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Assessment and evaluation of attitudes, knowledge, and barriers to evidence-based practice among Fatima college of health sciences educators, UAE

Suliman Salih[1*], Ajnas Alkatheeri[1], Wuni Abdul Razak[1], Mohd Nazmi Nordin[1], Shaik Balkhis Banu[2], Emne Hammoud[2], Monika Sachdeva[3], Noon Kamil[3], Aisha Namshan Aldawsari[4], Tanveer Yadgir[5], Collen Mbambo[1]

[1]Department of Radiography and Medical Imaging, Fatima College for Health Sciences, UAE; suliman.salih@fchs.ac.ae (S.S.).
[2]Department of Physiotherapy, Fatima College for Health Sciences, UAE.
[3]Department of Pharmacy, Fatima College for Health Sciences, UAE.
[4]Department of Nursing, Fatima College for Health Sciences, UAE.
[5]Department of Emergency Health, Fatima College for Health Sciences, UAE.

Abstract: Evidence-based practices are widely acknowledged as important in improving healthcare quality and achieving excellence in patient care. It is necessary to teach students how to implement evidence-based practice in clinical. Health sciences educators' awareness of evidence-based practice plays an essential role in implementing this concept in practice which will be reflected in the student's performance and enhance patient care in the future. This study aimed to assess attitudes, beliefs, knowledge, and behaviour regarding evidence-based practice among allied healthcare educators of Fatima College of Health Science (FCHS). This is a cross-sectional survey study. The survey was distributed among 165 healthcare professional educators in nursing, radiography and medical imaging, physiotherapy, paramedics, psychology, pharmacy, and general requirements departments at the four campuses of the Fatima College of Health Sciences: Al-Dhafra, Abu-Dhabi, Al-Ain, and Ajman. The response rate was 33.3% (n=55). The result showed that the most preferred source of information for educators was electronic research engines 55% (n=30). The data obtained indicated that approximately 95% (n=52) of educators believe that Evidence-Based Practice (EBP) improves patient care, enhances outcomes, and supports sound clinical decision-making. Additionally, 91% of educators agree that the concept of EBP should be incorporated into all college programs. However, the primary barrier to implementing EBP is identified as a lack of time. The study revealed a positive attitude toward EBP among FCHS educators but highlighted the need for more knowledge-sharing opportunities. Time constraints were the main challenge.

Keywords: *Attitudes, Barriers, Evidence-based clinical practices, Health sciences educators, Implementation, Knowledge.*

1. Introduction

Consistently researchers in health services have found a disparity between best practice and the actual practice in the clinical area [1,2]. Evidence-based clinical guidelines have been developed for many years, but studies have consistently found that these guidelines are not being implemented. It was found that for instance the care received by between 10 and 40% was not based on current scientific evidence or evidence-based practice and 20% or less of the care that was received was indeed not needed and in some instances could potentially be harmful to the patients [1,3-5]. Evidence-based practice (EBP) is the deliberate and intentional use of the most up-to-date scientific evidence, combined with tried and tested clinical expertise and the right patient values to guide healthcare decisions [6-9]. The principles of Evidence-Based Practice (EBP) require the use of the best, most up-to-date, reliable, and relevant information to inform healthcare decisions. Healthcare providers ought to make these decisions based on their comprehension as well as the explicit and implicit knowledge of caregivers. One of the

* Correspondence: suliman.salih@fchs.ac.ae

crucial competencies and skills for professional decision-making is the teaching of the five steps of evidence-based practice (EBP): ask, acquire, appraise, apply, and analyse/adjust. Allied healthcare professions are now embracing the concept of incorporating evidence into clinical practice, even though the evidence-based medicine approach originated primarily in the medical field. Examples of how EBP can assist healthcare providers in raising the standard of treatment are becoming more and more numerous. It is therefore necessary for all health practitioners to implement EBP [10-13]. Several models of EBP are available in various clinical settings [14-22]. The common elements of most models of EBP are; selecting a topic, critiquing and synthesising the evidence, implementation, evaluating the effect on patient outcomes and service provider performance, and considering the context in which it was implemented [9,15, 22]. The lessons learnt in implementing research into clinical practice are valuable and should be reported on to turn them into evidence-based guidelines for others to use [23-26].

As a critical step in improving health care by applying these high standards of care quality in diagnosing and treatment, education in the health professions cannot be limited to mastering theoretical and clinical skills contents alone. Instead, it must also prepare health professionals to find evidence to support critical thinking and reasoning in their practice. Through education and role modelling, faculty members shape the future practice of future healthcare providers. Therefore, faculty members must adopt an evidence-based approach to the health profession students while preparing them [27-31].

