CROSS SECTIONAL STUDY TO ASSESS ATTITUDE OF FACULTY TOWARD E- LEARNING EDUCATION IN RAK MEDICAL AND HEALTH SCIENCES UNIVERSITY, UAE.

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ABSTRACT

Introduction *: University education has been using computers and internet related technology for research purposes since long, with advent of simulations and the current pandemic with need for high breed teaching, technology has become an essential element for health professionals training and continued professional development. Globally students have been accustomed to face to face learning.The aim of the study was to assess the attitude of faculty toward e- learning in RAK Medical and Health Sciences University, UAE.*

Materials and Methods: *Cross sectional survey design with a sample of 55 faculties in all the four colleges were selected using convenience-sampling. Test of e – Learning Related Attitude (TeLRA) scale was used for the study. It consists of 4 point Likert scale with 17 items. Reverse scoring was done for negatively worded items Statistical package for social science (SPSS) version 25 and Fisher's exact test.*

Results: *55 faculties participated in the study with majority being females from the Nursing College, who spends 6-10 hours of the day working with computer. Findings revealed that there was a significant association between years of experience (p= 0.045), history of attending computer course (p = 0.031) with attitude of faculty members towards e learning. Fisher test revealed that there is a significant association between faculty attitude towards the e - learning and selecteddemographic data.*

Conclusion: *there was a significant association between years of experience, history of attending computer course and attitude of faculty towards e-learning. The study provided a useful catalyst for further investigation of teachers' behavioural intention to use e-learning in another setting.*

Keywords:*E-learning, nursing education, internet, Attitude, TeLRA scale,*

1. INTRODUCTION

1.1 Background of the study

Health is an important part of human life and health care professionals' helps in the sustenance, maintenance and rehabilitation of individuals. According to WHO health care professionals are those who maintains health of human beings through application of scientific principles and evidence based care. Health care teaching professional are essentially required to have adequate knowledge, competency and quest for lifelong learning. All these professionals are also expected to keep in pace with ever-changing advancement in medical knowledge.

In the current academic scenario role of teacher has become learner cantered which is no more limited to classroom teaching but as a facilitator of learning process. Many socio - demographic factors such as age, gender or geographical distance has broken the barriers of pursuing health sciences education through the development and use of Information Communication and Technology (ICT).

Few years back use of this technology was limited to email but with the advancement of Information technology, the concept of traditional method of teaching through didactic lectures has added e-learning as a method of teaching – learning process. Many teachers are substantially using online synchronous and asynchronous delivery methods; with easy access to plethora of information in one click changing the attitude of students towards e - learning.[1]

Few months back e - learning was used as a support to conventional method of teaching by majority of faculty members, however, due tocrisisrelated to COVID - 19 pandemic higher education sector all over the world is going through a revolutionary change with e- learning becoming a need rather than a necessity. According to[2] nursing education has been using computers and internet related technology for research purposes since long but now, with advent of simulations, technology has become an essential element of basic professional training and continued professional development. This study revealed that nursing students were ready to adopt e - learning and recognize its uses in education. However, they considered the difficulties with technical support and stress of using technology as a hindrance, it indicates that there is a need to have ateaching faculty with appropriate knowledge and skill related to use of ICT, which is not possible if they do not have positive attitude towards it.

Many researchers have assessed the attitude of teachers and students towards useof ICT. As online modes of study continue to expand, there is increasing awareness of the need for competent online faculties. Hence developing institutional competence for online instruction requires a careful approach to training and a workload investment in staff training and development[3]. The successful integration of ICT at any educational stage requires university professors to have correct attitude towards technology, since it can affect the teaching and learning process of their students'[4] .Having an average attitude of use is likely to affect the integration of ICT in the teaching–learning processes, and therefore hinders university innovation. Thus, it is necessary to make profitable benefits of ICT and offer a high quality of teaching that is adapted to the formative demands of the students and the present social conditions[5].

Another study also assessed the impact of e-Learning on health professional educators' attitudes to information and communication technology (ICT){[6]}. Fifty-two health professional educators who were involved in online teaching of the courses with specific e –learning component requiring use of ICT participated in the study. Findings indicated significant impact of e-learning in increasing confidence related to use of ICT however decrease in participant's sense of control over it was observed. Further researcher argued that though there is an increase in confidence related to use of ICT among health care professional educators but it may not necessarily integrate ICT in their practice. Therefore it is necessary to ensure more training and support for the educators to enable them to utilize e-learning effectively.

