



## KNOWLEDGE, ATTITUDE AND PERCEIVED BARRIER TOWARDS EVIDENCE BASED MEDICINE PRACTICE AMONG HEALTH CARE PROFESSIONALS IN SOUTHERN INDIA

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### Abstract:

**OBJECTIVE:** This study aimed to assess the knowledge, attitude, and perceived barriers towards Evidence-Based Medicine (EBM) among healthcare professionals in southern India.

**METHODS:** The study included doctors, dentists, nurses, and pharmacists who were willing to give informed consent. A total of 219 healthcare professionals were involved in the study. A questionnaire was prepared, and demographic details alongside the knowledge, attitude, and perceived barrier of the professionals towards EBM practice were collected and analyzed. The responses were scored, and the means were determined for each profession.

**RESULTS:** The study found that dentists had the best knowledge about EBM practice, followed by doctors, pharmacists, and nurses. Pharmacists showed the best positive attitude towards EBM practice, followed by dentists, doctors, and nurses. Nurses were found to have the highest level of barriers to the practice of EBM, followed by doctors and pharmacists, while dentists tended to have the least barrier.

**CONCLUSION:** The study recommends the need for increased awareness of the value and importance of EBM practice among healthcare professionals in southern India, and the provision of necessary requirements such as internet, computers, time, and training to increase the practice of EBM.

**Keywords:** Evidence Based Medicine, Healthcare Professional, Knowledge, Attitude, Perceived Barrier.

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## 1. INTRODUCTION

Since the mid 1990's, Evidence Based Medicine Practice has been advocated and has been adopted as a foundational framework that is used in quality improvement of the healthcare delivery system [Hankemeier DA et al.,]. Evidence Based Medicine is known to be an integration of the value of patient, individual clinical expertise and best research evidence available in the process of making decision that is related to the patients' healthcare [Masic I et al.,]. The concept of Evidence Based Medicine (EBM) practice has been spread successfully in the healthcare system but has not been widely incorporated in decision making in clinical setting[Hisham R et al.,]. According to the improved definition of EBM, EBM is a systematic approach to solving clinical problems that involves the integration of clinical expertise, best research evidence, and patient values.

Clinical Expertise means the experience, skills, and judgement the clinicians acquired through clinical practice. The Best available research evidence is the best evidence or most important information gotten through proper research of possible remedy of the patient present condition or state. Patient value here means the unique preference, expectation and concern of the patient [Hardy A et al.,]. The practice of evidence-based medicine is a cycle of reliable, self-coordinated learning in which a true focus on the patient places the demand on clinically meaningful data about analysis, treatment, prognosis, and other clinical and medical problems[Sackett DL et al.,].

### **Process involved in evidence based medicine:**

We have five steps involved in the implementation of Evidence Based Medicine

1. Asking of Clinical questions
2. Search of best evidence
3. Evaluation of evidence
4. Application of Evidence
5. Assessment of outcome of evidence on the patient

#### Stage 1. Ask Clinical inquiries

Clinicians start to track down the best and cutting-edge information which will be needed to tackle patient's issues by making liable clinical inquiries. A decent clinical inquiry should be clear, address the issue straightforwardly, and be replied via looking through the clinical writing[Hisham R et al.,].

##### a) PICO design

A decent clinical inquiry ought to remember four fundamental components for the PICO design (patient or issue, mediation, correlation, result). PICO design:- patient or issue who are the pertinent patients and what sort of issues would we say we are attempting to address? - Interventions-What are the administration methodologies, symptomatic tests or openings (drugs, demonstrative tests, food or surgeries)? - Comparison of intercessions What are the control or elective administration methodologies, tests or openings that we will analyze? - Results-What are the significant impacts of the openness we are keen on the patient?

##### b) Types of clinical inquiry

The sorts of clinical inquiries are about how to treat illnesses or conditions. These inquiries are inquiries regarding mediation, etiology and hazard components, recurrence and rate, determination, forecast and expectation, and cost-viability [Sackett DL et al.,].

#### Stage 2. Quest for the best proof

We have various wellsprings of proof. Information acquired by clinician through long periods of involvement, newfound exploration in exceptionally standard coordinated randomized controlled preliminaries can be a wellspring of proof.