However, in the United Arab Emirates, most research concerning evidence-based practice has focused on nurses, physicians, and physiotherapists as a study population. Few studies have analysed nurses, pharmacy, and physiotherapy students' use of evidence-based practice and their potential barriers and facilitators related to the implementation process. The results of these studies showed a lack of adequate understanding concerning EBP components and terms [32-34]. The common barriers to the implementation of EBP are a lack of research knowledge and skills, time, support, and resources which indicate opportunities for the decision-makers to improve the adoption of EBP among these professionals [35-38]. To the best of the author's knowledge, this is the first study to assess and evaluate attitudes, knowledge, and barriers to evidence-based practice among health sciences educators. The information provided here is vital to improving and expanding the use of EBP among FCHS educators. Thus, this study aimed to explore allied healthcare educators' attitudes, beliefs, knowledge, and barriers concerning evidence-based practice within the Fatima College of Health Sciences.

2. Method

2.1. Study Design and Setting

A cross-sectional survey design was used to assess knowledge, attitude, barriers, and implementation of EBP among healthcare educators of Fatima College of Health Sciences. This study was conducted from June 2023 to November 2023. The survey was sent to healthcare professional educators in nursing, radiography and medical imaging, physiotherapy, paramedics, psychology, pharmacy, and general requirements departments at Fatima College of Health Sciences campuses in Abu-Dhabi, Al-Ain, Al-Dhafra, and Ajman. Ethical approval was obtained from the Fatima College of Health Sciences Research Ethics Committee (Ref No: FCEC-1-22-23-RMI-1-SF). Also, before participating in the study, the participants consented to participate in the study.

2.2. Sample

Fatima College of Health Sciences is the largest healthcare college in the United Arab Emirates and is highly specialised in healthcare. It consists of 7 specialities (emergency medicine, radiography and medical imaging, psychology, physiotherapy, pharmacy, nursing, and general requirements departments). It has 165 educators of different rankings on all campuses. We used probability sampling methods so that every member of the population has a chance of being selected. In total, 165 questionnaires were sent out to all FCHS educators by the Research committee's official email. The sample size was determined using the Cochrane formula, which included a 10% margin of error and a 90% confidence range, and a study population size of 165 educators; We came to the conclusion that the

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minimum number of respondents needed was 49 educators, however, we received 55 responds from FCHS educators.

2.3. Data Collection

Data were collected by using an adopted questionnaire used by Risahmawati et al,[39] in a study carried out in Saudi Arabia. The questionnaire was modified to fit with the aim of the study which explored allied healthcare educators' attitudes, beliefs, knowledge, self-confidence, and behaviour concerning evidence-based practice within the Fatima College of Health Sciences. Data was collected over six months from June To November 2023.

The questionnaire comprised 7 sections and 57 statements: 8 demographic information items. 9 items on educators' use and understanding of making clinical decisions. 9 items on attitudes towards the use of evidence, perceived benefits, and limitations of evidence-based practice; 5 items on familiarity and use of electronic evidence-based practice (EBR) sources, 11 items on knowledge of methodological terminology used in EBP paper. 5 items on self-rated confidence in evidence-based practice (EBR) skills, 10 items on barriers to implementing evidence-based practice (EBR).

The demographic questions included age, sex, level of education, campus, department, Job title, speciality background and experience. The majority of items were scored on a five-point Likert scale (ranging from strongly disagree to strongly agree) while other items scored (Very good to very poor) or scaled from (Not helpful to understand to Understand could explain to other).

3. Data Analysis

Both Excel version 22.0 and IBM SPSS version 28.0.0.0 (190) were used to analyse the data. The Kruskal-Wallis one-way analysis of variance was used to examine the differences between the professions. $P \leq 0.05$ was used as the level of significance differences. Data from each group were analysed together when differences in some categories between them were statistically significant.

4. Results

The response rate was 33.3%: GRD, n=10 (18.18%:), Radiology and Medical Imaging n=7, (12.72%); Nurses n=17, (30.90%); Pharmacy n=5, (9.09%), Emergency Health n=11, (20%), Physiotherapy n=4, (7.27%) and Psychology n=1, (1.81) (Figure 1). Characteristics of the total 55 respondents are presented in Table 1.