Unavailability of health care professionals in adequate numbers is a universal problem, as per[7], there will be shortage of 7.2 million health care force and this figure will be increasing. It is also observed that there is scarcity of experienced teaching faculty, which limits the use of traditional methods in educating the students. Therefore, development of e-learning for teachers as a new tool can help them to improve quality of education, academic activities and access for education [8] .

The literature review indicates that positive attitude towards use of ICT exists among teachers from various background, yet investigators feel that accepting e - learning, as a major strategy for teaching is a challenge for the faculty who already have their own established ways of teaching. It may lead to development of resistance towards integration of e - learning into practice. Investigators also observed that there is a paucity of literature related to attitude of faculty towards e-learning .Therefore in view of promoting and developing positive attitude, there is a need to assess the attitude of faculties in these setting towards e – learning education in the current situation.

2. MATERIALS and METHODS:

2.1 Aim of the study: To determine attitude of faculty working in RAKMHSU towards e-learning education and find its association with selected demographic variables.

2.2 Research design: Descriptive cross sectional survey design was used in the study.

2.3Samplingmethod:Convenience sampling technique was used in the study. Data was collected from 55 faculty members working at RAK medical And Health Sciences University.

2.4 Instruments:

Test of e – Learning Related Attitude (TeLRA) scale[9]was used in the present study. The TeLRA scale consisted of 17 item with a 4-point Likert scale(1= Strongly Disagree, 2= Disagree, 3= Agree, and 4= Strongly Agree)response format with degrees of agreement ranging from: 1- strongly disagree, 2- disagree, 3- agree to 4- strongly agree. Reliability of this scale was measured by computing Cronbach's coefficient alpha and scored 0.857[10].Reverse scoring was done for negatively worded items. In the present study median was

computed to interpret and categorise attitude of the faculty. Score higher than or equal to median was considered as favourable attitude whereas lower than median score was considered as non-favourable attitude towards e- learning.

2.5 Data collection procedure

All faculty members were contacted through university mail after obtaining permission from ethical committee of RAK Medicaland Health Sciences University.(RAKMHSU- REC-261-2020-F-N) . Purpose of the study was informed and data was collected via electronic mode (google form) from those who gave consent for the participation.

2.6 Data Analysis

Statistical package for social science (SPSS) version 25 was used for data entry and analysis. Data is presented in form of frequency and percentage, median, mean and standard deviation. Chi-square and Fisher's Exact test (FET)was used to find out the association between attitude of faculty towards the e - learning and their demographic data. P-value is statistically significant at ≤ 0.05.

3.RESULTS

In present study, data was collected from 55 faculty from various disciplines like Medical (RAKCOM), Nursing (RAKCON), Dental (RAKCOD) and Pharmacy (RAKCOP)College. Data was analysed by using SPSS – 25 version.

Section 1: Analysis of the demographic characteristics of the respondents

Table 1   Demographic characteristics of the participants
(n=55)

Demographic data	Frequency	Percent (%)
Age (in years)		
25 – 35	9	16.4
36 – 45	22	40.0
46 – 55	16	29.1
>55	8	14.5
Gender		
Male	21	38.2
Female	34	61.8
College		
RAK COM	16	29.1
RAKCOD	5	9.1
RAKCOP	8	14.5
RAKCON	21	38.2
General Education	5	9.1
Designation		
Clinical Demonstrator / Assistant Lecturer	6	10.9
Lecturer	13	23.6
Assistance Professor	16	29.1
Associate Professor	9	16.4
Professor	11	20.0
Year of experience		
< 5	5	9.1
6-10	7	12.7
>11	43	78.2
Familiarity with computer		
Primary	12	21.8
Moderate	43	78.2
Attended E- learning Program		
Yes	43	78.2
No	12	21.8
Working hours with computers (at work)		
< 5	8	14.5
6-10	40	72.7
11 – 15	4	7.3
16 – 20	1	1.8
> 20	2	3.6
Internet availability		
Yes	54	98.2

No	1	1.8
Working hours with computers (at home)		
< 5	25	45.5
6-10	14	25.5
11 – 15	11	20.0
16 – 20	1	1.8
> 20	4	7.3

Table 1 majority of faculty participated in the study were from Nursing college (38.2%) followed by, Medical (29.1%), Pharmacy (14.5%),Dental (9.1%) and general education (9.1%). Among the participation majority were females (61.8%) and were between 36-45 years of age (40.0%). Findings also indicate that majority (78.25%) were having more than 11 years of experience and attended e – learning program (78.2%). Most of the faculty spent 6-10 hours of the day working with computer. Findings also suggest that majority of the participants has moderate level of computer skills.