Proof with low degree of biasness is said to have an undeniable degree of value. Not all information addresses superior grade of proof that can give the best understanding consideration. To help clinicians in the examination of nature of different wellsprings of proof, David Sackett, MD, advanced proof-based clinical pyramid. In this pyramid, the most elevated level of proof is the most impressive on the grounds that it has gone through an orderly survey measure and meta-investigation. The most minimal degree of proof is the most vulnerable on the grounds that it is primarily founded on feelings and a little example size, which expands the edge for blunder

#### Step 3. Evaluation of the evidence

After the search of evidence, so many results are gotten which can be confusing. The results of the search can contain

1. Good evidence
2. Bad evidence
3. And the evidence that is neither good nor bad.

Most time clinicians finds it difficult to evaluate this kind of evidence. In this, clinicians with years of experience in decision making comes together to evaluate the evidence to know that which will be of good benefit and applicable to the practice of medicine or in treatment

#### Step 4. Application of Evidence

The application of evidence takes place when the evidence has passed the evaluation stage and can add value to the practice of medicine. In the, the evidence does not replace the clinicians expertise or experience but it helps them to make better decision to the patients preference and need.

#### Step 5. Assessment of outcome of evidence on the patient

This is the final step in the practice of evidence-based medicine. It is an ongoing process of evaluating the outcome of applied evidence. Both good and bad

outcomes are evaluated [Chang AM et al.,].

## 2. MATERIALS AND METHODS

### OBJECTIVES:

The present study was conducted with an aim to assess the knowledge of EBM among HCPs in southern India, the attitude shown towards EBM among the HCPs and to assess the possible Barrier in the application of EBM among HCPs.

### INCLUSION CRITERIA:

Inclusion criteria included health Care Professionals mainly doctors, dentists, nurses, and pharmacists. Health Professionals willing to give inform consent was also included.

### EXCLUSION CRITERIA:

The exclusion criteria included patients, general public, interns and non-Health Care Professionals.

About 25 questions were prepared and distributed to Health Care Professionals found in the southern part of India who were the main subject. Among the Health Care Professionals, the Doctors, Dentists, Nurses, and Pharmacists are the main target. This questionnaire was prepared and distributed to the subjects via mail, text, and supportive social media handles like WhatsApp.

Demographic details alongside the Knowledge, attitude and perceived barrier of the Professionals towards EBM Practice will be collected and analyzed. This results will be analyzed amongst individual profession and then the four will be compared to know which of the health professionals has the best knowledge of EBM, to know which health Professionals has the best attitude towards the EBM in the southern part of India and possible barriers were analyzed to know which of the health professionals have the highest treat facing them

### 3. RESULTS

Table: 1 Age wise distribution of health care professionals participated in the Survey

Age Range in years	Nurses	Doctors	Dentists	Pharmacists
<21	3	0	0	1
21-30	16	3	11	35
31-40	24	19	24	17
41-50	9	26	16	5
51-60	2	6	1	2
Total	54	54	52	59

The **Table: 1** shows the age range of the health professionals who participated in the study. About four (4) Professionals fell under the age <21, which includes three nurses and one pharmacist. Most of the health professionals who participated in this study fell under the age range of 31-40. In this age range of 31-40, 24 nurses, 19 doctors, 24 dentists and 17 pharmacists gave their responses.

Table: 2 Working experience of health care professionals participated in the Survey

Working experience in years	Doctors	Dentists	Nurses	Pharmacists
1-5	3	11	11	37
6-10	4	12	18	8
11-15	19	14	15	10
16-20	17	13	7	2
21-25	6	1	1	1
26-30	5	1	2	1

The **Table: 2** shows the years of experience of the Health Professionals have acquire. This figure shows that Health Professionals with years of experience between 21-25 has the minimum number. Those with the years of experience between 0-5 has the maximum number followed by those with years of experience between 11-15. The highest maximum years of experience recorded by this study is 30 years.