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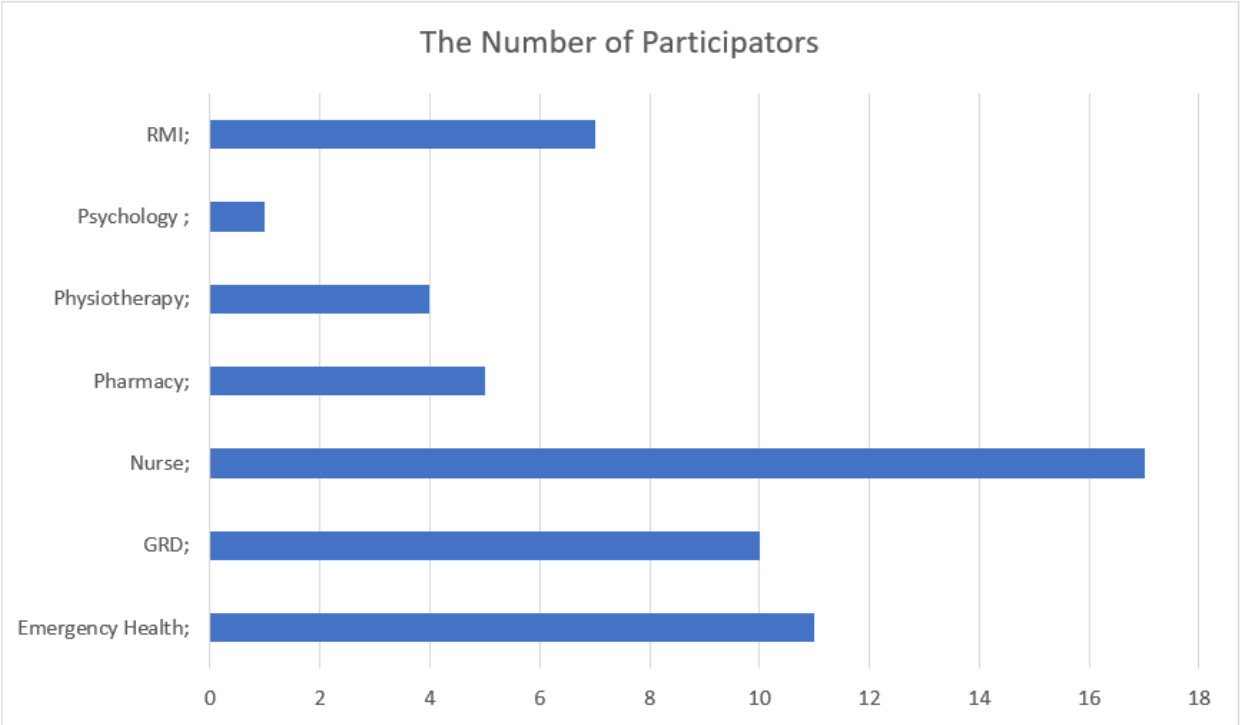

Figure 1.
The number of participators from each department.

4.1. FCHS Educators' Preference for Information Sources to Make Clinical Decisions (Items 9-17)

The Kruskal-Wallis test for independence was used to evaluate the differences across the educators from different departments for preference for information sources to make clinical decisions. Significant variations were found by the test (P <0.05) in preference for information sources to make clinical decisions (Table 2). However, the most preferred sources of information among FCHS educators were to find the answer using online search engines (Google, Medline, Yahoo, AltaVista, etc.), reading research articles, and reading medical books, 45% (n=25) always use them to make their clinical decisions, and 33% (n=18) use these sources frequently. The least utilised research methods among the participants included attending continuous medical education conferences, presenting cases at problem-solving conferences to look for opinions from other experienced doctors or teachers, and reading up-to-date therapy information in specific specialities. However, one-third of the participants (n=21) did not use this approach.

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Table 1.
Demographic and General Characteristics of the 55 respondents.

Characteristic	All professionals (n=55), percentage	GRD (n =10), percentage	RMI (n =7), percentage	Nurse (n =17), percentage	Pharmacy (n =5), percentage	Emergency Health (n =11), percentage	Physiotherapy (n =4), percentage	Psychology (n =1), percentage
Gender								
Male	30	4	5	8	3	9	1	0
Female	25	6	2	9	2	2	3	1
Age (Year)								
21-30 years	6	2	1	0	1	1	1	0
31-40 years	21	4	4	7	2	3	0	1
41-50 years	18	1	2	8	1	5	1	0
51-60 years	9	3	0	1	1	2	2	0
Other	1	0	0	1	0	0	0	0
Campus								
Abu-Dhabi	22	5	2	3	2	6	1	1
Al-Ain	21	1	5	8	3	3	3	-
Ajman	10	3	-	5	-	2	-	-
AL Dhafra	2	1	-	1	-	-	-	-
Qualification								
Baccalaureate	6	1	2	0	0	2	1	0
Master	27	4	2	10	2	7	2	0
PhD	22	5	3	7	3	2	1	1
Other	0	0	0	0	0	0	0	0
Job title								
Teaching assistant	3	0	1	1		0	1	0
Lab specialist	6	2	0	1	1	1	0	1
Clinical instructor	13	0	2	5	1	5	0	0
Lecturer	13	3	2	2	2	2	2	0
Assist. professor	11	4	1	6	0	0	0	0
Associate professor	3	0	1	0	1	0	1	0
Full professor	1	1	0	0	0	0	0	0
Other	11	0	0	2	0	3	0	0
Speciality background								

