



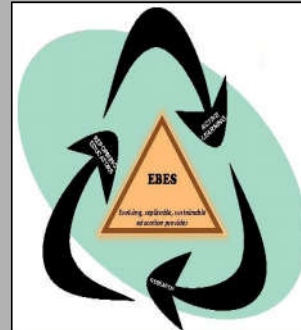
# EBES

.. EVIDENCE BASED EDUCATION SYSTEM

## SUMANDEEP VIDYAPEETH

AN INNOVATIVE SYSTEM—BY SUMANDEEP VIDYAPEETH

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NEWSLETTER

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### FROM DIRECTOR'S DESK.....

Dear all

We are very happy to reintroduce this news letter after some gap due to unavoidable circumstances. We continue from where we left sometime back with evidence based education as the main theme. We all agree that the principal goal of education is to create persons capable of thinking for themselves, making their own decisions and to develop inventors and discoverers who have the capacity to verify evidences before accepting them. It is being felt since long that the present system of education is not solving this purpose. Moreover due to evolving technology, easy accessibility to new research regardless of its reliability has also made it absolutely necessary for the individuals to be able to critically appraise whatever is coming their way. So the role of educationists today, apart from imparting sound basic knowledge to students has expanded to include developing in the learners, the capacity to derive relevant conclusions from the ever increasing plethora of evidences and applying them in tackling day to day problems to the maximum benefit of the care seekers. This phenomenon is true for every field of medical care, be it Nursing, Dental, Physiotherapy, Pharmacy or Hospital management. Hence, the need of EBES (Evidence Based Education System). Sumandeep Vidyapeeth has taken the initiative of acquainting their faculty with critical thinking skills so that the knowledge percolates to the students also. It aims to develop a whole breed of individuals capable of thinking for themselves and making decisions on their own on the basis of available information that is identified as reliable. As our university is committed to implementing Evidence based education System in totality, this news letter is intended to make people familiar with the system and its components as well as the activities being taken up in the university under the umbrella of EBES. Once again, happy to reintroduce this newsletter and wish all happy. reading.

Dr Prasad Muley  
Director EBES  
Prof Department of Pediatrics  
S.B.K.S MIRC  
Sumandeep Vidyapeeth

## WHY EVIDENCE BASED EDUCATION?

Dr. Prasad Muley<sup>1</sup>, Dr. Monali Shah<sup>2</sup>, Dr. Arti Muley<sup>3</sup>  
(<sup>1</sup>EBES director, <sup>2&3</sup>core-committee member, Sumandeep Vidyapeeth)

*“The principal goal of education is to create men and women who are capable of doing new things, not simply repeating what other generations have done; men and women who are creative, inventive, and discoverers, who can be critical and verify, and not accept, everything they are offered.”* This was the observation of a French Psychologist Jean Piaget (1896-1980).

Technology has now made it possible to access information about researches immediately after publication, much before they find a place in the text book. Every bit of information is available at hand, regardless of its quality, reliability and applicability. It is left entirely on the person accessing it to identify the usable piece and discard the other.

Educationists today have a different role to play as guides and students have more skills to learn. Just having good basic knowledge of ones' own subject doesn't suffice, they also have to acquire skills of effective communication, critical evaluation & application to be able to derive relevant conclusions and apply them in tackling with practical day to day problems.

The teaching which is aimed at incorporating skills of gathering evidence, ability to critically appraise and apply in the right context is named 'evidence based education'.

Evidence based education is presently applied mostly in the field of health education and health care system. The International Society for Evidence-Based Health Care in US is working in this field since long. Its mission is to develop and encourage research in evidence-based health care and to promote and provide professional and public education in the field. The society has observed.

*‘Wherever health care is provided and used, it is essential to know which interventions work, which do not work, and which are likely to be harmful. This is especially important in situations where health problems are severe and the scarcity of resources makes it vital that they are not wasted.’*

The question arises, textbooks and guidelines being given since long are also based on evidences produced by research. Then what is the need for EBE? How is it different?

