The Correlation Between Confidence and Knowledge of Evidence Based Practice Among Physical Therapist

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Abstract

Background:
The objective of the study is to find correlation / synchronization between knowledge of research and evidence based practice with the confidence in applying such skills in daily clinical practice by physical therapists (novice) by using reliable tools knowledge of research evidence competencies (K-REC) and evidence based practice confidence scale (EPIC) and to find confidence in each step of process of evidence based practice

Methods: Present study was descriptive cross sectional survey conducted on 190 physiotherapists enrolled in it and convenient sampling technique was used. Data were collected through a reliable, validated tools. The study was conducted at private clinics of Lahore, university of Lahore teaching hospital, bajwa hospiotal, iqra medical complex, riphah international clinic, Hamza hospital, Lahore, Pakistan. Total 09 months is time lapsed during the study and survey after the acceptance of synopsis in university of Health sciences.

Results: The two scales KREC and EPIC shows the knowledge and confidence of evidence based practice. All physical therapist admit the significance of evidence as it does improves the patient satisfaction and recovery. Majority has enough confidence in each step of EBP but practically no one could get full marks and not have enough knowledge to implement practically.

Conclusion: The conclusion of the study is out of three groups having different experiences, the most experienced group have the highest confidence about the knowledge of evidence based practice but practically they attained an average score, the novice practitioners having less experience , with good confidence level attained the least score in implementing evidence based practice , practically. It is also concluded that physiotherapists of every experienced group did evidence based activities only 2-5 times per month.

Key Words: Evidence based practice, knowledge

Introduction:

Evidence based practice is a common phrase encountered now a days. The term Evidence based medicine was introduced in 1980s by *Bennett et al.*, 1987.[1] It is defined as: 'The conscientious explicit and judicious use of current best evidence in making decisions about care of individual patients.'[2] It is further explained as:' process that synthesizes clinical expertise, with the best evidence available from systematic research and the values and preferences of patient.'[3] The seven steps included in this practice are:[4] Develop spirit of inquiry, Formation of clinical question according to PICOT format, Search for the best evidence, Critically appraise the evidence , Integrate the evidence with clinical expertise and patient values,Evaluate the patient outcome and changes based on evidence, Share or disseminate evidence based practice results.It is widely observed that there is a large gap between amount of literature that exists and the use of these evidence in clinical practice[5] A research showed that 10 – 40% of patients do not receive evidence based care.[6] National board of health and welfare (2008) did a survey according to

which 8.6% of patients were injured due to lack of use of evidence based knowledge which can be avoidable. Susame *et al*., 2011 did cross sectional survey including physical therapist (n = 184) respondents 70% concluded that they did not practice evidence based practice due to lack of time (84%), lack of knowledge of statistics (33%), lack of generalizability of literature (37%), lack of research skills (36%) and poor ability to appraise literature (32%).[7] A study conducted in 2015 on occupational students to find correlation between confidence and knowledge of evidence based practice. using EPIC and K-REC scales, (n=47), the result depicted that third year students showed more confidence in applying evidence based skills as compared to junior students . First year students reported average confidence of 40.5%, second year students (55%) and third year students (58.8%).[8] It was also concluded that the more knowledge they gain and with more practice would eventually gained them confidence in implementation of evidence based practice. This study demonstrated that there is correlation between evidence based practice confidence and knowledge.[9,10] Diane U Jette *et al*., 2003 conducted research to determine beliefs, attitude, knowledge about evidence and confidence in searching.[11] They took physical therapists n= 488 who were members of APTA. 71% were women, 60% practiced in private settings. A self-report questionnaire was designed. Younger therapists believe more on importance of evidence based practice and it also provide good patient care, as compared to experienced physical therapists. 65% respondents agreed that they were confident that they had research skills and 70% agreed that they had knowledge about using databases. 67% stated that they were educated in critical appraisal of literature and 55% said they were confident about their abilities.[12] The barriers of not applying frequently the evidence based practice were indicated as: lack of time (67%), lack of generalizability of research findings(30%) and lack of interest (11%).[10] The Evidence-Based Practice Confidence (EPIC) Scale was made for use over different human services orders to assess professionals' trust in their capacity to utilize EBP. The EPIC Scale comprises of 11 addresses that empower members to recognize their certainty on performing ventures of the EBP procedure on a scale from 0-100%. EPIC Scale has high inner consistency and test-retest unwavering quality when tried with physical specialists. Also, analysts found a connection between self-viability and training, demonstrating that people with more elevated amounts of instruction were related with higher certainty.[13] The Knowledge of Research Evidence Competencies (K-REC) was created from the Fresno Test, intended to gauge EBP information in doctors The K-REC measures EBP subjective aptitudes in section level human services understudies. It tends to the initial three stages of the EBP reference model, evaluating understudies' capacity to shape a clinical inquiry, the proper writing to respond to the inquiry, and assess the writing. Checking rules for the 12-point scale are accommodated scoring consistency.[14] Research gap of this study is population (physical therapists), previous study was done among occupational therapists [15,16]