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Allied health professional	21	2	6	0	5	6	2	0
Nurse	18	1	0	16	0	1	0	0
Physician	1	1	0	1	0	0	0	0
Educator	11	4	1	0	0	3	2	0
Researcher	1	1	0	0	0	0	0	1
Other	3	1	0	0	0	1	0	0
Experience								
0-5 years	7	3	1	0	1	1	1	0
5-10 years	9	0	2	4	1		0	1
11-15 years	10	3	2	1	2	2	0	0
16-20 years	10	1	1	5	-	3	0	0
21-25 years	11	2	1	4	-	3	1	0
26-30 years	6	1	0	3	-	0	2	0
>30 years	2	0	0	0	1	1	0	0

Table 2.
The educators of the FCHS responses to the EBP questions.

Item	Question	Kruskal–Wallis test for independence	Mean rank, median and interquartile range. (All health professionals together)	Post hoc Mann–Whitney U test	Rating
Section 1: FCHS educators' preference for information sources to make clinical decisions					
9	Consult senior educator directly	X^2 (df= 4, n=55) = 6.10, p= 0.19	Md= 2.00 $\bar{x}$= 2.36 IQR= 1.00	P=0.34	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
10	Consult colleagues directly	X^2 (df= 4, n=55) = 1.41, p= 0.841	Md= 2.00 $\bar{x}$= 1.96 IQR= 2.00	P= 0.69	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
11	Present the case at a problem-solving conference to obtain opinion from other doctor/teacher experienced in similar problem	X^2 (df= 4, n=55) = 5.72, p= 0.221	Md= 3.00 $\bar{x}$= 3.00 IQR= 2.00	P=0.40	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never

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12	Consult clinical practice guidelines	X^2 (df= 4, n=55) = 1.34, p= 0.86	Md= 3.00 $\bar{x}$= 3.18 IQR= 2.00	P= 0.55	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
13	Attend continual medical education conferences and present your case	X^2 (df= 4, n=55) = 4.58, p= 0.3	Md= 3.00 $\bar{x}$= 2.93 IQR= 2.00	P= 0.18	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
14	Read research article	X^2 (df= 4, n=55) = 1.53, p= 0.82	Md= 2.00 $\bar{x}$= 1.80 IQR= 1.00	P=0.77	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
15	Read medical textbook	X^2 (df= 4, n=55) = 2.22, p= 0.70	Md= 2.00 $\bar{x}$= 1.89 IQR= 2.00	P=0.22	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
16	Read Today's therapy in particular specialty	X^2 (df= 4, n=55) = 2.24, p= 0.70	Md= 3.00 $\bar{x}$= 2.65 IQR= 1.00	P=0.66	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
17	Find out the answer using electronic search engine (Medline, Google, yahoo, AltaVista, etc)	X^2 (df= 4, n=55) = 5.07, p= 0.28	Md= 2.00 $\bar{x}$= 1.89 IQR= 1.00	P=0.32	1- Always 2- Often 3- Sometimes 4- Seldom 5- Never
Section 2: Opinion and attitudes towards evidence based practice (EBR)					
18	EBR practice improves patient care.	X^2 (df= 4, n=55) = 7.4, p= 0.12	Md= 1.00 $\bar{x}$= 1.55 IQR= 1.00	P=0.82	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly

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					Disagree
19	EBR improves patient outcomes.	X^2 (df= 4, n=55) = 1.85, p= 0.76	Md= 2.00 $\bar{x}$= 1.55 IQR= 1.00	P=0.91	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
20	EBR helps clinical decision making.	X2 (df= 4, n=55) = 3.81, p= 0.43	Md= 1.00 $\bar{x}$= 1.55 IQR= 1.00	P=0.43	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
21	EBR practice can reduce healthcare costs.	X2 (df= 4, n=55) = 6.48, p= 0.17	Md= 2.00 $\bar{x}$= 2.00 IQR= 2.00	P=0.4	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
22	EBR focused on patient's value.	X2 (df= 4, n=55) = 3.30, p= 0.52	Md= 2.00 $\bar{x}$= 1.85 IQR= 1.00	P=0.37	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
23	EBR brings about quick knowledge update.	X2 (df= 4, n=55) = 7.6, p= 0.11	Md= 2.00 $\bar{x}$= 1.98 IQR= 1.00	P=0.49	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
24	EBR is equal to research activity.	X2 (df= 4, n=55) = 2.89, p= 0.58	Md= 2.00 $\bar{x}$= 2.44 IQR= 1.00	P=1.33	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly

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					Disagree
25	EBR application is difficult in daily practice.	X2 (df= 4, n=55) = 3.78, p= 0.44	Md= 3.00 $\bar{x}$= 3.02 IQR= 2.00	P=0.71	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
26	EBR should be taught in All FCHS programs.	X2 (df= 4, n=55) = 1.65, p= 0.79	Md= 2.00 $\bar{x}$= 1.75 IQR= 1.00	P=0.91	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly Disagree
Section 3: Familiarity and use of electronic evidence based practice (EBR) sources					
27	Evidence based Healthcare (from Publishing Group)	X2 (df= 3, n=55) = 3.30, p= 0.35	Md= 2.00 $\bar{x}$= 2.25 IQR= 2.00	P=0.30	1-Unaware 2- Aware but not use 3-Read 4-Used to help in clinical decision making
28	Cochrane database of Systematic Review (part of Cochrane library)	X2 (df= 3, n=55) = 7.030, p= 0.07	Md= 3.00 $\bar{x}$= 2.87 IQR= 2.00	P=0.05	1-Unaware 2- Aware but not use 3-Read 4-Used to help in clinical decision making
29	Journal Club	X2 (df= 3, n=55) = 4.21, p= 0.24	Md= 2.00 $\bar{x}$= 2.33 IQR= 1.00	P=0.30	1-Unaware 2- Aware but not use 3-Read 4-Used to help in clinical decision making
30	Pubmed/ medline journal	X2 (df= 3, n=55) = 6.06, p= 0.11	Md= 3.00 $\bar{x}$= 3.35 IQR= 1.00	P=0.03	1-Unaware 2- Aware but not use 3-Read 4-Used to help in clinical decision making

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31	Clinical evidence (from your major Publishing group)	X2 (df= 3, n=55) = 1.19, p= 0.76	Md= 3.00 $\bar{x}$= 3.00 IQR= 1.00	P=0.40	1-Unaware 2- Aware but not use 3-Read 4-Used to help in clinical decision making
Section 4: Knowledge of methodological terminology					
32	Relative risk	X2 (df= 3, n=55) = 1.32, p= 0.72	Md= 3.00 $\bar{x}$= 3.24 IQR= 1.00	P=0.33	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
33	Absolute risk	X2 (df= 3, n=55) = 0.63, p= 0.89	Md= 3.00 $\bar{x}$= 3.27 IQR= 1.00	P=1.00	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
34	Systematic review	X2 (df= 3, n=55) = 3.53, p= 0.32	Md= 4.00 $\bar{x}$= 3.58 IQR= 1.00	P=0.84	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
35	Clinical effectiveness	X2 (df= 3, n=55) = 0.77, p= 0.90	Md= 4.00 $\bar{x}$= 3.53 IQR= 1.00	P=0.5	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
36	Meta analysis	X2 (df= 3, n=55) = 3.20, p= 0.40	Md= 3.00 $\bar{x}$= 3.40	P=0.6	1- Not helpful to understand.

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			IQR= 1.00		2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
37	Number needs to treat	X2 (df= 3, n=55) = 1.4, p= 0.70	Md= 3.00 $\bar{x}$= 3.20 IQR= 1.00	P=0.8	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
38	Odds ratio	X2 (df= 3, n=55) = 3.2, p= 0.51	Md= 3.00 $\bar{x}$= 3.13 IQR= 1.00	P=0.6	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
39	Sensitivity and specificity	X2 (df= 3, n=55) = 4.24, p= 0.24	Md= 4.00 $\bar{x}$= 3.40 IQR= 1.00	P=0.9	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other.
40	Confidence interval	X2 (df= 3, n=55) = 0.71, p= 0.90	Md= 3.00 $\bar{x}$= 3.27 IQR= 1.00	P=0.9	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other
41	Publication bias	X2 (df= 3, n=55) = 2.6, p= 0.50	Md= 4.00 $\bar{x}$= 3.45 IQR= 1.00	P=0.50	1- Not helpful to understand. 2- Don't understand

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					but would like to. 3- Some understand. 4- Understand and could explain to other.
42	Sample bias	X2 (df= 3, n=55) = 1.5, p= 0.70	Md= 4.00 $\bar{x}$= 3.50 IQR= 1.00	P=0.70	1- Not helpful to understand. 2- Don't understand but would like to. 3- Some understand. 4- Understand and could explain to other
Section 5: Self-rated confidence in evidence based practice (EBR) skills:					
43	Formulate clinical question	X2 (df= 4, n=55) = 0.74, p= 0.95	Md= 2.00 $\bar{x}$= 1.71 IQR= 1.00	P=0.5	1- Very good 2- good 3- Barely acceptable 4- Poor 5- Very poor
44	Literature search	X2 (df= 4, n=55) = 3.91, p= 0.42	Md= 1.00 $\bar{x}$= 1.55 IQR= 1.00	P=0.6	1- Very good 2- good 3- Barely acceptable 4- Poor 5- Very poor
45	Critical appraisal	X2 (df= 4, n=55) = 1.22, p= 0.9	Md= 2.00 $\bar{x}$= 1.82 IQR= 1.00	P=0.7	1- Very good 2- good 3- Barely acceptable 4- Poor 5- Very poor
46	Extrapolate to patient	X2 (df= 4, n=55) = 1.6, p= 0.82	Md= 2.00 $\bar{x}$= 2.02 IQR= 0.00	P=1.00	1- Very good 2- good 3- Barely acceptable 4- Poor 5- Very poor
47	Evaluation	X2 (df= 4, n=55) = 3.6, p= 0.5	Md= 2.00 $\bar{x}$= 1.82 IQR= 1.00	P=0.9	1- Very good 2- good 3- Barely acceptable 4- Poor