The answer lies in the way information has become accessible to all due to technological advances. One can get the necessary information desired from the internet within a few minutes but it comes with a lot of unnecessary, unreliable information. It becomes important to identify the reliable and good quality information from the available ones and discard the irrelevant, unreliable ones.

G.M.Trevelyan (a British historian) said *‘Education... has produced a vast population able to read but unable to distinguish what is worth reading.’*

EBE is aimed at providing skills to search for the desired answer, select the most valid and reliable from those available, understand the results from the studies done in different settings and assess them for generalizability and applicability to the population or setting in question.

Professionals today need to be creative, flexible, non-dogmatic, and critical in their thinking to be effective. Unless the norms of the professional education and working environment reflect these same values, curriculum change is futile.

Educators and colleges have the responsibility of indoctrinating active learning in students (during their formative years of training ) as a concept, a philosophy, and a religion necessary for being efficient, caring compassionate, and responsible professionals, hence the need for EBE.

# FORMING A QUESTION : THE FIRST STEP OF SEARCHING

Dr. Arti Muley\*, Dr. Monali Shah\*, Dr. Prasad Muley\*.  
( EBES core committee, Sumandeep Vidyapeeth)

# Source : Evidence-based Medicine Toolkit by Carl Heneghan, Douglas Badenoch 2<sup>nd</sup> ed.

'Evidence based' has now become a widely used term in the world of medicine as well as other fields and searching for evidence makes a very important component of evidence based decision making. It makes the base of finding a relevant article or evidence which may be missed if searching is not proper or is incomplete. We present some basics of searching for evidence in this article and also provide information regarding sites where to search for the evidence.

First of all, a specific question is to be formed in PICO format; The four essential elements are considered:

**P**atient or Problem

**I**ntervention

**C**omparison (intervention)

**O**utcome(s)

The terms are self explanatory. Intervention and comparison can be interchanged. However, there are some things should which should be kept in mind while forming a question:

**1. Specificity of the search terms:** General terms (such as 'diabetes') will retrieve a large number of articles on searching, while more specific terms (for example, 'diabetes mellitus type 2') will reduce the number of articles retrieved. Hence a balance has to be maintained between specific and general terms to make sure that all relevant articles are included while excluding all irrelevant ones.

**2. Search question should include all possible interchangeable terms so that it includes maximum relevant articles and minimizes the possibility of missing out.** (for example, NIDDM for type 2 diabetes mellitus).

**3. The most relevant question should be identified from all possible question frameworks, choosing one which is most likely to help the patient, easily answered in the available time and likely to aid in decision making.**

## Steps of formulating a question:

### 1. Patient :

Identify the patient characteristics and all of their clinical characteristics that may make a difference while answering the query.

### 2. Intervention:

It is the intervening step in therapy or diagnosis which is supposed to change the outcome. Depending on the question it is different in different situations. For example; In therapy - drug / counselling/ surgery /physiotherapy / diet /exercise.

In diagnosis - test or screening programme.

Regarding harm or aetiology – drug / toxin / environmental or occupational exposure.

### 3. Comparison :

Comparison intervention is the intervention performed in place of the intervention in question or an alternative intervention with which the intervention being studied is compared. This might be nothing, or standard care, for example, a drug in question being compared to a placebo. There may be useful evidence which directly compares the two interventions.

### 4. Outcome :

The outcome may be mortality or any other aspect of morbidity. It should also be checked if the outcome measured in the study is also relevant to the patient in question. A time frame is also to be decided.

Lets take an example to see how to form a question : A clinician wants to know if adding a **beta-blocker** to **diuretics** in a **male patient of congestive heart failure (aged > 50 years)** provides **symptomatic improvement** in terms of **breathlessness**. We identify the different components for forming a question from the above query:

**Patient or problem :** 'Males > 50 years with congestive heart failure. taking beta blockers'

**Intervention :** ' Adding beta blockers with diuretics'

**Comparison intervention:** ' Diuretics alone'

**Outcome :** ' Reducing breathlessness.'

**Before you start searching :**Identify the terms important to be included in the search: for example, male, aged 50, congestive heart failure, diuretics, beta-blocker, and mortality. Next, combine text words and thesaurus & filter for the right type of study. Search should use both text words and thesaurus as the index may not correspond exactly to the subject heading and important articles may be left out if only text word searching is used. Boolean operators like 'OR' and 'AND' can be used to combine multiple statements representing a question. E.g; (Elderly male with congestive heart failure) AND {(betablockers AND diuretics) OR (diuretics)} AND (relief OR reduction in breathlessness).Think about what kind of evidence is needed to answer the question i.e; levels of evidence / type of study.

