THE ASIA-PACIFIC SCHOLAR
MEDICAL AND HEALTH PROFESSIONS EDUCATION

SHORT COMMUNICATIONS

Check for updates

Submitted: 17 February 2024
Accepted: 25 March 2025
Published online: 1 July, TAPS 2025, 10(3), 65-74
https://doi.org/10.29060/TAPS.2025-10-3/SC3251

Evidence-based practice teaching in Indonesian dental schools: A survey among faculty members

Dani R Firman[1,2], Friedo W Dekker[2,3], Eriska Riyanti[1], Sunardhi Widyaputra[1] & Peter GM de Jong[2]

[1]Faculty of Dentistry, Universitas Padjadjaran, Indonesia; [2]Center for Innovation in Medical Education, Leiden University Medical Center, the Netherlands; [3]Department of Clinical Epidemiology, Leiden University Medical Center, the Netherlands

Abstract

Introduction: To explore the current situation regarding teaching evidence-based practice (EBP) in Indonesian dental schools as a low-middle-income country (LMIC) setting.

Methods: Two nation-wide surveys were administered to all Indonesian dental schools (N=32) to capture the perceived value of the deans about EBP skills and teaching with its resource-related situation, as well as the actual teaching implementation and its challenges by their curriculum teams. The analysis was performed descriptively as national aggregate data.

Results: The response rates were 96.9% and 90.6%, respectively. The deans considered EBP skills to be very important (61.3%) or important (38.7%). However, only 16.1% of deans reported that the implementation of teaching EBP met their expectations. Most schools (75.9%) considered providing training for teachers as the priority plan. Most schools (62.1%) had an independent EBP course in their curriculum, while 86.2% incorporated EBP teaching (also) into other courses. All dental schools employed a lecture strategy for teaching EBP topics, but also used other strategies such as interactive strategies with a wide range of percentages being utilised (10.3 - 89.7%). EBP-specific topics were generally taught with a level of implementation varying from 34.5% to 96.6% in the pre-clinical and from 10.3% to 62.1% in the clinical programme.

Conclusion: The used approach can be considered an effective strategy to provide opportunities for schools to reflect their EBP teaching. This study confirmed the necessity for improvement, especially the need to support faculty development. The deans and their curriculum teams highly value collaborative improvement plans.

Keywords: *National Survey, Evidence-based Practice, Faculty Perception, Low-middle-income Country*

I. INTRODUCTION

Evidence-based practice (EBP) is emerging as the standard in clinical dentistry. It integrates the best research evidence with patients' values, preferences, and clinical experiences (Young et al., 2014). The EBP process involves five key steps in sequence (ask, acquire, appraise, apply, and evaluate). The appraise or critical appraisal skill as part of the steps is related to research capacity still considered as crucial gaps in the LMIC setting compared to high-income country (HIC) setting, and known to hinder EBP development and implementation (Gill et al., 2021). Furthermore, the suboptimal practice of EBP among dental professionals in lower and middle-income countries (LMIC) was suspected due to limited access of web-based subscription database and scarcity of experts as mentor (Minja & Lwoga, 2021).

Potentially, dental schools can play a significant role in promoting EBP implementation in dentistry of such setting by providing the access to evidence, supporting professional development and integrate the EBP teaching and learning in the curriculum. However, institutionalising EBP requires consistent policy and strong administrative support. To understand the current situation of EBP teaching in Indonesian dental schools, we conducted a study exploring the deans' perceptions about its importance and the need for improvement. We

also determined the actual level of implementation as reported by their curriculum teams. The study's outcomes could inform future interventions to enhance EBP teaching in Indonesian dental schools.

II. METHODS

At the time of the study, in September 2022, there were 32 dental schools in Indonesia, all of which ran a bachelor's programme (year 1-4) and a clinical programme (year 5-6). A descriptive survey study was conducted online using two sets of Indonesian-language questionnaires in sequence.