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					5-	Very poor
Section 6: Your opinion about barrier to implement evidence based practice (EBR)						
48	EBR is a new concept.	X2 (df= 4, n=55) = 8.9, p= 0.6	Md= 4.00 $\bar{x}$= 3.49 IQR= 2.00	P=0.01	1- 2- 3- 4- 5-	Strongly agree Agree Don't Know Disagree Strongly disagree
49	EBR practice devalues clinical experience and institutions.	X2 (df= 4, n=55) = 10.99, p= 0.027	Md= 4.00 $\bar{x}$= 3.64 IQR= 1.00	P=0.25	1- 2- 3- 4- 5-	Strongly Agree Agree Don't Know Disagree Strongly disagree
50	EBR is impractical for everyday clinical practice.	X2 (df= 4, n=55) = 4.005, p= 0.405	Md= 4.00 $\bar{x}$= 3.42 IQR= 2.00	P=0.617	1- 2- 3- 4- 5-	Strongly agree Agree Don't Know Disagree Strongly disagree
51	EBR removes the creativity of healthcare sector.	X^2 (df= 4, n=55) = 6.450, p= 0.168	Md= 4.00 $\bar{x}$= 3.67 IQR= 1.00	P=0.306	1- 2- 3- 4- 5-	Strongly Agree Agree Don't Know Disagree Strongly disagree
52	EBR de-emphasizes history taking skills.	X^2 (df= 4, n=55) = 10.398, p= 0.034	Md= 4.00 $\bar{x}$= 3.65 IQR= 1.00	P=0.119	1- 2- 3- 4- 5-	Strongly agree Agree Don't Know Disagree Strongly disagree
53	In most areas of Allied Healthcare there is little or no evidence to guide practice.	X^2 (df= 4, n=55) =5.541, p= 0.236	Md= 4.00 $\bar{x}$= 3.58 IQR= 1.00	P=0.244	1- 2- 3- 4- 5-	Strongly Agree Agree Don't Know Disagree Strongly disagree
54	Lack of time to access EBR sources.	X^2 (df= 4, n=55) =5.006, p= 0.287	Md= 2.00 $\bar{x}$= 2.78 IQR= 2.00	P=0.556	1- 2- 3- 4-	Strongly agree Agree Don't know Disagree

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					5- Strongly disagree
55	Lack of EBR source in native language.	X^2 (df= 4, n=55) =9.454, p= 0.05	Md= 3.00 $\bar{x}$= 3.09 IQR= 2.00	P=0.049	1- Strongly Agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly disagree
56	Insufficiency of basic EBR skill.	X^2 (df= 4, n=55) =2.729 , p= 0.604	Md= 3.00 $\bar{x}$= 2.98 IQR= 2.00	P=0.161	1- Strongly agree 2- Agree 3- Don't Know 4- Disagree 5- Strongly disagree
57	Skepticism over the concept of EBR.	X^2 (df= 4, n=55) =7.288 , p= 0.121	Md= 3.00 $\bar{x}$= 3.24 IQR= 2.00	P=0.076	1- Strongly agree 2- Agree 3- Don't know 4- Disagree 5- Strongly disagree

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4.2. Opinion and Attitudes Towards Evidence-Based Practice (EBR) (Items 16-28)

The results revealed that 95% (n=52) of FCHS educators believed that practicing Evidence-Based Practice (EBP) improves patient care, enhances outcomes, and aids in clinical decision-making. Additionally, 91% agreed that EBP should be incorporated into all FCHS programs. Furthermore, 80% (n=44) assumed that EBP facilitates quick knowledge updates.

However, 27% (n=15) of participants were unaware of EBP's impact on healthcare costs, and 16% (n=9) were uncertain whether EBP emphasizes patient values. Educators' attitudes varied regarding the challenges of applying EBP in daily practice: 47% (n=26) found it easy to implement EBP daily, 33% (n=18) considered it difficult, and 20% (n=11) were unsure. Overall, FCHS educators demonstrated positive opinions and attitudes toward Evidence-Based Practice (EBP).

Additionally, the Kruskal-Wallis test for independence showed no significant differences in attitudes across various departments and specialities (Table 2).