As mentioned before, a balance should be maintained as a broad search will result in unmanageable number of articles and with a narrow search, there are always chances of missing important articles. So, it is better to start with a broad search term and then narrow it down by applying limits (duration, language, type of articles etc.).

Once the above steps are completed, a balanced answerable question to be answered is ready completing one step of searching. The next step is to search in relevant and enough number of databases to include all relevant articles. This constitutes the other part of searching which will be covered in the next issue.

# ANALYSIS AND EVALUATION

Dr. Monali Shah<sup>1</sup>, Dr. Arti muley<sup>2</sup>, Dr. Prasad Muley<sup>3</sup>

<sup>1</sup>Professor, dept of Periodontics, KMSDCH, SV

<sup>2</sup>Professor, Dept of Medicine, SBKSMIR, SV

<sup>3</sup>Professor, Dept of Pediatrics, SBKSMIRC, SV

## Title

Effectiveness of Laser Application for Periodontal Surgical Therapy: Systematic Review and Meta-Analysis

## Authors

Behdin S, Monje A, Lin GH, Edwards B, Othman A, Wang HL

## Journal

J Periodontol 2015;86:1352-1363.

## Summary of the article

Question addressed: To evaluate effectiveness and compare various lasers as monotherapy or adjunctive to surgical periodontal therapy as measured by clinical parameter.

## Type of Study/ Design

Systematic review and meta-analysis

## Validity

Electronic search was conducted in four databases (MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials, and Cochrane Oral Health Group Trials Register) for articles written in English up to December 2014 with optimum key words. Hand search in speciality journal was carried out from January 2014 to December 2014 and references of included articles were also screened. Criteria used to evaluate the quality of the selected randomized controlled trials (RCTs) were sequence generation, allocation concealment, masking of the examiner, address of incomplete outcome data, free of selective outcome reporting and patient accounting at the end of the study. Parameters addressed and analysed were (PD), (CAL) and (GR).

## Results

Periodontal parameters	Laser Vs OFD [WMD (95%CI)]	Laser Vs GTR/EMD [WMD(95%CI)]
PD	0.56mm(-0.56 - 1.67) *** P = 0.33	-0.01 mm (-0.51 - 0.49) P = 0.98
CAL	1.34 mm (-2.02 - 4.70) *** P = 0.44	0.10 mm (-0.64 - 0.85) P = 0.78
GR	-0.24 mm (-0.82 - 0.35)** P = 0.42	-0.18mm(-0.42 - 0.07) P = 0.15

\*Low degree of heterogeneity

\*\* Moderate degree of heterogeneity

\*\*\* High degree of heterogeneity

## Authors conclusion

This meta analysis failed to support the effectiveness of dental lasers as an adjunct to surgical periodontal therapy, owing to the lack of significant superiority over conventional approaches. Precautions must be exercised when interpreting the results of this study because of the small sample size and high heterogeneity among studies. Therefore, more randomized clinical trials examining different laser types and wavelengths are required to obtain stronger conclusions.

## Commentary and analysis

The effective applicability of laser in the treatment of periodontal diseases according to their theoretic advantages (i.e., ablation or vaporization, hemostasis, and sterilization effect) compared to conventional therapy is currently a very controversial topic in clinical periodontics. This meta analysis has major drawback of heterogeneity and small sample size although low to moderate risk of bias is detected. Different type of lasers is used so pooling of data is not justified. The results are statistically as well as clinically non significant and show no benefit of laser application over conventional periodontal therapy evaluated.

