

A Study of Evidence-Based Practice Level, Knowledge and Implementation amongst Health Care Practitioners in Riyadh City Hospitals

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Abstract— Evidence-based practice (EBP) requires physicians, dentists and health care practitioners to investigate , value and incorporate research literature with clinical experience and patient' perspectives. EBP is expected to creates a new decision-making approach and policies that positively impact all fields of healthcare and clinical domain.

Currently, few studies were carried out about EBP at Saudi hospitals and medical and dental staff attitudes to EBP. Little is known about their awareness and implementation levels of EBP , existing and available resources to them for implementing EBP in their daily practice at their hospitals.

In this research, we present early results of our study for levels of awareness , knowledge of EBP, and Level of practice and implementation of EBP at two dental Saudi hospitals namely: King Saud Medical City dental hospital and college of dentistry hospital at King Saud university in Riyadh, Saudi Arabia

A questionnaire was developed and distributed for seeking information about EBP issues among medical staff of this research study. The findings of this study show that using EBP approach in Clinical tasks context has an overall average equals to 61.1% of all participants. Awareness about "evidence-based dentistry and medicine is relatively reasonable, as about (56.8%) agreed that they have good understanding of it.

Index Terms— Evidence based practice in clinical practice, Evidence based practice in Saudi health System.

I. INTRODUCTION

In today modern hospitals, the concept of evidence-based practice (EBP) is becoming more and more important in dental and medical clinical practice. EBP strengthens the coordination between the current research outcomes, information and communication technologies along with clinical practice , patients needs to quality improve health-care decisions[1-4]. EBP gives higher weight for new and better treatments or results and new IT based tools in deciding the rejection of ineffective treatments. The EBP aim is to develop advanced dental and medical profession, to achieve better patient care, to produce new health policies and a reduced health care cost [4,5]. Historically, the "evidence-based" term was first

mentioned in Canada in 1992 , by a clinical group at McMaster University[6] . Later on , this expression were widely used in dental and medical resources , journals, curriculums , books , and practice and research centers located in different universities and countries [7-11]. In dental practice in particular , the American Dental Association (ADA) and other academic and research organization stressed and supported heavily the incorporation of EBP into dentistry clinical practice in the United States, and the development of evidence-based dentistry [10-13]. Other similar studies of EBP were carried in many other countries for EBP enhancements [14-17].

Few research studies have been carried out in Saudi Arabia for EBP awareness and perception. A study that aims to assess nurses' knowledge/skills and attitude about evidence based practice in King Khalid Eye Specialist Hospital (KKESH) and King Faisal Specialist Hospital Research Centre (KFSCRC) was carried in 2009 [18]. Another study was performed to investigate the knowledge, attitude, and barriers using evidence based practice (EBP) by dental and medical final year students and new graduates at King Abdulaziz University, Jeddah, Saudi Arabia during the 2012 to 2013 academic year [19].

Reference [20] present an early research study conducted to assess the perception and attitude of dental students at King Saud University, Riyadh, Saudi Arabia.

The research of this paper is therefore one study of a collection of a larger research project studies accomplished to explore the awareness and implementation levels of EBP by Saudi dentists , physicians and healthcare practitioners at major Saudi Hospitals.

II. RESEARCH STUDY SETTING

King Saud Medical City is ranked as tertiary-care hospitals for and surgery and medicine and is located in Riyadh, Saudi Arabia. It consists of several medical centers and three major hospitals namely: Dental hospital and center ; General Hospital, Obstetrics and Gynecology hospital and a Pediatrics hospital. KSMC other centers

include: Spinal and Neurosurgery and Dialysis Centers. Work force size of KSMC is 1412 health care practitioners and bed capacity is 140 intensive-care unit beds and 1473 ward beds[21].

College of Dentistry at King Saud university is the first university-based dental training institution in Saudi Arabia. The College mission is to develop competent dental professionals and contribute to research and community service; through an environment that stimulates acquisition, dissemination and production of oral health knowledge, adopting technology, and building local and international partnerships. Most recently a new dental hospital was added to the college facilities for tremendously training of male and female dentists and providing dental care for Riyadh city residents [22].