The first survey was launched during an in-person national meeting in Surabaya. Only the principal investigator himself participated via Zoom. This first survey aimed to gauge deans' perceived importance of EBP skills and teaching, along with necessary resource improvements. The questionnaire included demographic items, five-point of Likert-scale questions on EBP teaching value, resources-related, an open-ended item on EBP teaching challenges, and a section for additional comments. Most deans completed the first online survey during that meeting, while those who did not attend the meeting were received the survey's link via email.

Upon completion for each school by the deans, a second survey was sent to vice dean for academic affairs as corresponding contact using the email address provided by the deans in the previous survey. In the introduction letter, we specifically requested the involvement of their curriculum team of the bachelor and clinical programme as a group response for each school. This second survey gathered data on EBP teaching implementation and challenges more in details. It was translated and adapted from a previous survey used by Gorgon et al. (2013) which was considered relevant to all health professions, including dentistry. The adaptation included a pilot test beforehand to ensure its relevance and clarity.

The study protocol was approved by the Educational Research Review Board of the LUMC (Registry number: OEC/ERRB/20220913/1). Participants electronically consented to both surveys after reviewing the provided information. Respondents with missing or unclear data were contacted for clarification. Five-point Likert scale items, checklist items, and multiple-choice items were analysed descriptively. The open-ended item responses and additional comments were analysed thematically.

III. RESULTS

The first survey's responses were received from 31 dental schools across Indonesia (96.9%). The schools were located on Java (18), Sumatera (6), Sulawesi (3), and Kalimantan and Bali (2 each). For the second survey, which targeted the curriculum team for each school, the responses were received from 29 schools (90.6%).

A. The Perceived Value of EBP Teaching (The 1st Survey, n=31)

The deans perceived EBP skills as very important/essential (61.3%) or important (38.7%) for students. Incorporating EBP in the curriculum was seen as very important/essential (51.6%) or important (48.4%). Improving teachers' EBP teaching expertise was deemed very necessary (54.8%) or necessary (38.7%). Five deans (16.1%) felt their schools met faculty expectations for EBP teaching, while others observed room for improvement (64.5% necessary, 19.4% very necessary). Resources like database access and librarian expertise varied in satisfaction. Most respondents (71%) valued collaboration with other schools on EBP training and implementation (See Appendix 1).

B. The Implementation of EBP Teaching (The 2nd Survey, n=29)

Over half (62.1%) of participated schools have a standalone EBP course, and 86.2% incorporate EBP in other courses. Lecture-based teaching is the most common EBP strategy, followed by thesis discussions, journal readings, colloquiums, and seminars. Small group discussions and problem-based tutorials are also used. "Critically appraised topics" (CATs) are least used, with only three schools employing this active learning method. Both summative and formative assessments are used. Most schools use a blended approach for EBP courses, with one school offering a fully online course (See Appendix 2.a).

C. Available Resources for EBP Teaching (The 1st and 2nd Survey, n=31 and n=29)

Of the participating institutions, only 8 out of 29 dental schools have teachers formally-trained in EBP. Most schools have access to scientific databases, with ScienceDirect being the most accessible (58.6%). Other databases include Web of Science, Cochrane Library, EBSCO Host, CINAHL, and UpToDate, with some schools also subscribing to Springer Link, Wiley, Emerald, and SAGE (See Appendix 2.b). Database access is mostly provided by the university (80.6%), with some funded by faculty budgets (29%) or government institutions (9.7%). Only one school lack subscribed database access (See Appendix 3.a).

D. The EBP Specific Topics Coverage (The 2nd Survey, n=29)

The five EBP steps (ask, acquire, appraise, apply, evaluate) are taught in Indonesian dental schools, with varying implementation levels from 34.5% to 96.6% in pre-clinic programmes and 10.3% to 62.1% in clinic programmes. The 'apply' and 'evaluate' steps are least taught in pre-clinic programmes. Interpreting forest plots in systematic reviews is the least covered topic, with only 10 out of 29 schools teaching it in pre-clinic levels, 3 in clinical levels, and 19 not covering it at all. Over a third of the schools (37.9%) do not teach critical appraisal of a systematic review. See Table 1 below for details.