Methods:

This study was an observational, purposive cross sectional. Data was collected from Private physiotherapy settings of Lahore, university of Lahore teaching hospital, bajwa hospiotal, iqra medical complex, riphah international clinic, Hamza hospital, Lahore. The duration of this study was 9 months after the approval of synopsis from September 2018 to February 2019. 190 sample sizes was calculated by using 380 registered physiotherapists in Lahore (survey) with 95%confidence level and 5% margin of error. Novice physical therapist that are practicing, Experienced (less than 5 years) physical therapist who are working in clinical settings, Physical therapist doing post-graduation who are on job were included in population The composed consent was taken

from every individual taking an interest in the investigation. The information will be entered and broke down utilizing IBBM SPSS 25.The quantitative factors will be exhibited as mean and standard deviation while subjective factors will be assessed as extents (%). The Evidence-Based Practice Confidence (EPIC) Scale[16] was made for use over different human services orders to assess professionals' trust in their capacity to utilize EBP. The EPIC Scale comprises of 11 addresses that empower members to recognize their certainty on performing ventures of the EBP procedure on a scale from 0-100%. Also, analysts found a connection between self-viability and training, demonstrating that people with more elevated amounts of instruction were related with higher certainty.[13] The Knowledge of Research Evidence Competencies (K-REC) was created from the Fresno Test,[18] intended to gauge EBP information in doctors The K-REC measures EBP subjective aptitudes in section level human services understudies. It tends to the initial three stages of the EBP reference model, evaluating understudies' capacity to shape a clinical inquiry, the proper writing to respond to the inquiry, and assess the writing. Checking rules for the 12-point scale are accommodated scoring consistency.[19]

Data Analysis:

The information will be entered and broke down utilizing IBBM SPSS 25.The quantitative factors will be introduced as mean and standard deviation while subjective factors will be assessed as extents (%). The Data was investigated utilizing SPSS v20.Mean±SD was determined for numeric factors for example age Odds proportion was determined to assess the relative hazard and to control the jumbling variable; strategic relapse was used.95% certainty for all chances proportions was determined (bivariate analysis).

Results:

The table 1 shown below shows clinical practicing years of physiotherapists. The results depict that the data includes highest number of novice practitioners who have experience of 1-3 years. Out of 190 , 167(87.9%) have 3 years of experience. 21(11.1%) participants have 4-6 years of experience and only 2(1.1%) physiotherapists 7-9 years of experience. It also shows total working time spend in research. The results shows that majority of the participants spend very less time in research, 156 (82.1%) spend only 0-20 % of their time in research, 18 (9.5%) spend 20-40% of their time in research. 12 (6.3%) spend 40-60% time in research and 4 (2.1%) of them spend 60-80% of their time in research. The table also shows primary role of physiotherapists who are involved in research. 39 (20.5%) of them act as recruiter in research, majority of physiotherapists 54 (28.4%) act as evaluator, 40 (21.1%) are treatment provider in research, the second highest participants 51(26.8%) involved in as investigator and only 6 (3.2%) have other role in research. The table **5** and graph show KREC scoring, it is 12 points scoring consists of case scnerio, and total of 9 questions. In group 1 , in which 1- 3 years of experience participants included, hot highest score in question 2, which is to identify four different sources of information,the lowest score are in question 5, 8b and 9. The group 2, in which 4-6 years of experience physiotherapists included, got highest score in question 2 and 3 which are identification of different sources of information and about research design. The lowest score they got in question no. 7 which is characteristics of randomized clinical trials.The group 3 which have greater experience got highest score in question no. 3 and question no. 6 and lowest in question 8a, 8b and question 9. The group 2 got the highest score who have the least confidence, and group 3 who have highest confidence got mediocre marks. And the novice practitioners who are in group 1 got the least marks.

