ORIGINAL | INDEPENDENT JOURNAL OF ALLIED HEALTH SCIENCES

https://doi.org/10.29309/IJAHS/2022.5.01.0582 IJAHS-0582

ATTITUDE, AWARENESS AND KNOWLEDGE OF EVIDENCE BASED MEDICINE AMONG POSTGRADUATE STUDENTS OF LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES JAMSHORO/HYDERABAD

Arsalan Ahmed Uqaili, Assistant professor, MBBS, M.Phil Isra University Hyderabad.
Roomi Memon, Assistant professor, MBBS, M.Phil, Isra University Hyderabad.
Fawad Ahmed Khilji, MBBS Scholar, Isra University Hyderabad, Hala Road Hyderabad.
Aatma Ram, MBBS, Lumhs Jamshoro.
Manoj Kumar, MBBS, Lumhs Jamshoro.
Joti Bai, MBBS, Lumhs Jamshoro.

Date of Received: 23/06/2022 **Date of Acceptance:** 15/07/2022

ABSTRACT

Objective: Attitude, Awareness and knowledge of Evidence Based Medicine among postgraduate students of **Study design:** A cross-sectional survey. **Setting:** Liaquat University of Medical & Health Sciences Jamshoro/Hyderabad Pakistan. **Period:** month of August 2013. **Methodology:** A pre-tested self-administered questionnaire, was distributed among 150 Post Grduate. previously used for similar type of surveys, was used. **Results:** Overall response rate was 94%.of the participants 68.1% (n=96/141) heard the word of EBM first time during post-garduation training. Teaching of EBM at both under- and postgraduate level was strongly suggested. 95.7% (n=135/141) of the participants never attended a workshop on EBM. 70.2% (99/141) use both books and internet to update their knowledge. 53.2 % (n=75/141) agreed that doctors practice needs to be audited. 85.1 % (120/141) replied that they have no one around them who practice EBM. 46.8% (n=66/141) admitted that only sometimes they discuss the need of evidence based guideline during ward rounds and OPD. 51.1% (72/141) were of the opinion introducing EBM in undergraduate education will help produce better doctors. 38.2% (n=50/141) research articles/reports are not readily available, 17% (22/141) lack of postgraduate interest to change or try new ideas were the barriers faced by postgraduate. **Conclusion:** Although attitude of postgraduate students towards EBM practice in Pakistan is welcoming nevertheless, they need more knowledge and training in this regard. Therefore, there is a strong need of incorporating the teaching of EBM at undergraduate as well postgraduate level to promote the practice of EBM.

Correspondence Address
Arsalan Ahmed Uqaili
Assistant professor, MBBS, M.Phil Isra University Hyderabad.
arsalanuqaili@gmail.com

Key words: EBM, Postgraduate student, LUMHS, Jamshoro,Hyderabad,Pakistan.

Article Citation: Uqaili A A, Memon R, Khilji A F, Ram A, Kumar M, Bai J. Attitude, Awareness and Knowledge of Evidence Based Medicine among Postgraduate Students of Liaquat University of Medical & Health Sciences Jamshoro/Hyderabad. Jan-Mar, Apr-Jun 2022;01,02(42-47):01-06. https://doi.org/10.29309/IJAHS/2022.5.01.0582

INTRODUCTION

Evidence based medicine (EBM) is defined as 'conscientious, explicit and judicious use of current best evidence to make decision for the benefit of patient.[1] Evidence based medicine relies on the amount of active research being conducted in the field of medicine and health sciences. It is quoted that "EBM is the use of mathematical estimates of the risk of benefit and harm, derived from high-quality research on population samples, to inform clinical decision-making in the diagnosis, investigation or management of individual patients".[2] EBM practice requires a health care professional, to convert patient's health problem into an answerable question and then go through the scientific literature, to find out the best available option, to solve the particular health issue.[3] The

use of EBM in clinical practice can be an effective strategy, to provide better solutions to patients' and the community's health related issues. In fact, evidence based practice is not used effectively; this is more true for the developing countries, where health and clinical research is not a promoted subject and dearth of research is obvious. It is proven by various studies that many of the health professionals do not use evidence based medicine in their practice, therefore, only half of the treatments, in Internal medicine wards, are evidence based.[4]