4.3. Familiarity and Use of Electronic Evidence-Based Practice (EBR) Sources (Items 27-31)

To evaluate the differences between the educators from different allied health professional programs for familiarity and use of electronic evidence-based practice (EBR) sources, the post hoc Mann-Whitney U test was used. The test revealed significant differences in the familiarity of using the Cochrane database of systematic review (part of the Cochrane library) between the groups (item 28, Md = 3.00, x = 2.87, IQR = 2.00, P = 0.05) because the groups with the greatest familiarity were the physiotherapy and nursing educators, while the RMI and emergency departments had the least (Table. 2). Even though the PubMed/Medline journal was the most common electronic EBP source read and used by FCHS educators (87%, n = 48), the same test showed a significant difference in using the PubMed/Medline journal between the groups (item 31, Md = 3.00, x = 3.35, IQR = 1.00, P = 0.03). The nursing educator's department was the most common group using the PubMed for making clinical decisions (Table. 2).

However, 29% (n = 16) of participants were unaware of evidence-based healthcare (from the Publishing Group). While 71% (n = 39) were aware of and read from the journal club, only 11% (n = 6) used it to help in clinical decisions. Almost half of the educators (49%, n = 27) were reading clinical evidence (from your major publishing group), but only 29% (n = 16) were using it in clinical practice. FCHS educators showed a good familiarity with major electronic EBP sources but no variety in using these sources regarding making clinical decisions.

4.4. Knowledge of Methodological Terminology (Items 32-42)

The majority of FCHS educators who participated in this study (96%) had a good understanding of and could explain the methodological terminology to others, such as relative risk, absolute risk, systematic review, clinical effectiveness, meta-analysis, sensitivity and specificity, confidence interval, publication bias, and sample bias. While 9% (n = 5) didn't understand some terms, such as publication bias, sample bias, meta-analysis, and clinical effectiveness, they expressed a willingness to learn and improve their knowledge. The term "relative risk" was the only methodological terminology unfamiliar to 4% (n=2) of participants, who also believed it was not essential for healthcare professional educators to understand. The participants were aware of and had good knowledge of the methodological terminology used in EBP, and the minority who were not aware showed a positive attitude towards learning it.

4.5. Self-Rated Confidence in Evidence-Based Practice (EBR) skills (Item 43-47)

Over 90% of participants self-rated as very good or good and expressed confidence in their EBP skills. 15% of the sample (n = 8) was classified as having scarcely skills in extrapolating evidence to patients. Additionally, 5% (n=3) demonstrated limited skills in formulating clinical questions, literature search, critical assessment, and evaluation. Less than 5% of them were found to have inadequate knowledge of how to frame clinical questions, conduct literature searches, and critically assess, evaluate, and extrapolate findings to patients. Not a single participant thought of their skills as being very poor. FCHS educators in different departments showed high confidence in their EBR skills.

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4.6. Opinion about Barrier to Implement Evidence-Based Practice (EBR) (Items 48-57)

The results of the Kruskal-Wallis independence test and the post hoc Mann-Whitney U test revealed significant differences (P <0.05) in the educators' replies to questions 48, 49, and 55 regarding their opinions of the barriers to implementing EBP in their various departments.

The participants from different departments showed a significant difference in opinion about whether the RBP is a new concept in allied healthcare education; 68% (n=36) of them agreed it is a new concept, and 31%, (n=17) disagreed. The post-hoc Mann-Whitney U test revealed that nursing educators were the most aware of the EBP concept in allied healthcare education (item 48, Md = 4.00, x = 3.49, IQR = 2.00, P = 0.01) (Table 2), while RMI educators were the least. 71%, (n=39) didn't think that the EBR practice devalues clinical experience and institutions, however, Kruskal–Wallis test for independence showed a significant difference (p=0.027) since the RMI educators showed that most departments believed that the EBR practice devalues clinical experience and institutions.

A lack of EBP resources in the native language was identified as a barrier by 44% (n=24) of participants. This issue showed a significant difference based on the Kruskal-Wallis test for independence and the post hoc Mann-Whitney U test (p = 0.05), specifically for item 31 (Md = 3.00, $\bar{x}$ = 3.09, IQR = 2.00, p = 0.049) (Table 2). Regarding the FCHS educators' opinion, the biggest barriers to implementing EVB were lack of time to access EBR sources and insufficiency of basic EBR skills. However, one-third of the participants indicated that they did not know, indicating that they were unaware of the challenges associated with applying the EBP in allied healthcare.

5. Discussion

To date, this is the first cross-sectional study to evaluate the allied healthcare professionals' educators' attitudes and barriers to evidence-based practice in the UAE. Moreover, this study showed the characteristics of male and female genders, different age groups, academic positions, education qualifications, experience, and departments. The nursing department was correlated with higher attitudes and knowledge of the concept of EBP and showed a significant positive association between higher levels of education and scores for the knowledge and attitudes of the EBP. Previous studies [10,11] established that nurses had extensive knowledge about EBP. Therefore, it is not surprising that this study found the nursing department to have higher attitude knowledge about the concept than other departments in the study.