Practicing years	Frequency	Percentage (%)
1-3 years	167	87.9%
4-6 years	21	11.1%
7-9 years	2	1.1%
Total	190	100%
Working time in research	**Frequency**	**Percentage (%)**
0-20	156	82.1%
20-40	18	9.5%
40-60	12	6.3%
60-80	4	2.1%
Total	190	100%
Primary role in research	**Frequency**	**Percentage (%)**
Recruiter	39	20.5%
Evaluator	54	28.4%
Treatment provider	40	21.1%
Investigator	51	26.8%
Others	6	3.2%
Total	190	100%

Table 1: Combined table of experience of physical therapists, working time spend in research and their primary role in research activities.

The table 2 shows the perception of evidence based practice of physiotherapists. Out of 190 sample size, 7(3.7%) of physiotherapists strongly disagree that EBP improves quality of patient care, 2(1.1%) were disagree about it, 31(16.3%) were neutral about it, 100(52.6%) were agree that it improves quality which are majority and 50(26.3%) were strongly agree about it. About the second perception, 5(2.6%) were strongly disagree that EBP helps in making decision, 9(4.7%) were disagree about it, 26(13.7%) were neutral about it,108(56.8%) which are majority were agree,42(22.1%) were strongly agree about it. About the third perception, 6(3.2%) were strongly disagree that EBP places an unreasonable demand on physiotherapists, 16(8.4%) were disagree about it, 81(42.6%) were neutral about it which are majority, 64(33.7%) were agree about it and 23(12.1%) were strongly agree about it.

About the next perception, 4(2.1%) were strongly disagree that EBP improves patient satisfaction, 5(2.6%) were disagree about it, 40(21.1%) were neutral about it, 91(47.9%) were agree about it which are majority and 50(26.3%) were strongly agree about it. About the last perception about EBP , 6(3.2%) were strongly disagree that EBP improves patient recovery, 2(1.1%) were disagree, 44(23.2%) were neutral about it, 102 (53.7%) were agree about it which are majority of sample and 36(18.9%) were agree about it.

Perception of evidence based practice	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	N (%)	N (%)	N (%)	N (%)	N (%)
It improves quality of Patient care	7(3.7%)	2(1.1%)	31 (16.3%)	100 (52.6%)	50 (26.3%)
It helps in making decisions	5(2.6%)	9(4.7%)	26 (13.7%)	108 (52.8%)	42 (22.1%)
It places an unreasonable demand on physiotherapists	6(3.2%)	16(8.4%)	81 (42.6%)	64 (33.7%)	23 (12.1%)
It improves patient satisfaction	4(2.1%)	5(2.6%)	40 (21.1%)	91 (47.9%)	50 (26.3%)
It improves patient recovery	6(3.2%)	2(1.1%)	44 (23.2%)	102 (53.7%)	36 (18.9%)