## Why is this meta analysis important ?

The results are not significant and their being moderate risk of bias in such a controversial topic (where conflict of interest might play a major role in the outcome) cautious interpretations are required. Larger high quality RCTs are required to establish effectiveness of lasers in periodontal therapy. In these type of studies, cost benefit ration and patient centered outcomes .



# MAJOR EVENTS ORGANIZED

## 2ND INTERNATIONAL CONFERENCE - EBESCON—2014

### PRE-CONFERENCE WORKSHOPS

Total of 17 workshops were held over 19<sup>th</sup> & 20<sup>th</sup> of June 2014, in which nearly 200 participants across the country took part. The workshops were held on the following topics:

1. GRADE
2. Systematic review & meta-analysis
3. Applied Biostatistics
4. Evidence based journal club
5. Evidence generating research
6. Evidence based healthcare
7. Medical writing

These workshops were conducted by world renowned faculty namely Dr. Gordan Guyatt, Dr. Regina Kunz, Dr. Stuart Logan, Dr. Gurinder Wadhwa, Dr. Subhramanyam RV, Dr. Kameshwar Prasad, Dr. Niraj Pandit and Dr. Anita Jain. The co-faculty for the same were Dr. J. D. Lakhani, Dr. Sandeep Shah, Dr. Arti Muley, Dr. Prasad Muley, Dr. Monali Shah, Dr. Ajay George, Dr. Niraj Pandit and Dr. Divyang Patel.. The enthusiastic participation of the delegates ensured a very interactive and fruitful atmosphere in the workshops.

### EBESCON 2014 - PRECONFERENCE



## EBESCON 2014

The 2<sup>nd</sup> International Conference on Evidence Based Education System (EBES) was organized by Sumandeep Vidyapeeth from the 19<sup>th</sup> to the 22<sup>nd</sup> of June, 2014. It was a resounding success with over 450 delegates from across the country taking part in the pre conference workshops and conference deliberations over a period of 4 days. A star studded galaxy of international and national luminaries in evidence based healthcare graced the occasion. They were Dr. Gordon Guyatt (who coined the term – ‘Evidence Based Medicine’), Dr. Stuart Logan, Dr. Regina Kunz, Dr. Kameshwar Prasad, Dr. Garry Wadhwa and Dr. RV Subhramanyam. Moreover, 16 papers were discussed and 20 posters were displayed on various topics on Innovative teaching and Evidence based health care. The conference was not only about academics all throughout.

There was a delightful entertainment program in the evening for the delegates. After the rigors of the day, the delegates got an opportunity to let their hair loose and shake a limb at the variety entertainment program.

All in all EBESCON 2014 succeeded in bringing together the who’s who in Evidence Based Healthcare under one roof and providing a platform for their interaction with delegates across the academic spectrum; thus effectively spreading the message of EBES.



## PANEL DISCUSSION

### 1. EVIDENCE BASED EDUCATION SYSTEM: CHALLENGES AND SOLUTIONS

It was moderated by Dr. Niraj Pandit and panelist included Dr. RV Subhramanyam, Dr. Dilip Mawlankar, Dr. Ranabir Pal, Dr. J. D. Lakhani, Dr. Hetal Pandya.

### 2. EVIDENCE BASED HEALTH CARE

It was moderated by Dr. Sandeep Shah and panelist included Dr. Gordon Guyatt, Dr. Stuart Logan, Dr. Regina Kunz, Dr. Arti Muley, Dr. Prasad Muley, and Dr. Monali Shah.

Moreover, 16 papers were discussed and 20 posters were displayed on various topics on Innovative teaching and Evidence based health care.





# NATIONAL CONFERENCE ON EVIDENCE BASED DENTISTRY NEBD–2015

The first national evidence based dentistry conference was held on 21st and 22nd August, 2015. It was organized by K M Shah Dental college and Hospital at Sumandeep Vidyapeeth, Vadodara. The programme was inaugurated by **Her Highness Shubhangini Raje Gaekwad**, erstwhile queen of the Gaekwad dynasty of Vadodara city and the chancellor of Maharaja Sayajirao University of Vadodara, who was **the chief guest** for the event.