Table: 3 Gender wise distribution of Health care professionals

Gender	Doctors	Dentists	Nurses	Pharmacists	Total
Male	30	34	4	27	95

<b>Female</b>	24	18	50	32	124
<b>Total</b>	54	52	54	59	219

The **Table: 3** show the number of Male and Female Participants for each profession that participated in the study. Overall female participants are more (n=124) than the male participants. According to individual profession from dentist more number of male participants (n=34) involved in the study same as it is in nursing profession female participants (n=50) are highly participated.

Table: 4 Number of Health care professionals participated in the study

<b>Profession</b>	<b>Number of participants</b>
Doctors	54
Dentists	52
Nurses	54
Pharmacists	59

The **Table: 4** shows the total number of Doctors, Dentists, Nurses and Pharmacists that participated in this study. 54 Doctors, 52 Dentists, 54 Nurses and 59 Pharmacists participated.

Table 5: Knowledge about EBM among Health Care Professionals

<b>1. How did you know the term EBM? *</b>						
Category	Attending conference/ Workshop	Academics	Through colleagues	Through internet	Position	
<b>Doctors (54)</b>	8 (14.8%)	11 (20.4%)	16 (29.6%)	19 (35.2%)	3rd	
<b>Dentists (52)</b>	26 (50%)	16 (30.8%)	4 (7.7%)	6 (11.5%)	1st	
<b>Nurses (54)</b>	12 (22.2%)	21 (38.9%)	9 (16.7%)	12 (22.2%)	2nd	
<b>Pharmacists (59)</b>	5 (8.5%)	32 (54.2%)	12 (20.3%)	10 (17%)	4th	
<b>2. According to you, EBM is defined as *</b>						
Category	Conscientious, explicit and judicious use of current best evidence in making decision	An integration of best research evidence with clinical expertise and patient	An integration of research outcomes that provide evidence for optimizing	An implementation of new skills for providing better care to patient	An approach of clinical practice for the care of individual patients.	Position

	about care of individual patient.	values.	clinical decision			
<b>Doctors (54)</b>	18 (33.3%)	10 (18.5%)	21 (38.9%)	3 (5.6%)	2 (3.7%)	2 <sup>nd</sup>
<b>Dentists (52)</b>	9 (17.3%)	25 (48%)	8 (15.4%)	3 (5.8%)	7 (13.5%)	4 <sup>th</sup>
<b>Nurses (54)</b>	11 (20.4%)	23 (42.6%)	7 (13%)	6 (11%)	7 (13%)	3 <sup>rd</sup>
<b>Pharmacists (59)</b>	22 (37.3%)	14 (23.7%)	13 (22%)	2 (3.4%)	8 (13.6%)	1 <sup>st</sup>

**3. How well do you understand these terms involved in EBM such as Odds Ratio, Relative Risk, Absolute Risk, and Hazardous Ratio?**

Category	I completely understand & could explain	I completely understand but can't explain	Partial understanding	I don't understand but would like to learn	I don't understand & not willing to learn	Position
<b>Doctors (54)</b>	3 (5.6%)	5 (9.3%)	25 (46.3%)	19 (35.1%)	2 (3.7%)	4 <sup>th</sup>
<b>Dentists (52)</b>	4 (7.7%)	9 (17.3%)	19 (36.5%)	14 (27%)	6 (11.5%)	3 <sup>rd</sup>
<b>Nurses (54)</b>	9 (16.7%)	12 (22.2%)	23 (42.6%)	9 (16.7%)	1 (1.8%)	1 <sup>st</sup>
<b>Pharmacists (59)</b>	6 (10.2%)	2 (3.4%)	34 (57.6%)	14 (23.7%)	3 (5.0%)	2 <sup>nd</sup>

**4. How well do you understand the terms Meta-analysis, cohort study, randomized control trial, case control studies? \***

Category	I completely understand & could explain	I completely understand but can't explain	Partial understanding	I don't understand but would like to learn	a) I don't understand & not willing to learn	Position
<b>Doctors (54)</b>	6 (11.1%)	6 (11.1%)	21 (38.9%)	18 (33.3%)	3 (5.6%)	3 <sup>rd</sup>
<b>Dentists (52)</b>	10 (19.2%)	6 (11.5%)	22 (42.3%)	13 (25%)	1 (2%)	2 <sup>nd</sup>
<b>Nurses (54)</b>	6 (11.1%)	8 (14.8%)	21 (38.9%)	12 (22.2%)	7 (13%)	3 <sup>rd</sup>
<b>Pharmacists (59)</b>	12 (20.3%)	5 (8.5%)	29 (49.2%)	10 (17%)	3 (5%)	1 <sup>st</sup>