EBP steps and its specific topics coverage (n=29)	Pre-clinic		Clinic		Not taught in both programme**
	Taught*	Not taught*	Taught*	Not taught*	
I. Asking clinical question					
(1) Formulating clinically questions using the PICO format	22 (75.9)	7 (24.1)	12 (41.4)	17 (58.6)	5 (17.2)
(2) Guided literature search by the clinical questions	20 (69.0)	9 (31.0)	18 (62.1)	11 (37.9)	5 (17.2)
II. Search the evidence					
(3) Constructing a focused search with Boolean operator in a database	23 (79.3)	6 (20.7)	7 (24.1)	22 (75.9)	6 (20.7)
(4) Locating clinical evidence using electronic databases	26 (89.7)	3 (10.3)	8 (27.6)	21 (72.4)	3 (10.3)
(5) Utilising a reference manager software	25 (86.2)	4 (13.8)	9 (31.0)	20 (69.0)	4 (13.8)
III. Critically appraising evidence					
(6) Study designs and their major strength and limitations	27 (93.1)	2 (6.9)	7 (24.1)	22 (75.9)	2 (6.9)
(7) Assessing the relevance of study design to the question asked	22 (75.9)	7 (24.1)	5 (17.2)	24 (82.8)	7 (24.1)
(8) Hierarchy or levels of evidence	23 (79.3)	6 (20.7)	6 (20.7)	23 (79.3)	5 (17.2)
(9) Difference between narrative, systematic review, and meta-analysis	21 (72.4)	8 (27.6)	4 (13.8)	25 (86.2)	7 (24.1)
(10) Difference between clinical and statistical significance	22 (75.9)	7 (24.1)	9 (31.0)	20 (69.0)	6 (20.7)
(11) Interpreting t tests, chi-square tests	28 (96.6)	1 (3.4)	6 (20.7)	23 (79.3)	1 (3.4)
(12) Interpreting p-value, confidence interval	28 (96.6)	1 (3.4)	6 (20.7)	23 (79.3)	1 (3.4)
(13) Understanding sensitivity and specificity, number needed to treat, odds ratio	28 (96.6)	1 (3.4)	6 (20.7)	23 (79.3)	1 (3.4)
(14) Understanding intention to treat analysis and power calculation	20 (69.0)	9 (31.0)	3 (10.3)	26 (89.7)	9 (31.0)
(15) Use of appraisal tool(s) to assess validity	22 (75.9)	7 (24.1)	7 (24.1)	22 (75.9)	7 (24.1)
(16) Ways in which study validity can be threatened	25 (86.2)	4 (13.8)	5 (17.2)	24 (82.8)	4 (13.8)
(17) Difference between internal and external validity	21 (72.4)	8 (27.6)	3 (10.3)	26 (89.7)	8 (27.6)
(18) Critical appraisal of systematic reviews	18 (62.1)	11 (37.9)	6 (20.7)	23 (79.3)	11 (37.9)
(19) Interpreting forest plots in systematic reviews	10 (34.5)	19 (65.5)	3 (10.3)	26 (89.7)	19 (65.5)
(20) Critical appraisal of studies about intervention (RCTs and clinical trials)	18 (62.1)	11 (37.9)	7 (24.1)	22 (75.9)	9 (31.0)
(21) Critical appraisal of studies about diagnosis (cohort, case-control studies)	21 (72.4)	8 (27.6)	5 (17.2)	24 (82.8)	7 (24.1)
(22) Critical appraisal of studies about prognosis (longitudinal studies)	18 (62.1)	11 (37.9)	5 (17.2)	24 (82.8)	10 (34.5)
IV. Implementation and communication					
(23) Communicating the recommendation from EBP process to the patient	14 (48.3)	15 (51.7)	9 (31.0)	20 (69.0)	12 (41.4)
(24) Deciding the clinical decision considering the patient's value	12 (41.4)	17 (58.6)	11 (37.9)	18 (62.1)	11 (37.9)
V. Evaluation					
(25) Evaluation of the EBP implementation (The patient's outcome and student's performance through self-reflection)	13 (44.8)	16 (55.2)	9 (31.0)	20 (69.0)	13 (44.8)