III. PARTICIPANTS, RESEARCH DATA MANAGEMENT AND MYTHOLOGY

A questionnaire was developed and distributed for seeking information about EBP issues among medical and dental staff of this research study. The questionnaire was distributed to physicians, dentists, pharmacists, interim medical students and health care employees to get their feedback. Each participant is asked to fill out the questionnaire indicating his or her agreement of disagreement with each statement, mostly on a Likert-type scale.

Our study was carried out in Riyadh, Saudi Arabia at two dental hospitals namely: King Saud Medical City (KSMC) dental hospital and college of dentistry hospital at King Saud University (KSU). The survey questionnaire instrument consisted of four parts, with questions about (1) Personal, Socio-Demographic & Educational Information, (2) Levels of Awareness and Knowledge of Evidence Based Dentistry & Medicine (EBP) (3) Level of practice and Implementation of Evidence Based Dentistry & Medicine (EBP) for Clinical Tasks and Practice (4) Barriers to Evidence Based Dentistry & Medicine (EBP). The questionnaire was organized in a multitude format with two to five choices including yes/no questions or 2-to 5-point Likert scales.

Two hundred participants of the study were selected in 2017. A total of 95 participants completed the questionnaire. The demographic distribution of the study sample participants was 63 (66.3%) male, 32 (33.7%) female. Majority of participants were Saudi nationals (81.1%). Age group ranges were from below 25 (27.4%) years old up to above 50 years (5.3%). Two third of participants were from KSMC, while about one third from KSU. The respondents' experience varied from less than 2 years (43.2%) to more than 10 years (29.5%), and has various rank positions (e.g. internship and post graduate trainees, dental assistant, general practitioner, dental and medical consultants) reflecting the population from which the sample was drawn. The majority of participations were General practitioners (9.5%), Prosthodontist (9.5%), Endodontic (8.5%); Restorative Dentist (7.4%); Dermatologist (6.3%), Medical surgeon (5.3%), and undergraduate students at college of

dentistry (5.3%). Regarding job title: 31.6% were specialists, 27.4% consultants, 16.8% residents, 9.5% internship and 7.2% dental students.

The collected questionnaire data was processed and went through various analysis using Google Forms. Future work will include subsequent analysis using the Statistical Package for Social Sciences software (SPSS).

IV. MAJOR STATISTICAL RESULTS

In what follows we present major research results (as obtained from the statistical analysis of questionnaire responses):

- **Awareness about the term "evidence-based dentistry & Medicine"**
 - Good understanding 56.8%
 - Have a vague idea 36.8%
 - No idea 6.3%
- **Period length of knowing about EBP**
 - < 2 years (72.6%)
 - 2-5 years (12.6%)
 - 5-10 years (8.4%)
 - > 10 years (6.3%)
- **Ways of knowing about EBP**

Ways of knowing about EBP include: Reading a book about EBP (14.7%), Reading Journal article about EBP (24.2%), Attending a lecture about EBP (48.4%), Attending a workshop about EBP (6.3%), From friends (2.1%), Part of our practice and training in the hospital (1.15%).
- **Level Rank of understanding of the concept of EBP**
 - Poor 18.9%
 - Fair 34.2%
 - Good 43.2%
- **Level of knowledge of a selection of EBDM tools**

Fig. 1. shows the knowledge level for selection of various EBP tools. These include: EBDM tool, P-value, Relative risk, Sensitivity, Meta-analysis, Odds ratio, Publication bias, Confidence interval, Systematic Review, Randomization Heterogeneity, Blinding, Likelihood Ratio Specificity, and Absolute Risk.

