, the first year of post graduation, the candidate probably has some general skills which include basic information on research, scientific literature and minimum computer proficiency. Soon the didactic lectures, journal review meeting and seminars are initiated to strengthen the research acumen among them. They are expected to submit synopsis of their dissertation within first six months of their course and submit the dissertation within six months before appearing for the University examination2 . One another activity which they undertake is Library dissertation which is submitted within eighteen months from the date of commencement of the course2.

For several years now , under the pretext of Library dissertation (LD), the student is been given a topic related to the main dissertation or otherwise. The student then, comprehensively searches for the literature from the library (manual or electronic) through journals and books . They will include all kinds of information extracted from the letter to editor, case reports, case series, observational studies, clinical studies and also the reviews. The LD is completed by compiling all this literature and writing a report. The whole essence of undertaking this activity is to train the student to acquire in depth knowledge in a particular scientific topic, literature searching, recognizing various kinds of research work, getting abreast with current knowledge , learning the basic research designs and finally been able to identify knowledge lacuna and gaps and propose areas for future research. This kind of narrative review does not require the student to have critical appraisal skills and experience .

**“You must have a solid foundation if you're going to have a strong superstructure”**. [*Gordon B. Hinckley*](https://www.azquotes.com/author/6732-Gordon_B_Hinckley)

Presently, in education, this new wave of Systematic review (SR) methodology as LD has been recommended for postgraduate dental students through the Universities. No doubt it is a progressive step towards growing academically but there are some ground realities which the University should not turn a blind eye.

Evidence based dentistry (EBD) can be said to be the current best approach to provide interventions as it improves dentist’s skills and knowledge as well as quality of treatment provided to the patients3 . SR has been considered as the pillar on which evidence-based healthcare rests. It is the highest level of evidence in the pyramid of evidence hierarchy.4 It is inevitable that, if a type of study method sits at the top of the pyramid, everybody will want to either conduct such a study or publish them.5 SR could be a good research method to be used for post-graduate education because it not only enhances problem solving by using critical and analytical thinking and acquiring in depth knowledge of a variety of research methods, but it can provide opportunities for networking by contacting different authors of publications nationally and globally.6 Doing a SR properly implies following a protocol7 ( Decide the uncertainty; Deciding the topic and formulating the research question ; Prepare the protocol ; Making a list of keywords/search strategy/literature search; Selection of studies ;Extraction of data ; Assessment of the study quality ; Analyze and interpret results and Prepare the report)

If SR is recommended to postgraduate student as LD, in the expert’s opinion it is very clear that the student will need a guide experienced in SR to take him/her through this journey till successful completion. Every step of the SR protocol needs decision making and the naïve postgraduate student will not be able to make these decisions. Deciding the un-certainity leading to the SR topic, designing a clearly focused PICO- based question , describing the eligibility criteria for article selection and protocol writing is unarguably a job of an subject expert with in-depth knowledge of the topic been studied.

It is well known that the team for a SR should include at least one person with some experience in the performance of SRs, one person skilled in statistics (if meta-analysis is planned) and one person with content knowledge of the topic being addressed.8,9 . Further, at least two persons will be needed to search and extract data independently and a third person to resolve any discussions arising due to disagreements.10 The crux of SR is in extensive and comprehensive literature search . This is an exhaustive process and requires time and effort . However, data extraction may be relatively easy than the other steps but critical assessment of the included article using checklist and assessing risk of bias /quality of the study isn’t straightforward. The expert guide opinion and critical thinking abilities at this stage is mandatory.

**Eye opening ground Realities :**

1. The Universities are recommending Systematic review to be undertaken as Library dissertation in their first year of postgraduation.

2. There is no availability of trained guides. The guides of the present age have completed their post graduation education atleast 5 to 35 years ago . The DCI curriculum then or even today do not have Evidence based training and SR training in the curriculum.2 Probably for few exception who have trained themselves by attending special training workshops , the majority guides are new to this concept.

3. SR is known to be a rigorous and transparent form of literature review.10 The rule of thumb for a SR literature search is that more than 2 databases should be used; articles in languages other than English should be included and there should be an attempt to find unpublished research (grey literature). 11 Presently, the students have no access to variety of literature databases like the SCOPUS / EMBASE/ Web of Science/ CINAHL etc.