- The aim of the conference was to offer great opportunity to the delegates comprising of faculty, post graduate and under graduate students to learn from the experts and gain an understanding of how to acquire, apply and appraise evidence to bring a change in the oral health care practices.

Two Guest Lectures were conducted. The first one by Dr. Ajay George on “Pathshala Of Evidence Based Health Care” and the other by Dr. Nagesh on “Translation Of Research Evidence To Clinical Practice”. Various workshops were also conducted on the topics like, Searching Literature For Best Evidence, Evidence Generating Research and Applied Biostatistics, Evidence based journal club, critical appraisal of primary research evidence and critical appraisal of systematic review and meta analysis.

## PANEL DISCUSSION

A panel discussion was conducted on-“**Evidence based dentistry- A teaching and learning process**”.

The panellists for the panel discussion were:

Dr.L Nagesh: The Invited Expert For The Panel

Dr.Monali Shah: Moderator. Dr.Vandana Shah: Head, EBD Dr.Bhavana Dave: Chairman, DEU Dr.Prasad Muley: Co-ordinator, EBES, SV. Dr. Nupur Shah: Stakeholders Representative Ms.Namrata Bajpai: Student Representative

Total 186 delegates (55 faculty, 88 PG students and 43 UG students) attended the conference. A total of 30 scientific presentations were done on Teaching evidence- based health care, Evidence – based dental practice, Innovation in dental practice and Oral health care management



## OUT REACH PROGRAMMES UNDER EBES



### WORKSHOP ON EFFECTIVE PROPOSAL WRITING FOR QUALITY EVIDENCE RESEARCH

**DATE : 3RD MARCH 2016**

**VENUE: HIMALAYAN INSTITUTE OF MEDICAL SCIENCE**

The workshop titled "Effective Proposal Writing for Quality Evidence research" was conducted by Dr. Niraj Pandit, Professor Department of Community Medicine & Deputy Director Research Cell, Sumandeep Vidyapeeth in collaboration with Dr. Sonu Goel from 3<sup>rd</sup> March 2016. The 60<sup>th</sup> National Conference of Indian Public Health Association was organized by IPHA Uttarakhand branch of IAPH at Himalayan Institute of Medical Science, Dehradun.

It was a one day workshop. The workshop covered topics like hypothesis, defining research question, need of evidence, level of evidence, quality check in available evidence, elements of research protocol, primary secondary data, research method and quality check and research ethics. It was nicely coordinated workshop.

There were total 36 participants. The participants included students and ICMR scientist and senior professors. Majority graded the workshop in excellent category.



### WORKSHOP ON SYSTEMATIC REVIEW AND META ANALYSIS

**DATE: On 22<sup>nd</sup> and 23<sup>rd</sup> August 2014**

**VENUE: MANIPAL DENTAL COLLEGE**

Dr. Monali Shah, Professor, Dept of Periodontics, KMSDCH, was invited to conduct a two days workshop on systematic review and meta analysis at manipal College of Dental Sciences, Manipal. On 22<sup>nd</sup> and 23<sup>rd</sup> August 2014 she conducted the workshop where around 70 odd dental faculty participated. She took lectures on basics of systematic review and meta analysis and how to conduct the same. She trained the delegates for systematic searching for systematic review. Basics of meta analysis and PRISMA was also taught. A hands on was also conducted for critical appraisal of systematic review and meta analysis.





## WORKSHOP ON EVIDENCE BASED DENTISTRY—AHMEDABAD DENTAL COLLEGE

Core group of Evidence Based Education System (EBES) conducted the Workshop on Evidence Based Dentistry (EBD) at Ahmedabad Dental College (ADC), Ahmedabad on 18<sup>th</sup> December 2014. Dr. Prasad Muley, Prof., Dept. of Pediatrics and EBES Director of Sumandeep Vidyapeeth took the first session on Evidence Based Health Care. He focused on the need of Evidence Based Health Care Practice (EBHCP) in India. He informed about the initiative taken by SV in teaching EBM at undergraduate and postgraduate level.