The inadequacy of facilities for health research in Pakistan is awell-established fact.[5] A study conducted to observe attitude, knowledge and awareness about evidence based medicine in Wah medical college, Pakistan, concluded that, the practice of evidence based medicine is still in very basic stages.[6] Pakistan is in the very preliminary stage of research. Research orientation, methodology and writing skills are not part of mandatory teaching in Pakistan, it has resulted in a great deficit of the physician scientists.[7] Other studies carried out in Pakistan to assess the attitude of students and physician towards research also concluded that there was lack of knowledge of evidence based medicine among them.[8] Use of randomized control trials, case and cohort studies, and other means of research by clinicians to incorporate their results and data to practical assessment for the betterment of patient is a very significant step of evidence based practice .Globalization of diseases and the increasing need of incorporation of evidence based medicine into practice have made quality demographic and clinical research even more imperative.[9]

Involvement of postgraduate trainees in research activities during their training is very important to form a proper base towards practical implementation of evidence based medicine and its practice.[10] In this study, our aim and goal is to see the attitude, awareness and knowledge of postgraduate students working inclinical wards (medicine, surgery, gynae/obs, cardiologyetc.) of the Liaquat University hospital, jamshoro/Hyderabad, Pakistan.

MATERIALS AND METHODS

This cross-sectional survey was carried out in the month of August 2013 at Liaquat university hospital Hyderabad/ Jamshoro. A pre-tested self-administered questionnaire, previously used for similar type of surveys, was used.[6,11] The questionnaire consists of questions regarding basic information like, age, gender, specialty, year of residency, postgraduate course, etc. and 11 specific questions, which were divided into different parts to assess the knowledge, attitude, practice and barriers to practice evidence based medicine. A total of 150 participants were included from different wards (medicine, surgery, gynae/obs, cardiology etc.) of Liaquat University of medical and health sciences hospital jamshoro/ Hyderabad through non probability convenience sampling. The questionnaire was in paper form, and was distributed among the postgraduate students with the help of house officers (junior doctors in Pakistan); an informed consent was taken from each participant. No author of this study was in direct touch with the study participants. All participants were required, to fill a questionnaire only & all the data was analyzed anonymously, therefore, approval form ethical review committee was not taken.

RESULTS

A total of 150 questionnaires were distributed among postgraduate students of Liaquat University hospital, jamshoro/Hyderabad, out of which 141 were accepted on terms of proper filling of data. Overall response rate was 94%. Among the respondents 66 %(n=93/141) were males and 34.0 %(n=48/141) were females. Meanage, of the participants, was (29.4+_SD 3.15).of the participants48.9 %(n=69/141) belonged to medicine wards,14.9 %(n=21/141) general surgery,17% (n=24/141) to cardiology, 12.8 %(18/141) Gynecology/obstetrics, 2.1% (n=3/141) urology and 4.3% (n=6/141) from pediatrics wards.36.2 %(51/141) were in their first year of residency,27.7 %(39/141),21.3 %(30/141),14.9 %(21/141) were in 2nd,third and fourth year of residency/fellowship

Table No. 01: Demographic characteristics of the participants.			
Gender		**Frequency**	**Percentage**
	Male	93	66%
	Female	48	34.0%
Specialty	Medicine	69	48.9%
	Surgery	21	14.9%
	Gynae/obs	18	12.8%
	Cardiology	24	17%
	Urology	3	2.1%
	Paeds	6	4.3%
Residency	1st Year	51	36.2%
	2nd Year	39	27.7%
	3nd Year	30	21.3%
	4th Year	21	14.9%
Courses	FCPS-II	84	59.7%
	MD(Medicine)	24	17.%
	MS(Surgery)	18	12.6%
	Dip. Card	15	10.6%