**5. Among the following study designs which provide highest evidence? \***

Category	Meta-analysis	Systematic review	Randomized Controlled Trials	Cohort study	Case report	Position
<b>Doctors (54)</b>	24 (44.4%)	5 (9.3%)	10 (18.5%)	8 (14.8%)	7 (13%)	2 <sup>nd</sup>

<b>Dentists (52)</b>	35 (67.3%)	3 (5.8%)	7 (13.5%)	2 (3.8%)	5 (9.6%)	1 <sup>st</sup>
<b>Nurses (54)</b>	23 (42.6%)	12 (22.2%)	5 (9.3%)	7 (13%)	7 (13%)	3 <sup>rd</sup>
<b>Pharmacists (59)</b>	21 (35.6%)	8 (13.5%)	18 (30.5%)	5 (8.5%)	7 (11.9%)	4 <sup>th</sup>
<b>6. What is critical appraisal of literature? *</b>						
Category	Careful and systematic examination of research article to judge its trustworthiness, values and relevance in a particular context	Assessment of evidence by systematically reviewing its relevance, validity and results to specific situation.	Systemic approach to assess the outcome and validity of study	Systemic approach towards the outcome of study	Systematically analyzing the possible outcome in a study	Position
<b>Doctors (54)</b>	22 (40.7%)	6 (11.1%)	14 (26%)	8 (14.8%)	4 (7.4%)	1 <sup>st</sup>
<b>Dentists (52)</b>	14 (27%)	10 (19.2%)	15 (28.8%)	10 (19.2%)	3 (5.8%)	4 <sup>th</sup>
<b>Nurses (54)</b>	15 (27.8%)	11 (20.4%)	16 (29.6%)	7 (13%)	5 (9.2%)	3 <sup>rd</sup>
<b>Pharmacists (59)</b>	18 (30.5%)	17 (28.8%)	12 (20.3%)	6 (10.2%)	6 (10.2%)	2 <sup>nd</sup>
<b>7. Among the following literature resources Meta-analysis comes under which category? *</b>						
Category	Secondary literature	Primary literature	Tertiary literature	All the above	Not sure	Position
<b>Doctors (54)</b>	12 (22.2%)	13 (24%)	15 (27.8%)	9 (16.7%)	5 (9.3%)	3 <sup>rd</sup>
<b>Dentists (52)</b>	12 (23%)	14 (27%)	12 (23%)	7 (13.5%)	7 (13.5%)	2 <sup>nd</sup>
<b>Nurses (54)</b>	11 (20.4%)	11 (20.4%)	16 (29.6%)	9 (16.6%)	7 (13%)	4 <sup>th</sup>
<b>Pharmacists (59)</b>	14 (23.7%)	10 (17%)	7 (11.9%)	12 (20.3%)	16 (27.1%)	1 <sup>st</sup>

Table 6: Overall knowledge of Doctors about EBM

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	8	14.8
2	18	33.3
3	3	5.6
4	6	11.1

5	24	44.4
6	22	40.7
7	12	22.2
<b>Mean</b>	<b>13.29</b>	<b>24.69%</b>

Table: 7 Overall Knowledge of Dentists about EBM

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	26	50
2	9	17.3
3	4	7.7
4	10	19.2
5	35	67.3
6	14	27
7	12	23
<b>Mean</b>	<b>15.71</b>	<b>30.21%</b>

Table: 8 Overall Knowledge of Nurses about EBM

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	12	22.2
2	11	20.4
3	9	16.7
4	6	11.1
5	23	42.6
6	15	27.8
7	11	20.4
<b>Mean</b>	<b>12.43</b>	<b>23.02%</b>