Section 2: Attitude of respondents towards e-learning

Table 2: Attitude of faculty towards e-learning
(n = 55)

Items	Minimum-Maximum	Mean ± SD	Median	Favourable N (%)	Unfavourable N (%)
Attitude related to e-learning	71-132	96.00 ± 12.54	96.00	29 (52.7)	26 (47.3)

As per the data presented in Table 2 majority of faculty (52.7%) had favourable attitude towards e- learning.

Table 3: Domain wise attitude of the faculty towards e-learning (N = 55)

Domain	Minimum-Maximum	Mean ± SD	Median	Favorable N (%)	Unfavorable N (%)
Challenges of e – learning	16 – 40	27.58 ±5.14	28.00	29 (52.7)	26 (47.3)
Benefits from e-learning	14-34	23.78 ± 4.51	24.00	31 (56.4)	24 (43.6)
Leisure interest on e-learning innovations and use of computers	12-34	24.33 ± 3.92	25.00	28 (50.9)	27 (49.1)
Attitude on use of computer system	11-24	17.18 ± 2.81	17.00	33 (60.0)	22 (40.0)

Findings in Table 3 depicts domain wise attitude of faculty towards e- learning. It indicates that majority of the participants feelthat e learning is challenging (52.7%) and is beneficial (56.4%). Substantial number of faculty (50.9%) accept use of computers in teaching and social networking as exciting and innovative. It was also interesting to know that majority of faculty (60%) did not feel the use of computer as frustrating, annoying or unexciting. On the contrary, participants felt that the use of computer allowed them to accomplish more work than expected.

Table 4:Association betweenattitude of faculty towards the e - learningand selected demographic variables
(n= 55)

Items	Attitude on e –learning		Test
	Favourable N= 29 (%)	Unfavourable N= 26 (%)	
Age in years			
25 – 35	6 (20.7)	3 (11.5)	FET= 1.603 P= 0.696
36 – 45	11 (37.9)	11 (42.3)	
46 – 55	7 (24.1)	9 (34.6)	
>55	5 (17.2)	3 (11.5)	
Gender			
Male	11 (37.9)	10 (38.5)	$\chi 2 = 0.002$ P = 1.000
Female	18 (62.1)	16 (61.5)	
College			
RAKCOMs	9 (31.0)	7 (26.9)	FET= 0.324 P = 0.324
RAKCODs	2 (6.9)	3 (11.5)	
RAKCOPs	3 (10.3)	5 (19.2)	
RAKCON	14 (48.3)	7 (26.9)	
General Education	1 (3.4)	4 (15.4)	
Designation			
Clinical Demonstrator / Assistant Lecturer	2 (6.9)	4 (15.4)	FET= 1.736 P= 0.856
Lecturer	8 (27.6)	5 (19.2)	
Assistant Professor	9 (31.0)	7 (26.9)	
Associate Professor	4 (13.8)	5 (19.2)	
Professor	6 (20.7)	5 (19.2)	
Year of experience			
< 5	0 (00.0)	5 (19.2)	FET= 0.045 P= 0.045*
6-10	4 (13.8)	3 (11.5)	
>11	25 (86.2)	18 (69.2)	
Familiarity with computer			$\chi 2 = 0.046$ P= 0.543
Primary	6 (20.7)	6 (23.1)	
Moderate	23 (79.3)	20 (76.9)	
Attended E- learning Program			$\chi 2 = 4.734$ P= 0.031*
Yes	26 (89.7)	17 (65.4)	
No	3 (10.3)	9 (34.6)	
Working hours with computers (at work)			FET= 7.822 P= 0.052*
< 5	1 (3.4)	7 (26.9)	
6-10	23 (79.3)	17 (65.4)	
11 – 15	2 (6.9)	2 (7.7)	
16 – 20	1 (3.4)	0 (0.0)	
> 20	2 (6.9)	0 (0.0)	
Internet availability			$\chi 2 =1.136$ P= 0.473
Yes	29 (100.0)	25 (96.0)	
No	0 (00.0)	1 (3.8)	

*significant at p<0.05 levels
FET= Fisher Exact Test

Findings presented in Table No. 4 indicateyears of experience (p= 0.045),history of attending computer course (p = 0.031) and working hours with computers (p= 0.052) had a significant association with attitude of faculty members towardse learning. However other variables, for instance age, health care discipline, designation and availability of internet facility have not shown any significant association.