Table No. 02: Knowledge of EBM What sources you generally use in updaing you knowledge?		
	Frequency	**Percentage**
Undergradutate	12	8.5%
Postgraduate	96	68.1%
CME	18	12.8%
Never heard	15	10.6%
When did you first hear the word of EBM?		
	Frequency	**Percentage**
Systemic review of rendomized trial	51	36.2%
prospective cohort	36	25.5%
single randomized control trial	18	12.8%
case reports	24	17%
Idon't know	12	8.5%
In the hier archy of evidence which is the best evidence		
	Frequency	**Percentage**
Agree	105	74.5%
Disagree	3	2.1%
I don't know	33	23.4%
	Frequency	**Percentage**
Books alone	36	25.5%
Books+electronic biomedical database	99	70.2%
Seniors round only	06	4.3%

Table No. 03: Practice of EBM Q. Do you think doctors practice need to be audited?		
	Frequency	**Percentage**
Yes	21	14.8%
No	120	85.1%
Do you know of anyone (physician, nurse, or pharmacist) who is well versed in EBM in your practicing environment?		
	Frequency	**Percentage**
Google scholar	90	63.8%
Google scholar and PubMed	18	12.8%
Cohrane+ PubMed+ Google Scholar	9	6.4%
None	18	12.1%
When you do not know what to do with a patient, in any part of workup, where do you seek help?		
	Frequency	**Percentage**
Agree	75	53.2%
Disagree	24	17%
I don't know	42	29.8%

respectively.59.6 %(n=84/141) were enrolled in FCPS PART II,17% (n=24/141) M.D (Medicine),M.S 12.8% (n=18/141), Dip. Card 15/141 (10.6%),

Knowledge of EBM

Among the responders, 8.5%(n=12/141),68. 1%(n=96/141),12.8%(n=18/141),heard the word of EBM first time at Undergraduate, postgraduate, during CME respectively,10.6% (n=15/141)participants declared that they never heard this word. 95.7%(n=135/141)of the participants never attended a workshop on EBM, only 4.3% (6/141) had attended a workshop on EBM arranged by AEIRC (Advance institute of research Centre, Karachi). Internet was the most commonly available electronic source for postgraduate students60 %(85/141).of the respondents 141 36.2%(n=51/141) takes systemic review of randomized control trial as the best reliable source of evidence while 25.5%(36/141) prospective cohort,12.8% (n=18/141) single randomized control trial,17 %(n=24/141) case reports, consider them the best available sources of clinical evidence, whereas 8.5 %(12/141) said that, they did not know.

In the questionnaire, one question was about the definition of evidence based medicine; of the study participants68.1% (96/141) agree with the definition, 29.8% (42/141) had no knowledge

about the definition, whereas, 2.1% (3/141) did not agree with the definition.

Of the postgraduate students, 70.2% (99/141) use both books and internet to update their knowledge, 25.5% (36/141) use books alone and 4.3% (06/141) said they follow their seniors round only.

Practice of EBM

In our study, 63.8% (90/141) of the postgraduate students used Google scholar, as a source of evidence, when they come across with a clinical problem, 17.02% (24/141) used PubMed, Google scholar, Medscape, and 6.4% (9/141) use Cochrane +PubMed+Google Scholar, and12.1% (18/141) said they did not use any of them.53.2 %(n=75/141) agreed that doctors practice needs to be audited,17%(24/141) disagree while 29.8. %(n=42/141) said that they did not know. In response to a question, "do they know anyone around them who practice evidence based medicine"? 85.1 %(120/141) replied that, they had no one around them, who practice EBM, of the respondents only 12.8%(n=18/141) knew some of the EBM practicing physician and 2.1%(n=3/141) knew some pharmacist who were involved in EBM practice.

Need for EBM

Of the postgraduate students, 68.1%(n=96/141) agreed that, there was need of EBM in Pakistan, 12.8% (n=18/141) disagreed, whereas, the 19.1%(27/141) had no opinion about that.