Table: 9 Knowledge of Pharmacists about EBM

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	5	8.5
2	22	37.3
3	6	10.2
4	12	20.3
5	21	35.6
6	18	30.5
7	14	23.7
<b>Mean</b>	<b>14</b>	<b>23.73%</b>

Table 10: Attitude about EBM among Health Care Professionals

<b>Which of the following search engine do you use for EBM? *</b>
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Category	PubMed/MEDLINE	Google Scholar	Medscape	Wikipedia	Google	Position
<b>Doctors (54)</b>	15 (27.8%)	13 (24.1%)	21 (38.9%)	3 (5.5%)	2 (3.7%)	3 <sup>rd</sup>
<b>Dentists (52)</b>	26 (50%)	5 (9.6%)	8 (15.4%)	8 (15.4%)	5 (9.6%)	2 <sup>nd</sup>
<b>Nurses (54)</b>	7 (13%)	10 (18.5%)	16 (29.6%)	10 (18.5%)	7 (13%)	4 <sup>th</sup>
<b>Pharmacists (59)</b>	31 (52.5%)	7 (11.9%)	3 (5%)	3 (5%)	15 (20.3%)	1 <sup>st</sup>
<b>How long would you take to find the abstract of an article that you need? *</b>						
Category	< 10 min	10 min - 30 min	30 min - 1 hour	> 1 hour	Could never trace (1)	Position
<b>Doctors (54)</b>	4 (7.4%)	5 (9.2%)	25 (46.3%)	19 (35.2%)	1 (1.9%)	3 <sup>rd</sup>
<b>Dentists (52)</b>	5 (9.6%)	5 (9.6%)	11 (21.2%)	18 (34.6%)	13 (25%)	2 <sup>nd</sup>
<b>Nurses (54)</b>	3 (5.5%)	9 (16.7%)	12 (22.2%)	16 (29.6%)	14 (26%)	4 <sup>th</sup>
<b>Pharmacists (59)</b>	6 (10.2%)	20 (33.9%)	21 (35.6%)	8 (13.5%)	4 (6.8%)	1 <sup>st</sup>
<b>How often do you use search engine for literature searching? *</b>						
Category	Daily	Weekly once	Monthly once	Rarely	Never	Position
<b>Doctors (54)</b>	16 (29.6%)	26 (48.2%)	8 (14.8%)	4 (7.4%)	0 (0%)	1 <sup>st</sup>
<b>Dentists (52)</b>	14 (26.9%)	23 (44.2%)	11 (21.2%)	4 (7.7%)	0 (0%)	4 <sup>th</sup>
<b>Nurses (54)</b>	15 (27.8%)	26 (48.1%)	7 (13%)	6 (11.1%)	0 (0%)	2 <sup>nd</sup>

<b>Pharmacists (59)</b>	16 (27.1%)	17 (28.8%) )	5 (8.5%)	17 (28.8%)	4 (6.8%)	3 <sup>rd</sup>
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Table 11: Overall Attitude of Doctors on EBM Practice

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	15	27.8
2	4	7.4
3	16	29.6
<b>Mean</b>	<b>11.67</b>	<b>21.60%</b>

Table 12: Overall Attitude of Dentists on EBM Practice

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	26	50
2	5	9.6
3	14	26.9
<b>Mean</b>	<b>15</b>	<b>28.85%</b>

Table 13: Overall Attitude of Nurses on EBM Practice

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	7	13
2	3	5.5
3	15	27.8
<b>Mean</b>	<b>8.33</b>	<b>15.43%</b>

Table 14: Overall Attitude of Pharmacists on EBM Practice

Question Numbers (x)	No of best answer (5)	Percentage (%)
1	31	52.5
2	6	10.2
3	16	27.1
<b>Mean</b>	<b>17.67</b>	<b>29.93%</b>

Table 15: Perceived Barrier of EBM Practice among Health Care Professionals

<b>1. EBM has significant influence in clinical decision making *</b>						
Category	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Position
<b>Doctors (54)</b>	4 (7.4%)	11	27 (50%)	12	0 (0%)	3 <sup>rd</sup>