This result is consistent with earlier research that found electronic search engines to be the most reliable source of information about EBP [40-42]. It is essential to remember that the majority of real-world activities typically obtain their information from electronic databases and search engines.

Additionally, RNMs' were shown to have the highest mean in terms of their attitude towards EBP and this was followed by their knowledge and skills about EBP and lastly their practice of it. From the foregoing, RNMs can be said to have a much more positive attitude towards EBP, than their level of knowledge and practice of the concept. With a positive attitude, RNMs are more likely to acquire additional knowledge about EBP. It is therefore very important that they have the right attitude towards EBP. This finding is consistent with previous studies that established that RNMs had a favourable attitude toward EBP [10,11]. It is unclear why nurses have been shown to have a very positive attitude towards EBP, the profession may have been introduced to the concept much earlier than other professions.

Furthermore, it was found that most participants showed a favourable attitude toward EBP. An overwhelming majority 95% (n=52) are convinced practicing EBP leads to improved patient care and outcomes and ensures improved clinical decision-making. The majority of participants (91%) felt that it is essential for EBP to be incorporated into the curriculum of all courses offered at FCHS. They (80%) also argued that EBP could lead to a quicker update of knowledge. The fact that an overwhelming majority indicated it was important to teach EBP in all courses at FCHS is indicative of how critical participants felt EBP was to effective healthcare practice. It is also noteworthy that this finding aligns with results from previous studies[43-45]. To underscore the importance of EBP, the Institute of Medicine in the USA set a goal that by the year 2020, 90% of all clinical decisions must be guided by accurate up to date and relevant evidence that will ensure the best possible patient outcomes [46]. It

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was further argued that for this to happen it was imperative to ensure that healthcare professionals develop the requisite skills needed for introducing EBP in educational programs [47]. Improving patient care outcomes within the framework of intricate healthcare systems is the aim of evidence-based practice or EBP. It must, however, be stated that introducing EBP involves various stakeholders making commitments in various areas like providing the right infrastructure, and a show of support and commitment to organisations to enable them to deliver the competencies required to Implement EBP [48]. Initiatives such as a Sicily consensus outline core skills needed to practice with EBP and have also developed a curriculum that outlines the minimum body of knowledge required in educating healthcare professionals in EBP [48]. There are other initiatives targeted at supporting EBP within Europe [49]. There is no need to reinvent the wheel, some of these initiatives can be adopted and reviewed to meet the local needs of the UAE.

Educators at FCHS found that the biggest obstacle to implementing EBP was a lack of time or resources. They indicated they simply didn't have enough free time to put it into practice. They argue that to apply EBP, time would be needed to obtain information from multiple sources, which they lacked. This finding aligns with previous studies that identified the major barriers to implementing EBP to include limited time[50, 51]. Healthcare training institutions must allocate dedicated time and resources for EBP to ensure that this barrier is eliminated It is worth noting that developing effective professional training to support EBP and implementing it remains a major challenge worldwide [48, 52-54].

The result showed that the nursing department was correlated with higher attitudes and knowledge of the concept of EBP and found a significant positive association between higher levels of education and scores for the knowledge and attitudes of EBP. This finding supported some previous studies [55,56]. It can be argued that with a positive attitude towards EBP, it will be easier to gain the support of staff in developing and implementing a professional program for the education of healthcare professionals given that the development and implementation of an effective professional program for healthcare professional on EBP has been a challenge in literature [48,52-54]. This finding can also be explained by the fact that the nursing department is one of the largest at FCHS, and most of the educators who responded to the survey were from this department.

6. Conclusions

The educators of FCHS generally displayed a motivating attitude and sound knowledge towards evidence-based practice. However, one-third of educators who participated were not aware of the current barriers associated with the implementation of this concept. Furthermore, the results obtained from this study may be used by the executive management and program directors to encourage the implementation of evidence-based practice amongst educators and ultimately across all Health Science programs. Finally, time constraint was identified as the primary challenge in the implementing of the EBP.

In summary, the study showed a positive attitude toward EBP among FCHS educators. However, there are numerous opportunities for FCHS educators to learn and share knowledge about EBP among the faculties. Time constraints were identified as the greatest challenge in utilizing EBP tools. This challenge can be addressed by leveraging the latest technology for EBP and organizing workshops and webinars within FCHS.

6.1. Limitations

Although data for this study was collected from the educators of FCHS which is the largest college preparing 5 specialties in allied health, the sample size is still small and collected from one institute. As a result, in order for the study's findings can't be generalized, care should be taken when using them as a baseline.

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