Table 1. EBP steps and its specific topics coverage for each programme level (n=29)[b]

* n (%)

** n (%) Overlap calculation with the number of not taught on each programme

[b] From the 2nd survey to the curriculum teams

E. Challenges (The 1st Survey, n=31 and The 2nd Survey, n=29)

The top three challenges in Indonesian dental schools, as reported by curriculum teams, are a lack of EBP experts (72.4%), insufficient accessible EBP courses for faculty (69%), and students' inadequate knowledge of statistics and research methodology (65.5%) (See appendix 4). In the open-ended item section, most of the deans expressed the challenges of EBP teaching. Teachers-related factors were considered the most challenging, such as limitation in knowledge and skills, and an overloaded work situation.

F. Action Plans (The 2nd Survey, n=29)

Most respondents (75.9%) highly valued teacher training. They also preferred incorporating EBP skills into the curriculum (48.3%) and holding faculty meetings to discuss EBP programme development (44.8%) (See appendix 3.b).

IV. DISCUSSION

To our knowledge, this is the first nation-wide survey with very high response rate to report insights of EBP teaching in the South-east Asia region, more specifically in Indonesian dental education setting. Targeting both deans and curriculum teams yielded rich data and stakeholder involvement, potentially fostering acceptance of future EBP improvements at institutional or national levels.

There is a slight gap between the perceived importance of EBP skills for students and the importance of incorporating such skills into the curriculum, which may be related to limited resources. The deans considering room for improvement, especially in teacher expertise. This is echoed by curriculum teams, as less than a third of Indonesian dental schools' teachers have formal training experience, i.e. training from a well-known academic-based institution or recognised training organisation. This lack of EBP teachers is a top challenge identified by respondents. Deans and curriculum teams agree on the need for improved teacher skills.

The majority of Indonesian dental schools are teaching EBP topics in stand-alone EBP courses as well as incorporated in other regular courses using both face-to-face and online delivery. Lecture-based is the most used teaching strategy among the schools. Our findings suggest that there is room for enhancing the teaching strategy of EBP in Indonesian dental schools towards a more multi-facet, interactive and more authentic setting in the clinical environment as suggested by Howard et al. (2022).

Regarding critical appraisal topics based on the study design (See Table 1, item 18, 19-21), there were very few schools implementing a Critically Appraised Topics (CATs) teaching strategy (See Appendix 2.a). CATs, one-page summaries of evidence on a clinical question, offer active, authentic learning and being recommended in the literature to provide both a critique of the research and a statement of the clinical relevance of its findings. It is crucial to teach critical appraisal skills using the teaching strategy that is supported by the evidence to ensure sufficient development of EBP skills. Many Indonesian dental educators may not be familiar with this CATs teaching method.

The survey reveals that the 'apply' and 'evaluate' steps of EBP are less addressed than the 'ask', 'acquire', and 'appraise' steps. These five-steps, identical to those in Evidence-Based Medicine (EBM), form the basis of clinical practice and teaching. Key EBM developments like shared-decision making skills, part of the 'apply' step, are often overlooked. Hence, it's vital to teach all EBP steps, ideally in a more authentic clinical setting.

The need for more EBP-trained faculty in most schools highlights the importance of a faculty development programme supported by national collaboration. As a lower-resource country, Indonesia faces challenges in dental education, including limited access to databases and librarian expertise, primarily due to financial constraints, inadequate institutional support, and the absence of national policies prioritising scientific resources. These limitations hinder faculty and students from fully implementing evidence-based practices, widening disparities with high-income countries. To address these issues, a policy brief should be directed to high-level stakeholders, advocating for essential infrastructure, more funding and resource investments for both private and government-funded schools.