4. Ignoring the above two points, even if the postgraduate students continues to undertake a SR without a trained guide and no availability of complete literature resources than the SR produced will be of a poor quality and will not serve the purpose of been a high-quality SR which is described as the most reliable source of evidence to guide clinical practice.12

5. Further, publication of such low quality SR will be difficult.

**Recommendations**

The systematic review process is extremely demanding, time consuming and resource intensive.10 At the outset, a solid foundation should be laid to create a super structure . Firstly, it is recommended that a pool of trained guides/experts should be created. Secondly, planning and procuring of access to variety of paid literature databases or provision for inter-library loan services of articles should be undertaken. Thirdly and most importantly, assess the capacity of the student13 (Table 1) and the willingness to undertake the SR and lastly there should be a provision of choice to choose between narrative review or SR to be undertaken as library dissertation .

Table 1: Student capabilities to undertake a systematic review

|  |
| --- |
| * Excellent record-keeping skills, as registering all research findings of studies meeting the inclusion criteria is essential for the success of a systematic review.   • Demonstrated ability for abstract thinking.  • High computer literacy levels.  • Appropriate literature searching skills.  • Critical appraisal skills.  • An understanding of the diverse research methodologies that can be used in selected studies.  • Access to experts and the ability to collaborate with experts like librarians, independent reviewers and statisticians (in the case of a quantitative systematic review). |

References:

1. Dental Council of India. BDS course regulation. 2007. New Delhi. See at <http://dciindia.gov.in/Rule_Regulation/Revised_BDS_Course_Regulation_2007.pdf>
2. Dental Council of India. MDS course regulation . 2017. See at [http://dciindia.gov.in/Rule\_Regulation/MDS\_Course\_Regulations\_2017.pdf accessed on 25-5-2020](http://dciindia.gov.in/Rule_Regulation/MDS_Course_Regulations_2017.pdf%20accessed%20on%2025-5-2020%20) .
3. Prabhu. S, Joseph John, Saravanan. S. Knowledge, Attitude and Perceived Barriers towards practice of Evidence Based Dentistry among Indian postgraduate dental

Students. *IOSR Journal of Dental and Medical Sciences 2012. 2(1) 46-51*

1. Munn, Z., Stern, C., Aromataris, E. *et al.* What kind of systematic review should I conduct? A proposed typology and guidance for systematic reviewers in the medical and health sciences. *BMC Med Res Methodol* **18,**5 (2018). <https://doi.org/10.1186/s12874-017-0468-4>
2. Wormald R, Evans J. What Makes Systematic Reviews Systematic and Why are They the Highest Level of Evidence? Ophthalmic Epidemiol. 2018 Feb;25(1):27-30.

1. [Sambunjak D, Puljak L. Cochrane Systematic review as PhD thesis: an alternative with numerous advantages. Biochemia Medica 2010: 20(3), 319-326.](https://www.sciencedirect.com/science/article/pii/S1025984815000228" \l "bib43)
2. Kakodkar P. Training module for capacity building to conduct systematic reviews in dentistry. J Dent Res Rev 2019; 6:1-2.
3. Charrois TL. Systematic reviews: what do you need to know to get started? Can J Hosp Pharm. 2015 Mar-Apr;68(2):144-8. doi: 10.4212/cjhp.v68i2.1440.
4. Moller AM, Myles PS. What makes a good systematic review and meta-analysis?, BJA: British Journal of Anaesthesia, 2016: 117; 428–430.
5. [Richard Mallett](https://www.tandfonline.com/author/Mallett%2C+Richard), [Jessica Hagen-Zanker](https://www.tandfonline.com/author/Hagen-Zanker%2C+Jessica),[Rachel Slater](https://www.tandfonline.com/author/Slater%2C+Rachel) ,[Maren Duvendack](https://www.tandfonline.com/author/Duvendack%2C+Maren). The benefits and challenges of using systematic reviews in international development research. Journal of Development Effectiveness.2012:4;445-55 . [doi.org/10.1080/19439342.2012.711342](https://doi.org/10.1080/19439342.2012.711342)
6. R-AMSTAR checklist - quality assessment for Systematic Reviews (Appendix-1) <http://www.perosh.eu/wp-content/uploads/2014/02/R-AMSTAR-Checklist-OSH-Evidence.pdf>
7. Clarke J. What is a systematic review? *Evidence-Based Nursing*2011;**14:**64.
8. Wilma ten Ham-Baloyi, Portia Jordan. Systematic review as a research method in postgraduate nursing education. Health SA Gesondheid. 2016;21; a942 [doi.org/10.4102/hsag.v21i0.942](https://doi.org/10.4102/hsag.v21i0.942) |