46.8% (n=66/141) admitted that, during ward rounds and OPD, they sometimes discuss the need of evidence based guideline sometimes, 21.3% (n=30/141) postgraduate said that, they often discussed the need of EBM, while 31.9%(n=45/141) of the participants said they never discussed the need of EBM guidelines.

Role of EBM

Of the respondent, 51.1%(72/141) were of the opinion that, introducing EBM, in undergraduate education, will help produce better doctors,31.9% (45/141) agreed that, it would help improve the skills of the young doctors. While 17% (24/141) said they didn't know.

Barriers to EBM practice

According to survey participants, following are the chief hurdles which prevent the practice of EBM;25.5% (30/141) inadequate facilities for implementation practice,14.8% (21/141) statistical analysis are not understandable,38.2%(n=50/141) research articles/reports are not readily available,17%(22/141) lack of postgraduate interest to change or try new ideas,4.3% (n=6/141) it is uncertain whether to believe the result of the research,8.5%(12/141) conclusion are not justifiable.

DISCUSSION

This is the first ever study conducted in the Liaquat University of medical and health sciences hospital, It asses the knowledge, attitude, practice, and barriers to practice EBM among the postgraduate students of Liaquat University hospital. We received a response rate of 94%, it is much better than the response rate of similar studies conducted in Pakistan, as in wah medical college. 6 Despite the high response rate, it is obvious from the result that, the practical implementation of the EBM, in Pakistan, is still in the preliminary period. Most of the participants heard the word of EBM in their post-graduation. It shows that, there is the need of incorporating the teaching of EBM in the undergraduate curriculum, to expose, and to give orientation of EBM to undergraduate medical students in their early educational years. Among the participants 68.1%not only agree that, there is need of evidence based medicine in Pakistan, but the majority of them i.e. 51.1%also think that, the teaching of EBM in the undergraduate level will help to build up the knowledge, attitude, and practice of EBM among young doctors.[12] Sanchez-mendiola M, et al in a randomized control trial in Mexico reported a high score in attitude, knowledge and self-reported critical appraisal skill in undergraduate students after interventions.13 Postgraduate trainee fellows/residents, in Pakistan, are bound to attend some mandatory workshops during their training period, but it does not include workshop

on EBM, our study shows that, only 4.3%of the participants had ever attended a workshop on the EBM on their own, this may explain the reason why, in our study, many of the Postgraduate students were not aware that, in the hierchy of evidence; i.e. case report, systemic review of randomized control trials, single randomized control trials etc., which one was superior.

Most of the Postgraduate students, when dealing with a clinical problem in the ward, usually follow their supervisor/senior, consultants; in our study 85.1% of postgraduate students said that, they had no EBM practicing senior doctors around them, to follow as role model. This indicates that, the absence of a "role model", in Pakistan, is one of the most important hindrances in learning EBM; If the seniors don't use EBM practically, the young doctors naturally won't be inclined towards it. There fore, If during ward round, consultants or professors themselves, adopt a habit of practicing EBM, it may help to promote the paradigm of EBM among their juniors.

Other studies conducted regarding EBM reveal that, books were the 1st choice of participants to update their knowledge.8 whereas, in our study most of the postgraduate students use PubMed, Google scholar ,along with their text books, to update their knowledge, it shows a change in trend of updating clinical knowledge among the postgraduate students.

The teaching and practice of EBM, requires easy access to internet connection, and a computing device. However, all the wards in LUH Hyderabad/jamshoro lacka proper internet connection, E-libraries, and subscription to online international medical journals, the hard copies of those international medical journals are not available, too.

Search engines, which are commonly used by postgraduate students are ;Google scholar, PubMed or both; but In fact, the systemic reviews, produced by Cochrane library, are considered the 'gold standard' in EBM;14 unfortunately, Liaquat university of medical and health sciences lacks subscription to Cochrane library. In order to improve clinical practice of postgraduate students; it is necessary to provide them internet facilities, E-libraries in the wards, and subscription to international medical journals. All these steps need sincere deliberation, dedication, and efforts.