The second session was on Quality Evidence Generating Research (QEGR). Dr. Niraj Pandit, Prof, Dept of Community Medicine and Deputy Director, Research Cell, SV covered the various aspects of evidence generation and its quality. He emphasised on identifying the level of evidence by using various international standards for calculating level of evidences and its use. He also told about the Sumandeep Vidyapeeth level of evidence pyramid. His main focus was on the quality of evidence, as to generate good quality evidence; one has to select good quality research method.

The third session was on Approach to Biostatistics. Dr. Arti Muley, Prof. Dept of Medicine, SBKS MIRC, SV gave brief outline of biostatistics to participants. Various biostatistics aspects which are useful in systematic review and meta analysis were covered. She focused on understanding the bio-statistical terms useful in interpreting the various higher level evidences like systematic reviews and meta analysis with simple examples.

The next session was on Systematic Review and Meta analysis. Dr. Monali Shah, Prof, KMS Dental College, Sumandeep Vidyapeeth explained the various aspects of systematic review and meta analysis. She outlined the various aspects. How one can conduct systematic review and meta analysis. Also she focused on the interpretation of such reviews. She also took session on the Evidence Based Journal Club.



## FACULTY DEPUTATION FOR ADVANCED TRAINING - THE COCHRANE COLLOQUIUM

The 23<sup>rd</sup> Cochrane colloquium started on 22<sup>nd</sup> September 2014 in Hyderabad. There were participants from various parts of the world. It was a gathering of those who are a part of Cochrane network and also those who are pursuing to be so.

The meet informed the gathering of strategies of Cochrane in the forthcoming years i.e; generating quality evidences, taking action on evidences, advocating use of evidences and improving accessibility of evidences to reach maximum people, strategies adapted by Cochrane to reach out to more and more readers and stakeholders like inclusion of summary of findings table and plain language summaries to make the reviews easily understandable and involve media, facebook, twitter and Wikipedia to improve the reach of the Cochrane reviews. It was also informed that Cochrane network also intended to make a major chunk of its reviews open access by the end of 2015. Dr. Gordon Guyatt talked on the important contributions made by McMasters in the field of Evidence based medicine. It was evident that 'Evidence based' movement is still an evolving field with many new thoughts coming up.

The South Asian Cochrane Network meeting was attended by Dr. Neeraj Pandit and Dr. Arti Muley who shared the work being done at Sumandeep Vidyapeeth. The gathering was informed about the task taken up by the university to teach undergraduates as well as postgraduates, training of faculty, and other components of EBES like Evidence based journal club, EviGENchip, evidence based lectures and clinical queries. The narration got a very good response and the efforts of the university in promoting evidence based education were appreciated by all.

## FACULTY TRAINING WORKSHOP BY EBES

EBES FACULTY TRAINING WORKSHOP HAS CONDUCTED FOR 130 FACULTIES FROM VARIOUS CONSTITUENT INSTITUTES OF SUMANDEEP VIDYAPEETH BY THE EBES CORE COMMITTEE

**DATE: 22 TO 23 JAN 2014, MARCH 2015 AND 4TH AND 5TH JANUARY 2016**



## POST GRADUATE TRAINING WORKSHOP BY EBES

EBES CORE COMMITTEE ORGANIZED A SERIES OF EBES WORKSHOPS FOR 230 POST GRADUATE STUDENTS FROM VARIOUS CONSTITUENT INSTITUTES OF SUMANDEEP VIDYAPEETH.


**DATE : JULY - AUGUST 2015**

## UPCOMING EVENTS EBES

**EBES ORIENTATION WORKSHOP FOR PG STUDENTS - JUNE 2016**

**EBES TRAINING PROGRAMME FOR FACULTY - SEP-2016**



**EBESCON 2017 - NOV 16-18** 

**IN COLLABORATION WITH INTERNATIONAL SOCIETY OF EVIDENCE BASED HEALTHCARE**