This study has limitations. Due to the five-point Likert scale in the first questionnaire were not constructed on the same concept, the reliability test was not feasible. This is also applied for the second questionnaire, which adapted from a previous study, was mostly factual and checklist-based. The value of EBP teaching, reported by deans and curriculum teams, might be socially desirable. However, the results underscore the importance of EBP teaching and the need for improvement. It is worth noting that after the data collection was completed, Indonesia formally transitioned from a lower-middle-income to an upper-middle-income country as of July 2023. This transition suggests a more promising future, with potential improvements in the financial capacity, but it will require the national policy support to be fully implemented.

V. CONCLUSION

This first national survey reveals the state of EBP teaching in Indonesian dental schools, representing Southeast Asian countries. It highlights the need for faculty development and more active, authentic learning experiences but further analysis is required to adopt and adapt these interventions for lower-resource settings. The deans and their curriculum teams highly value collaborative improvement plans. This supports EBP's vision of using current research to improve Indonesian oral healthcare.

Notes on Contributors

DF is the principal investigator. He designed, analysed, prepared and wrote the manuscript collaboratively with co-authors.

SW and ER made substantial contributions to preparation of the instruments, data collection and editing the final manuscript.

FD and PJ made substantial contribution to the design, analysis, preparation and editing the final manuscript.

All authors read and approved the final version.

Ethical Approval

The study protocol was approved by the Educational Research Review Board of the LUMC (Registry number: OEC/ERRB/20220913/1).

Data Availability

Due to confidentiality of the responses and commitments made with the study participants, also considering the small size data set with its unique data for some variables that might still be traceable to the respondent. Data are available on reasonable request by email to the corresponding author.

Acknowledgement

The authors express gratitude to all participants and schools involved in this study, AFDOKGI and its members for their support and data access, the Research group at the OEC LUMC for their constructive feedback, Universitas Padjadjaran for sponsoring the first author's PhD scholarship, and Edward Gorgon for permitting the modification and use of the questionnaire.

Funding

This research is part of the first author's (DF) PhD study, funded by a scholarship from Universitas Padjadjaran, Indonesia (Registry number 3781/UN.6.WR2/KP.10/2021).

Declaration of Interest

The first author (DF), an assistant professor at the Faculty of Dentistry, Universitas Padjadjaran, which participated in this study. DF also had ties until 2020 with AFDOKGI, the association of Indonesian dental schools, as a dental education consultant.

References

Gill, P. J., Ali, S. M., Elsobky, Y., Okechukwu, R. C., Ribeiro, T. B., Soares dos Santos Junior, A. C., Umpierre, D., & Richards, G. C. (2021). Building capacity in evidence-based medicine in low-income and middle-income countries: Problems and potential solutions. *BMJ Evidence-Based Medicine*, *26*(3), 82–84. https://doi.org/10.1136/bmjebm-2019-111272

Gorgon, E. J. R., Basco, M. D. S., & Manuel, A. T. (2013). Teaching evidence-based practice in physical therapy in a developing country: A national survey of Philippine schools. *BMC Medical Education*, *13*(1), Article 154. https://doi.org/10.1186/1472-6920-13-154

Howard, B., Diug, B., & Ilic, D. (2022). Methods of teaching evidence-based practice: A systematic review. *BMC Medical Education*, *22*(1), Article 742. https://doi.org/10.1186/s12909-022-03812-x

Minja, I. K., & Lwoga, E. T. (2021). Evidence based dentistry among dentists in low- and middle-income countries: A systematic review. *The East African Health Research Journal*, *5*(2), 129–136. https://doi.org/10.24248/eahrj.v5i2.662

Young, T., Rohwer, A., Volmink, J., & Clarke, M. (2014). What are the effects of teaching evidence-based health care (EBHC)? Overview of systematic reviews. *PLOS ONE*, *9*(1), e86706. https://doi.org/10.1371/journal.pone.0086706

*Dani R Firman
Jalan Sekeloa Selatan I,
Kota Bandung, Jawa Barat 40132,
Indonesia
+62222534985
Email: dani.firman@unpad.ac.id / d.r.firman@lumc.nl