CONCLUSION

Although, attitude of postgraduate students towards EBM practice in Pakistan is welcoming, nevertheless, it needs more knowledge and training in this regard. Therefore, a strong need of incorporating the teaching of EBM at undergraduate, as well as postgraduate level is needed to promote practice of EBM.

Acknowledgments

We are very thankful to Mrs. Attiya, Miss Saira Jam, Umer Memon, Hassan Memon, Bhavita kumara, Rekha kumara, Reetabai, Darshanakumari for helping in data collections.

REFERENCES

1. Sackett DL RW, Gray JA, Haynes RB, Richardson WS. (1996) Evidence-based medicine: what it is and what it isn't. BMJ; 312(7023):71-2.

2. Greenhalgh TW-B (2010) How To Read a Paper: The Basics of Evidence-Based Medicine.

3. Tanjong-Ghogomu e tP, Welch V. (2009) evidence-based medicine and the Cochrane Collaboration. ; . Bull NYu hosp Jt Dis 67:198-205.

4. Ellis J MI, Row e J et al , (1995) Inpatient general medicine is evidence based: a-team, Nuffield department of clinical medicine,. Lancet 346:407-410.

5. Sadana R DSC, Hyder AA, et al. ; (2004) Importance of health research in South Asia. BMJ.

6. Abeer Irshad, Musarat Ramzan, Iqbal. M (2010) Assessment of knowledge about evidence based medicine in medical students and doctors in a Pakistani health care setting Ayub Med Coll Abbottabad J Ayub Med Coll Abbottabad;22.

7. Farah Ahmad NZ, Amir Omair, Qudsia Anjum, Department of Community Health Sciences ZU, Karachi. (2009) Students' opinion regarding application of Epidemiology, Bio statistics and Survey Methodology Courses in medical research. journal of pak med assoc 59.

8. Aslam F QM, Mahmud H, Qasim R, Haque IU. ; . (2004) Attitudes and practices of post graduate medical trainees towards research -a snapshot from Faisalabad. J Pak Med Assoc 54:534-6.

9. Saniya Sabzwari SK, 1 and Ali Khan Khuwaja corresponding author2 (2009) Experiences, attitudes and barriers towards research amongst junior faculty of Pakistani medical universities. BMC med education journal 9:68.

10. Khan H, Khawaja MR, Waheed A, Rauf MA, . FZ (2006) Knowledge and attitudes about health research amongst a group of Pakistani medical students. BMC med education journal 6:54.

11. Al- Omari FK A-AS (2006) Attitude, awareness and practice of evidence based medicine among consultant physicians in Western region of Saudi Arabia. Saudi Med J2006; 27:1887-.

12. Hebert RS LR, Smith CG, et al. .; (2003) A systemic review of resident research curricula. Acad Med 78:61.

13. Melchor Sánchez-Mendiola LFK-E, Salvador Marín-Beltrán, Steven M Downing, Alan Schwartz (2012) Teaching of evidence-based medicine to medical students in Mexico: a randomized controlled trial. BMC med education journal 12: 107.

14. Katarina Novak1 D, Miri?2 AJ, Katarina, Vukojevi?4 JA, Ana ?ari?4 MM, Gui?4 AP, Vana, et al. (2010) EBM and Cochrane awareness in Croatia. Croat Med J 51: 157-64.

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author's Full Name	Contribution to the paper	Author's Signature
1	Arsalan Ahmad Uqaili	Lead Author Idea, Article writing	
2	Roomi Memon	Article writing, data collection	
3	Fawad Ahmed Khilji	Data collection, article writing	
4	Aatma Ram	Data Collection, Article writing	
5	Manoj Kumar Khamuani	Literature review, Data collection	
6	Joti Bai	Data collection, article writing