Table 2: Perception of evidence based practice of physiotherapists

The table 3 shows activities of physiotherapists related to evidence based practice in a typical month. 17(8.9%) use no Medline or other databases for their search, 21(11.1%) used it once a month, 69(36.3%) used them 2-5 times, 43(22.6%) which are majority used Medline 6-10 times , 19(10.0%) used databases 11-15 times and 21(11.1%) used these databases 16+ times in a month. The other activity was to review research related to clinical practice. Out of sample size, 6(3.2%) did not do this activity in a month, 19(10.0%) review research once a month, 68(35.8%) which are majority did 2-5 times , 44(23.2%) practitioners did 6-10 times, 29 (15.3%) reviewed 11-15 times and 24(12.6%) reviewed research 16+ times in a month. The other activity was to use literature in clinical decision making . Out of sample size, 6(3.2%) did not do this activity in a month, 22(11.6%) used literature in decision making once a month, 62(32.6%) which are majority did 2-5 times ,48(25.3%) practitioners did it 6-10 times, 44 (23.2%) used literature 11-15 times and 8(4.2%) used literature in clinical deision making 16+ times in a month.

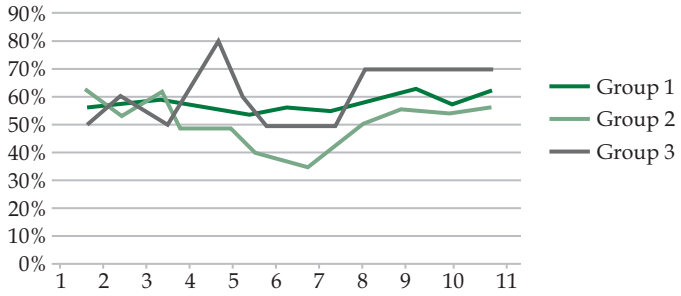
Activities related to evidence based practice in a month	0 Time	1 Time	2-5 Times	6-10 Times	11-15 Times	16+ Times
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Use Medline or other databases	17 (8.9%)	21 (11.1%)	69 (36.3%)	43 (22.6%)	19 (10.0%)	21 (11.1%)
Review research related to practice	6 (3.2%)	19 (10.0%)	68 (35.8%)	44 (23.2%)	29 (15.3%)	24 (12.6%)
Use literature in clinical decision making	6 (3.2%)	22 (11.6%)	62 (32.6%)	48 (25.3%)	44 (23.2%)	8 (4.2%)

Table 3: Activities of physical therapists related to evidence based practice in a month

The table 4 and line chart show the EPIC model scale of 3 groups of different experiences. In group 1 having 1-3 years of experience who were novice practitioners, showed highest confidence 61.6% in question no. 9 which is Ask patient or client about his needs values and preferences and 61.6% confident about question no. 11 which is assess effect of course of action on the patient. And showed lowest confidence 54.4% in question 1 of Ask and identify gap in knowledge related to patient situation. In group 2 having experience of 4-6 years showed highest confidence 61.9% in question 1 of Ask and identify gap in knowledge related to patient situation and they showed lowest confidence 36.6% in question 7 which is appraise study results obtained using statistical procedures. In group 3 which have 7-9 years of experience,showed highest confidence 80% in question no. 4 which is critically appraise strengths and weaknessess of study methods and showed lowest confidence 50% in four questions which are question no 1 ask, question no. 3 acquire , question no. 6 appraise and question 7 appraisal of study results. From the above result, the group 3 which are most experienced have the highest confidence according to EPIC scale and group 2 have lowest confidence . Group 1 who were novice practitioners were between both the groups having mediocre confidence of 57%.

EPIC Model Questions	Group 1 1-3 years	Group 2 4-6 years	Group 3 7-9 years
1 Ask	54.4%	61.9%	50.0%
2 Ask	56.6%	53.8%	60.0%
3 Acquire	58.7%	60.4%	50.0%
4 Appraise	57.5%	48.5%	80.0%
5 Appraise	55.2%	48.5%	60.0%
6 Appraise	56.4%	39.5%	50.0%
7 Appraise	55.0%	36.6%	50.0%
8 Apply	58.9%	48.5%	70.0%
9 Ask	61.6%	53.8%	70.0%
10 Apply	55.0%	51.9%	70.0%
11 Assess	61.6%	54.2%	70.0%
Total	57.35%	50.69%	61.81%

Table 4: EPIC scale:



Graph 1: Line chart of EPIC scale

The table 5 and graph show KREC scoring, it is 12 points scoring consists of case scnerio, and total of 9 questions. In group 1 , in which 1- 3 years of experience participants included, hot highest score in question 2, which is to identify four different sources of information,the lowest score are in question 5, 8b and 9. The group 2, in which 4-6 years of experience physiotherapists included, got highest score in question 2 and 3 which are identification of different sources of information and about research design. The lowest score they got in question no. 7 which is characteristics of randomized clinical trials.