		(20.4%)		(22.2%)		
<b>Dentists (52)</b>	3 (5.8%)	14 (26.9%)	17 (32.7%)	16 (30.8%)	2 (3.8%)	4 <sup>th</sup>
<b>Nurses (54)</b>	5 (9.3%)	11 (20.4%)	22 (40.7%)	10 (18.5%)	6 (11.1%)	2 <sup>nd</sup>
<b>Pharmacists(59)</b>	10 (17%)	30 (50.9%)	15 (25.4%)	3 (5%)	1 (1.7%)	1 <sup>st</sup>
<b>2. I often implement EBM in my daily clinical practice. *</b>						
Category	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Position
<b>Doctors (54)</b>	4 (7.4%)	12 (22.2%)	27 (50%)	10 (18.5%)	1 (1.9%)	3 <sup>rd</sup>
<b>Dentists (52)</b>	4 (7.7%)	12 (23%)	20 (38.5%)	15 (28.8%)	1 (2%)	2 <sup>nd</sup>
<b>Nurses (54)</b>	3 (5.6%)	9 (16.7%)	28 (51.8%)	8 (14.8%)	6 (11.1%)	4 <sup>th</sup>
<b>Pharmacists(59)</b>	7 (11.9%)	16 (27.1%)	31 (52.5%)	5 (8.5%)	0 (0%)	1 <sup>st</sup>
<b>I don't refer EBM resources as I think information from formal education is more appropriate *</b>						
Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Position
<b>Doctors (54)</b>	5 (9.3%)	19 (35.2%)	20 (37%)	10 (18.5%)	0 (0%)	2 <sup>nd</sup>
<b>Dentists (52)</b>	4 (7.7%)	26 (50%)	14 (27%)	6 (11.5%)	2 (3.8%)	4 <sup>th</sup>
<b>Nurses (54)</b>	8 (14.8%)	14 (26%)	24 (44.4%)	6 (11.1%)	2 (3.7%)	1 <sup>st</sup>
<b>Pharmacists(59)</b>	5 (8.5%)	12 (20.3%)	32 (54.2%)	9 (15.3%)	0 (0%)	3 <sup>rd</sup>
<b>4. Searching for evidence and practicing EBM is a time-consuming process *</b>						
Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Position
<b>Doctors (54)</b>	1 (2%)	12 (22.2%)	33 (61%)	8 (14.8%)	0 (0%)	3 <sup>rd</sup>
<b>Dentists (52)</b>	0 (0%)	5 (9.6%)	22 (42.3%)	22 (42.3%)	3 (5.8%)	4 <sup>th</sup>
<b>Nurses (54)</b>	3 (5.5%)	11 (20.4%)	25 (46.3%)	10 (18.5%)	5 (9.3%)	2 <sup>nd</sup>
<b>Pharmacists(59)</b>	4 (6.8%)	8 (13.5%)	25 (42.4%)	18 (30.5%)	4 (6.8%)	1 <sup>st</sup>
<b>5. I have no interest in EBM *</b>						
Category	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Position
<b>Doctors (54)</b>	9 (16.7%)	23 (42.6%)	19 (35.2%)	2 (3.7%)	1 (2%)	2 <sup>nd</sup>
<b>Dentists (52)</b>	11 (21.2%)	12 (23%)	22 (42.3%)	6 (11.5%)	1 (2%)	1 <sup>st</sup>

<b>Nurses (54)</b>	9 (16.7%)	11 (20.4%)	28 (51.9%)	3 (5.5%)	3 (5.5%)	2 <sup>nd</sup>
<b>Pharmacists (59)</b>	9 (15.3%)	20 (33.9%)	29 (49.1%)	0 (0%)	1 (1.7%)	3 <sup>rd</sup>
<b>6. Have you ever received training in academics related to EBM? *</b>						
Category	Yes	Maybe	No	Position		
<b>Doctors (54)</b>	25 (46.3%)	4 (7.4%)	25 (46.3%)	1 <sup>st</sup>		
<b>Dentists (52)</b>	14 (27%)	9 (17.3%)	29 (55.7%)	3 <sup>rd</sup>		
<b>Nurses (54)</b>	16 (29.6%)	11 (20.4%)	27 (50%)	2 <sup>nd</sup>		
<b>Pharmacists (59)</b>	11 (18.6%)	5 (8.5%)	43 (72.9%)	4 <sup>th</sup>		
<b>7. Did you ever receive motivation for participation in research? *</b>						
Category	Yes	Maybe	No	Position		
<b>Doctors (54)</b>	13 (24.1%)	2 (3.7%)	39 (72.2%)	4 <sup>th</sup>		
<b>Dentists (52)</b>	25 (48%)	16 (30.8%)	11 (21.2%)	2 <sup>nd</sup>		
<b>Nurses (54)</b>	21 (38.9%)	10 (18.5%)	23 (42.6%)	3 <sup>rd</sup>		
<b>Pharmacists (59)</b>	36 (61%)	9 (15.3%)	14 (23.7%)	1 <sup>st</sup>		