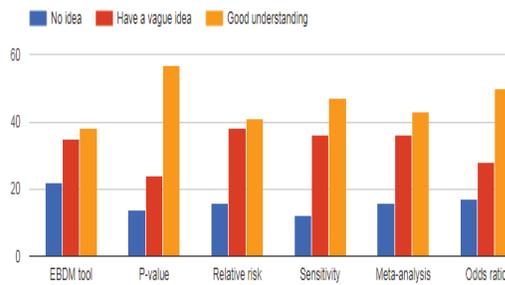


Fig. 1.a knowledge level of a selection of various EBP tools

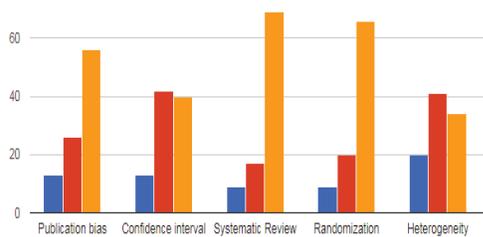


Fig. 1.b knowledge level of a selection of various EBP tools

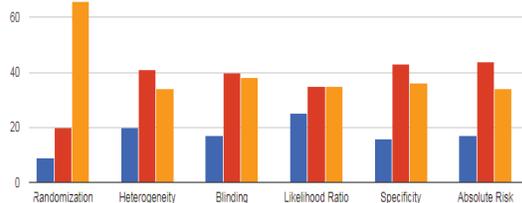


Fig. 1.c knowledge level of a selection of EBP tools .

- **Level of applying the EBP approach in daily practice**

- +ve answer (Yes) 61.1 %
- -ve answer (No) (38.9%)

- **Extent of practice of EBP**

- Almost always (5.3%)
- Most of the time (18.9%)
- Sometimes (35.8%)
- Rarely (40%)

- **Attitude towards EBP**

- potential to improve health care outcome. (Agree 94.7%)
- willing to attend workshops/courses on EBDM (Agree 93.7%)
- support implementing EBDM in my working place (Agree 95.8%)

- **Main Barriers to Evidence Based Dentistry & Medicine (EBP) Agreement Level**

- Lack of training (89.3%)
- Lack of access to EPB resources (90%)
- Difficulty of EBP concepts (72%)
- Resistance to change (68.4%)
- Lack of EBP skills (53.6%)
- Availability of the evidence (73.6%)
- Access to Internet in work environment (78.9%)
- Lack of wireless Net connectivity during patient treatment (81.1%)
- Lack of personal computing in work place (74.7%)

V. DISCUSSION OF FINDINGS

The findings of this study show that using EBP approach in Clinical tasks context has an overall average equals to 61.1% of all participants. When comparing the extent of practice of EBP, the highest average rate for EBP usage was for rarely (40%). A relatively low percentage of participants (5.3%) reported that they use EBP almost always. Awareness about "evidence-based dentistry& Medicine" is relatively reasonable as about (56.8%) agreed that they have good understanding of it. Also, there was reasonable Level of understanding of the concept of EBP with 77.4% of participants has good or fair understanding of EBP

Other statistics about IT tools availability at work place for access to EBP resources shows that lack of such tools is main barrier to applying EBP, as lack of Access to Internet (78.9%), lack of wireless Net connectivity during patient treatment (81.1%) and lack of personal computing in work place (74.7%) were among major barriers.

Based on the above, it can be deduced that providing more EBP resources, training and IT tools at work places (e.g. wireless Internet) are however needed to increase the practice and awareness about EBP for enhancing medical knowledge and patients treatment.

VI. CONCLUSIONS AND FUTURE WORK

This research study at King Saud Medical City and college of dentistry hospital at King Saud university in Riyadh, Saudi Arabia, addressed the assessment of the awareness, perceptions and practice of EBP amongst medical and healthcare providers at these hospitals. Results of this research is early results obtained and will be followed by extensive study through subsequent analysis using the SPSS software. Such study is very important and essential in an age of rapid IT technological development and new advances in medicine. It produces a clear understanding of medical staff and health care practitioners perceptions of EBP, related resources and needs necessary to develop a

successful implementation of EBP in King Saud medical city (KSMC) and other Saudi hospitals. This research results will generate various recommendations for using EBP for improving the quality of medical education, research , patient treatment and health care services at KSMC and other Riyadh City hospitals.

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