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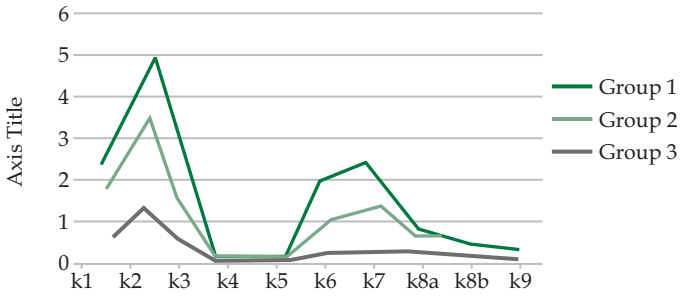
KREC questions	Total score	Group 1 1-3 years	Group 2 4-6 years	Group 3 7-9 years
Q1	2	0.5(25%)	1.2(60%)	0.5(25%)
Q2	2	1.3(65%)	2(100%)	1.5(75%)
Q3	1	0.4(40%)	1(100%)	1(100%)
Q4	0.5	0.07(14%)	0.09(18%)	0(0%)
Q5	0.5	0.05(10%)	0.09(18%)	0(0%)
Q6	1	0.2(20%)	0.8(80%)	1(100%)
Q7	2	0.2(10%)	1.1(5%)	1(50%)
Q8a	1	0.2(20%)	0.5(50%)	0(0%)
Q8b	1	0.1(10%)	0.3(30%)	0(0%)
Q9	1	0.1(10%)	0.2(20%)	0(0%)
Total 12	12	3.12(26%)	5.2(43.3%)	5(41.6%)

Table 5: KREC scale



Graph 2: line chart of KREC questions

This study indicates the synchronization between confidence and knowlegde of EBP among physiotherapist practitioners which are depicted through EPIC scale and KREC scale. This results showed that the group 3 who have more experience in clinical field have highest confidence in EPIC score, and the novice practitioner who have experience of 1-3 year who recently ended up their studies and their knowledge was fresh have an average confidence about EBP. It was depicted from the above mentioned study which was conducted by [9]. In which they showed that having more experience meand having more confidence as compared to junior students. In this study novice practitioners were confident in formulation of question, finding and appraising the research. This study showed that the more experienced physiotherapists gained the least score in KREC score and the novice practitioners who were also quite confident about having knowledge in EBP but their KREC score was average. No one physiotherapist could get full marks according to this scale. According to previous research there is an absence of utilization of EBP inside the clinical setting. Human services experts report the accompanying obstructions that influence their execution of EBP: An absence of pertinent research, absence of capacity to make an interpretation of the investigation into training, and absence of time[20].

Conclusion:

The study was intended to find the correlation / synchronization between confidence and knowledge of evidence based practice in clinical practice of novice physiotherapists. As from the results , the conclusion of the study is out of three grroups having different experiences, the most experienced group have the highest confidence about the knowledge of evidence based practice but practically they attained an average score, the novice practitioners having less experience , with good confidence level attained the least score in implementing evidence based practice , practically. The group 2 possess an average experience have the highest score about knowledge of evidence based practice in clinics. It is also concluded that every physiotherapist agreed on the significance of evidence based practice that it does improves the patient recovery and their satisfaction. It is also concluded that physiotherapists of every experienced group did evidence based activities only 2-5 times per month. The study is limited to private physiotherapists practitioners only, it should be more generalized to all practitioner physiotherapists. There is also some reluctantcy in filling this test type performa. It is recommended that with accepting the significance of research and evidence based practice, all clinicians and academicians should take out proper time to understand research work and also do all their clinical work based on evidence based practice so that we can generate quality work rather than only experienced based practice.

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