Table 16: Overall Perceived Barrier among Doctors on EBM Practice

Question Numbers (x)	Perceived Barrier (grade 1 > 5)	Percentage (%)
1	4	7.4
2	4	7.4
3	5	9.3
4	1	2
5	9	16.7
6	25	46.3
7	13	24.1
<b>Mean</b>	<b>8.71</b>	<b>16.17%</b>

Table 17: Overall Perceived Barrier among Dentists on EBM Practice

Question Numbers (x)	Perceived Barrier (grade 1 > 5)	Percentage (%)
1	3	5.8
2	4	7.7
3	4	7.7
4	0	0
5	11	21.2
6	14	27
7	25	48

<b>Mean</b>	<b>8.71</b>	<b>16.77%</b>
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Table 18: Overall Perceived Barrier among Nurses on EBM Practice

Question Numbers (x)	Perceived Barrier (grade 1 > 5)	Percentage (%)
1	5	9.3
2	3	5.6
3	8	14.8
4	3	5.5
5	9	16.7
6	16	29.6
7	21	38.9
<b>Mean</b>	<b>9.29</b>	<b>17.20%</b>

Table: 19 Overall Perceived Barrier among Pharmacists on EBM Practice

Question Numbers (x)	Perceived Barrier (grade 1 > 5)	Percentage (%)
1	10	17
2	7	11.9
3	5	8.5
4	4	6.8
5	9	15.3
6	11	18.6
7	36	61
<b>Mean</b>	<b>11.71</b>	<b>19.87%</b>

Table: 20 Comparison of knowledge about the EBM among the HCPs:

	Doctors	Dentists	Nurses	Pharmacists
<b>Mean</b>	13.29	15.71	12.43	14
<b>%Mean</b>	24.69%	30.21%	23.02%	23.73%

The **Table 20** shows the level of knowledge acquired by the Doctors, Dentists, Nurses and Pharmacists who participated in the study.

According to the results, the Dentists have better knowledge of Evidence Based Medicine Practice with a percentage of 30.21% than the rest of the Health professionals that participated in the study. After the Dentists, follows the Doctors (24.69%), and then the Pharmacists (23.73%). The Nurses have the least knowledge of Evidence Based Medicine Practice with a percentage of 23.02%.

<b>Mean</b>	11.67	15	8.33	17.67
<b>%Mean</b>	21.60%	28.85%	15.43%	29.93%

Table 21: Comparison of attitude of HCPs on the EBM

The **Table 21** shows the attitude of the Health professionals towards the Practice of Evidence Based Medicine. In this, the Pharmacists tend to have the best attitude towards the Practice of EBM with a percentage of 29.93%. After the pharmacists, the Dentists with a percentage of 28.85% have a better attitude towards EBM practice, followed by the doctors with a percentage of 21.60%. The figure show that the Nurses have the least attitude towards the practice of EBM with a percentage of 15.43%

Table 22: Perceived Barrier among HCPs on EBM Practice

	<b>Doctors</b>	<b>Dentists</b>	<b>Nurses</b>	<b>Pharmacists</b>
<b>Mean</b>	9.43	7	10.28	8.86
<b>%Mean</b>	17.46%	13.46%	19.05%	15.25%

The above **Table 22** show the Profession (Doctor, Dentist, Nurse and Pharmacist) with the highest level of Perceived Barrier to that which has the lowest level of Perceived Barrier.