Appendix 1. Perceived value* of the deans about EBD (n=31)[a]

Item(s)	Not important	Slightly important	Moderately important	Important	Very important (Essential)
1) The importance of EBD skills to be acquired and practiced by the students	0 (0)	0 (0)	0 (0)	12 (38.7)	19 (61.3)
2) The importance of incorporating EBD teaching in the curriculum	0 (0)	0 (0)	0 (0)	15 (48.4)	16 (51.6)
	Improvement is very necessary	**Improvement is necessary**	**Meets expectations**	**Exceeds expectations**	**Far exceeds expectation**
3) The faculty experience in the curriculum implementation of teaching and assessing EBD skills	6 (19.4)	20 (64.5)	5 (16.1)	0 (0)	0 (0)
4) The necessity on improving the teacher(s) expertise on teaching EBD skills	17 (54.8)	12 (38.7)	2 (6.5)	0 (0)	0 (0.0)
5) The coverage for the scientific reference database access	4 (12.9)	15 (48.4)	12 (38.7)	0 (0)	0 (0)
6) The expertise of librarian that supports finding references as required on EBD steps	2 (6.5)	19 (61.3)	8 (25.8)	2 (6.5)	0 (0)
	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
7) The opinion to collaborate with other dental schools on developing and improving EBD training and teaching	0 (0)	0 (0)	0 (0)	9 (29)	22 (71)

* Five-point Likert's scale; n (%).
[a] From the 1st survey to the deans

Appendix 2. (a) EBD course design with its teaching, assessment strategy, and delivery method (n=29)[b]; (b) Dental schools' availability of EBD teachers and access to scientific resources (n = 29)[b]

a. EBD course design with its teaching, assessment strategy, and delivery method (n=29)[b].		
Item(s)	**n**	**%[†]**
EBD Courses design*		
Independent EBD courses	18	62.1
Incorporated in other courses	25	86.2
No course	0	0
Teaching strategy*		
Lecture-based	29	100
Supervising during (minor) thesis discussions	27	93.1
Journal club	26	89.7
Research colloquium or seminar	25	86.2
Small group discussion using actual patient cases	25	86.2
Problem-based learning (PBL) tutorial	22	75.9
Critical appraisal of journal articles	20	69
Case-based learning (CBL) tutorial	19	65.5
Guided literature search	16	55.2
Workshops/seminars/conference presentations on using appraisal tools	12	41.4
Workshops/seminars/conference presentations on electronic searching	8	27.6
Critically Appraised Topics (CATs)	**3**	**10.3**
Assessment strategy*		
Scientific poster presentation	26	89.8
Multiple choice question examination	24	82.8
Practical assignment (formative)	18	62.6
Written assignment (formative)	14	48.4
Written examination (summative)	13	44.4
Practical examination (summative)	11	37.3
Oral examination	10	34.3
Article publication	9	31.3
Minor thesis	4	13.1
Delivery method**		
Blended approach (Both face to face and online interaction)	24	82.8
Only via face to face interaction	4	13.8
Only via online synchronous interaction	1	3.4

* Multiple option/answer items from the second questionnaire

** Single answer option

† Total case percentage

b. Dental schools' availability of EBD teachers and access to scientific resources (n = 29)[b].		
Item(s)	**n**	**%†**
Teachers[‡]		
Formally trained in EBP/ EBM/ EBD courses	8	27.6
Databases or scientific resources access*		
Science direct	17	58.6
Web of science	8	27.6
Cochrane library	6	20.7
EBSCO host	5	17.2
CINHAL	3	10.3
Springer link	3	10.3

	Embase	2	6.9
	UpToDate	2	6.9
	Proquest	2	6.9
	Wiley	2	6.9
	Emerald	2	6.9
	SAGE	1	3.4

* Multiple option/answer items from the second questionnaire

** Single answer option

† Total cases percentage

ǂ The availability (If available, count=1)

[b] From the 2nd survey to the curriculum teams

Appendix 3. (a) Scientific references access (n=31)[a]; (b) Preferred action plan for improving in teaching EBD (n=29)[b]

a. Scientific references access (n=31)[a]

