KNOWLEDGE AND ADHERENCE TOWARDS EVIDENCE-BASED SPORTS PHYSIOTHERAPY STANDARDS AMONG PHYSIOTHERAPISTS IN KENYA

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ABSTRACT

Background: Evidence-based practice (EBP) and evidence-based physiotherapy (EBPT) have been investigated in different physiotherapy clinical settings. However, there has been no research into knowledge and adherence in respect of evidence-based sports physiotherapy standards in Kenya.

Objective: To determine the levels of knowledge and adherence towards EB sports physiotherapy standards among physiotherapists in Kenya.

Method: A cross-sectional study using quantitative methods and in conjunction with a self-administered questionnaire was conducted in a population of 700 physiotherapists.

Results: The response rate was (n=391; 55.9%). Involvement in structured sports physiotherapy practice accounted for (n=129; 32.9%). High levels of EBP knowledge (n=265; 67.8%) were reported. More males (n=185; 73.4%) than females (n=80; 57.5%) presented with high levels of EBP knowledge. Those with specializations (n=65; 83.3%) demonstrated higher levels of EBP knowledge than those without (n=200; 63.9%). Adherence to EBP process steps accounted for (n=143; 36.6%) of the population. More males (n=104; 41.3%) than females (n=39; 28.1%) adhered to the EBP process. Those with specializations (n=48; 61.5%) and those without (n=95; 30.4 %) adhered to the EBP process. Gender, training and specialization were found to have statistically-significant associations with knowledge and adherence (p<0.05).

Conclusion: Physiotherapists in Kenya present with high levels of knowledge in EB sports physiotherapy but with lower levels of adherence to the EBP process.

Clinical implications: Limited adherence to EBP standards despite high levels of knowledge points to an inferior quality of care for athletes with sports physiotherapy needs. Attention to the limiting factors to adherence may improve the quality of care.

KEY WORDS: Evidence-based practice, standards, sports, physiotherapy, survey, Kenya.

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INTRODUCTION

Evidence-based Practice (EBP) is regarded by healthcare practitioners as the gold standard model of clinical practice as it supports the clinician in achieving the best patient outcomes

with negligibly low healthcare costs [1].

The Sicily statement on EBP is a consensual statement conceived by delegates of the Second International Conference of Evidence-based Healthcare Teachers and Developers that

was held in Sicily in September, 2003. It expounds that the choices of healthcare be based on “the best available, current, valid and relevant evidence made available to those receiving care and informed by the tacit and explicit knowledge of those providing the care within the available resource base” [2]. Furthermore, it defines the components of EBP as those of knowledge, skills, attitudes and behaviours [2].

In sports physiotherapy practice, practitioners are required to integrate clinical experience with the use of the best research evidence for the wellbeing of the patient [3]. Clinical experience is the knowledge gained by good training and years of experience [4].

Sports physiotherapy practice follows five essential steps. These include formulating a clearly answerable clinical question; tracking down the best relevant evidence; critically appraising the research evidence for its validity and applicability; applying the critically-appraised research evidence with clinical expertise and patients’ preferences and circumstances into the day-to-day clinical practice; and evaluating one’s performance or the outcomes of one’s actions [5,3,6]. Failure to carry out any one of the five essential steps constitutes a barrier to EBP [7, 5, 8].

The process of EBP as practised among healthcare workers in different healthcare professions is a skill that grows over time [2]. It relies on various factors that include knowledge of the patient’s problem; knowledge of the evidence appraisal process and how to access the evidence; and the time to search for, appraise, and integrate the evidence into clinical practice [9, 10, 11, 12].

A systematic review by [13] documents a lack of skills and of knowledge of EBP amongst most physiotherapy practitioners. Researchers have reported varying levels of EBP knowledge [14, 15, 16, 8]. For instance, in Sweden [14] reported that 55% of the respondents had knowledge regarding EBP, while in Canada, [15] indicated that 50% of the respondents had learnt about EBP during their undergraduate training. However, in Nigeria [16] reported a relatively low proportion (29%) had learnt EBP as part of their academic pursuit. According to [17], practice decisions by physiotherapists in Zimbabwe

are not only based on clinical research but on the knowledge acquired during undergraduate training and from their practice experiences. The only study conducted in one region of Kenya that was not specific to sports physiotherapy practice reported a 95% awareness of EBP [18].