4. DISCUSSION
The COVID-19 pandemic has definitely steered an increase attentiveness towards online teaching. E-learninghas become a crucial source to continue

educational activities during the pandemic. However, the sudden shift from face to face sessions into a virtual environment became a challenging situation to students, faculty members, and instructors. Learning new features and applications to conduct the online virtual classes by the faculty members might have been perplexing for many. Hence, the aim of this study was to measure the attitude of RAKMHSU faculty members towards e - learning as a teaching methodology[11]. The current study findings revealed that most participants were females, between age group of 36 to 45 years, from the college of nursing with more than 11yearsof experience and majority were working as assistant professors. This finding was consistent with [12]from Nepal, reported that most participants were females working at nursing college. [13] from Saudi Arabia mentioned that most of their respondents were males working as assistant professors.These findings reveal that though females predominantly pursue nursing as a profession but a favourable change is noted with men taking it up as a career.

The study findings revealed that the majority (98.2%) of faculty members had access to internet. This evident finding matched with [12]who found that 84.6 % of teachers had internet access. Furthermore, more than two-thirds of the participant has attended e-learning programs and had computer competency, whichwas similarly, notedamong teachers in the Philippines who perceived themselves to have intermediate competency in using the computer[14]. The majority of participants were working with computers six to ten hours at work. This assertion was congruent with 10who reported that a higher number of teachers were using computers at their both workplace and homes.

Attitude plays an important role in how an individual perceives and reacts to a situation such as e – learning process. The study findings revealed that most respondents had a favorable attitude toward challenges, benefits, leisure, attitude on e-learning innovations and using the computer system, and general attitude on e-learning innovation (52.7 %, 56.4 %, 50.9 %, 60.0 %, and 52.7 %) respectively. This result are congruent with[13] who reported that of the faculties were confident and had a positive attitude and showed preparedness to use e-learning in teaching. Although, these results differed from Joshi, [15] who reported that teachers found online teaching inconvenient and as wastage of time. These teachers related it to lack of training, technical support, and clarity or direction. [14] highlighted that most of the faculty members in their study had one to five years of teaching experience (44.4%), who worked as Instructors (74.1%), and were withno training in online teaching (70.4%). [16] pointed out that Sport Management faculty had negative views

of online learning. In addition, a significant number of teachers in Macedonia disagreed with changing the traditional teaching method to that of e-learning[17]. These findings illustrates that teaching faculty may have negative or unfavourable attitude mainly due to lack of on-going training to enhance the computer competency.

The current results showed an association between the attitude on the e-learning with years of experience, prior e-learning training and number of hours spent working with computer. This finding emphasises that adequate training attributes to development of positive attitude towards e-learning. These results were in line with[13]and [18] who mentioned that poor computer literacy skills, lack of e-learning support, resistance to change by some faculty members, lack of institutional support, and poor Internet infrastructures could hinder successful implementationof e-learning process. The current results were in accordance with a research study done by [19]revealed that technological factors were one of the critical factors that affected the usage of the e-learning system. Similarly, [12] reported that there is a significant association of selected demographic data of the participants with their attitudes. Yet another study revealed that the demographic profiles of lecturers played an important role in attitudes towards the integration of e-learning in higher education such as gender, age, faculty, teaching experience, and e-learning experience[20].

Ongoing comprehensive training and provision of appropriate resources at workplace therefore can enhance computer competency irrespective of faculty's demographic characteristics. They thereby empower faculty members to develop confidence with right attitude to render e – learning as a mode of education to fulfil and achieve the learning outcomes of the curriculum.

5. CONCLUSION

Our study shows that the faculties already adopted e-learning, recognize its uses in education with a significant association between years of experience, history of attending computer course and attitude of faculty towards e-learning. The study provided a useful catalyst for further investigation of teachers' behavioural intention to use e-learning in another setting.

5.1 Practice implications

This study recommends that e learning is highly valued by students in their education and faculties must be aligned to this need. However technical support needs to be updated as solid technology set up makes the back-bone of e learning. In order to understand the underlying reasons for faculty' attitude, a qualitative study of the factors will help in implementing strategies to produce more positive attitude towards e learning.

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