Item(s)*	Public	Private	Total (%ǂ)
Facilitated or supported by the university	16	9	25 (80.6)
Facilitated or supported by the faculty	4	5	9 (29)
Facilitated or supported by the government institutional	0	3	3 (9.7)
Not available at all	0	1	1 (6.5)

b. Preferred action plan for improving in teaching EBD (n=29)[b]

Item(s)*	Public	Private	Total (%ǂ)
Providing a faculty development programme on EBD	11	11	22 (75.9)
Curriculum development to incorporating EBD	7	7	14 (48.3)
Faculty meeting to discuss EBD teaching and learning programme development	6	7	13 (44.8)
Strengthening EBD-related topic on students	3	8	11 (37.9)
Providing online (subscribed/paid) databases	3	4	7 (24.1)
Curriculum evaluation about EBD teaching	5	2	7 (24.1)
Encouraging students to incorporate EBD during clinical programme	2	4	6 (20.7)
Item development and assessment strategy for evaluating EBD skill	2	2	4 (13.8)
Incorporating EBD on teaching and learning activities	3	0	3 (10.3)

* Multiple option/answer items from the second questionnaire

[a] From the 1st survey to the deans

[b] From the 2nd survey to the curriculum teams

ǂ Total cases percentage

Appendix 4. Perceived as challenges on the implementation of teaching EBD (n=29)[b]

Item(s)	Strongly disagree or disagree	Neutral	Strongly agree or agree
(1) My institution does not mandate the inclusion of EBD in the curriculum	16 (55.1)	4 (13.8)	9 (31)
(2) The dental national standardised exam item blueprint has not incorporate EBD	16 (55.2)	3 (10.3)	10 (34.4)
(3) Lack of number on subject matter experts or teachers in EBD	**3 (10.3)**	**5 (17.2)**	**21 (72.4)**
(4) Lack of motivation toward teaching EBD from other faculty members	11 (37.9)	3 (10.3)	15 (51.7)
(5) Lack of knowledge and/or confidence among fellow educators in teaching EBD	8 (27.6)	5 (17.2)	16 (55.2)
(6) Non-supportive of faculty member's behaviour or attitude in EBD practice	16 (55.2)	6 (20.7)	7 (24.1)
(7) Faculty members have not practicing EBD on their daily dental practice	12 (41.3)	7 (24.1)	10 (34.5)
(8) Lack of EBD course that is accessible for the faculty member	**7 (24.1)**	**2 (6.9)**	**20 (69)**
(9) Lack of time in the curriculum to incorporate EBD	11 (37.9)	2 (6.9)	16 (55.1)
(10) Difficulty teaching EBD concepts and its practices	7 (24.1)	4 (13.8)	18 (62.1)
(11) Difficulties in evaluating EBD competencies	8 (27.6)	4 (13.8)	17 (58.6)
(12) Proportion of the students and teacher is not ideal	9 (31)	2 (6.9)	18 (62)
(13) Students' lack of interest in EBD	10 (34.4)	9 (31)	10 (34.4)
(14) Students' inadequate knowledge of basic skills in statistics and research methodology	**6 (20.7)**	**4 (13.8)**	**19 (65.5)**
(15) Insufficient students' computer skills for access database	15 (51.7)	3 (10.3)	11 (37.9)
(16) Students' limited ability to critically appraise the literature	14 (48.3)	5 (17.2)	10 (34.4)
(17) Students' limited ability to read the literature in foreign language (e.g., English)	11 (37.9)	4 (13.8)	14 (48.3)
(18) Lack of internet access in the institution	20 (68.9)	2 (6.9)	7 (24.1)
(19) Lack of access to online (subscribed/paid) databases	10 (34.4)	2 (6.9)	17 (58.6)
(20) Lack of professional support in the library (e.g., librarian)	8 (27.6)	6 (20.7)	15 (51.7)

* n (%).

[b] From the 2nd survey to the curriculum teams