The Nurses show more amount of barriers threatening their practice of EBM with a % of (19.05%) while the Dentists has the minimum or the least amount of threatening their practice of EBM with a percentage of (13.46%)

The Doctors and Pharmacists have 17.46% and 15.25% of Possible barriers respectively that threatens their practice of EBM.

#### 4. DISCUSSION

Over the years, the concept of Evidence-Based Medicine has been widespread from country to country but has not been incorporated as a full time practice in the aspect of Medicine.

Evidence Based Medicine Practice being a good practice constitute the medical experience of the professionals, the current and up-to-date research Evidence and finally patients value. The incorporation of this EBM Practice relies on the acceptance

of it by the Health professionals, the organizational structures and authorities.

So this prospective cross-sectional study was conducted to determine the level of Knowledge among healthcare professionals in the southern part of India towards Evidence Based Medicine Practice, to know their Attitude towards Evidence Based Medicine Practice and finally to know the Possible or Perceived Barriers or that hinders them from the implementation of the Practice of EBM.

In this survey based study, the total number of 219 healthcare professionals involved in the study. It includes Doctors, Dentists, Nurses, and Pharmacists 54, 52, 52 and 59 respectively.

The age, years of experience, gender, qualifications, of the professionals were collected alongside other questions that help to access the knowledge, attitude and perceived barrier they have towards EBM Practice. The responses given were scored from the best to the least.

Example; Strongly agree: 5, Agree: 4, Neutral: 3, Disagree: 2, Strongly disagree: 1

Also; Yes: 2, Maybe: 1 No: 0

With these scoring, the responses given by the Healthcare Professionals were analyzed.

For knowledge, the health care professionals were asked several questions that will help in accessing their knowledge towards EBM. With these questions, data was collected, scored, analyzed and interpreted in each profession to know which profession has the best knowledge of EBM Practice.

Seven (7) questions were asked relating to knowledge, their responses were scored and then the mean was determined for each profession. After the mean, the percentage was also calculated.

From there, it was found out that the Dentists have the best knowledge about EBM Practice with a percentage of 30.21%, followed by the doctors with a

percentage of 24.69%, then the Pharmacists who have a knowledge of about 23.73% and then finally the nurses with the least knowledge of about 23.02%. For Attitude, the health care professionals were also asked a different set of questions to access their attitude towards the practice of Evidence Based Medicine. Their responses were collected, scored and analyzed. The mean for each of their scored responses was calculated for each of the profession. After the mean calculation, the percentage for each mean was calculated and a chart was plotted.

After the calculation, the result showed that the Pharmacists have the best positive attitude towards the practice of Evidence Based Medicine. The pharmacists showed more positive response than the other three (n=3) professions with a percentage of 29.93%. After the Pharmacists, follows the Dentists with a percentage of 28.85%, then the doctors with a percentage of 21.60%. The Nurses were found to have the least positive attitude towards EBM Practice 15.43%.

Perceived Barrier as mentioned are things that hinder the Health Care Professionals from Practicing EBM. In this, several things hinder the health professionals from practicing EBM. Various questions were asked to the professionals to determine the possible barriers.

These data were interpreted and it was shown that the Nurses 19.05% have the highest level of barrier followed by the Doctors 17.46% and then the Pharmacists 15.25%. The Dentists tend to have the least barrier in the practice of EBM with a percentage of 13.46%.

## **5. CONCLUSION**

After the completion of this study, the following conclusions were drawn;

According to the Knowledge assessment, it was found that Dentists tend to have a better knowledge of EBM Practice than Doctors, Nurses and Pharmacists.

According to the Attitude assessment, Pharmacists tend to have a better attitude towards the Practice of EBM than Doctors, Dentists, and Nurses.

In Perceived Barrier, it was found that the Nurses in southern India has a higher barrier that hinders their application or implementation of EBM Practice.

This study has shown that Health Care Professionals in Southern India need awareness of EBM value and importance. Also, the Health Care Professionals should be provided with the necessary requirement like internet, computers, time, training on how to conduct the search, which may increase the practice and/or implementation of Evidence-Based Medicine.

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