Adherence to EBP in any clinical setting, including sports physiotherapy, requires the knowledge of the EBP process steps [5, 3]. However, [5] reported that despite physiotherapists being knowledgeable about the EBP concept and the process, there is a paucity of evidence to show that physiotherapists actually conduct the full process of EBP. The full process of EBP involves five essential steps [19, 11, 4, 24, 12].

Formulating a specific clearly-answerable clinical question as a first step has been addressed by researchers, particularly in developed countries, with most results indicating that respondents are able to do so [19, 20, 14, 12].

Studies have indicated that respondents generally have the ability to conduct and perform literature searches as a way of retrieving the best relevant evidence as a second step [19, 20, 21, 14, 15, 12, 8]. Physiotherapists have also been reported to have confidence in search skills [7, 19, 14, 22, 12, 8].

As a third step, a study in Sweden documented that 70% of the respondents were able to make critical appraisals of the literature [14], while in the USA, [8] informed that 67% of the respondents were confident of doing the same. However, a Nigerian study documented a low percentage of 29% respondents who were able to critically review professional literature [16].

The application and integration of the critically-appraised research evidence into clinical expertise and patients’ preferences and circumstances is the fourth step of the EBP process. Findings from several studies indicate that physiotherapists are able to apply research evidence and use EBP in clinical practice [19, 23, 14, 15, 8].

Although not often documented as a fifth step, the frequent evaluation of one’s approach in deciding on how to improve the four steps is necessary [5, 12, 6].

Disseminating and communicating knowledge has been added as a sixth step: it involves the sharing of results with colleagues, especially

when positive outcomes have been achieved [25, 26].

Being a relatively new concept in Kenya, there is a paucity of literature regarding the levels of knowledge and adherence to EBP standards, hence the justification for this study.

MATERIALS AND METHODS

This cross-sectional study was conducted in a population of 700 physiotherapists registered and licensed by the Physiotherapy Council of Kenya to practise as of February 2018 (PCK, 2018) at all health facilities across the eight regions in Kenya. All the physiotherapists at various levels of training were considered capable of managing clients with sports injuries.

The knowledge and adherence sections of the EBP Questionnaire (EBPQ) by [8] were used to collect data. The first section of the tool dealt with the demographic data, while the second included two Likert scale portions capturing knowledge regarding EBP and adherence to EBP steps. A four-point Likert scale, ranging from “strongly disagree” to “disagree”, “agree” and “strongly agree”, and involving ten survey items was provided to investigate knowledge of EBP. The Likert scale was later transformed into a dichotomy of ‘agree’ and ‘disagree’. On a scale of “understand completely”, “understand somewhat” and “do not understand”, eight survey items were presented to establish the interviewees’ understanding of the research terms. The scale was later transformed into a dichotomy of “completely understand” and “do not understand”. A Likert scale ranging from “never” to “monthly”, “fortnightly”, “weekly” and “daily” was provided to establish the adherence to the EBP process. The Likert scale was later transformed into a dichotomy scale of either “adhering” (i.e. practising the steps at a frequency of “daily”, “weekly” and “fortnightly”) and “non-adhering” (i.e. practising the steps at a frequency of “monthly” or “never”).

The data collection instrument developed by [8] which had been validated in previous studies showed an overall Cronbach’s alpha score of 0.87 and test-retest scores of 0.80 to 0.92 [28]. This questionnaire had a Cronbach’s alpha score of 0.751.

The data collected were analysed using the International Business Machines (IBM) Statistics Version 25. The data were also summarized into descriptive statistics and displayed in tables. Associations between the respective variables were determined using Chi-square and ANOVA. The level of significance was set at $p = 0.05$.

Ethical Considerations: This study was approved by the Jomo Kenyatta University of Agriculture and Technology’s (JKUAT) Board of Postgraduate Studies (Ref: JKU/2/11/HSM321-4034/2016), the JKUAT’s Institutional Ethics Review Committee (Ref: JKU/2/4/896B), the National Commission for Science, Technology and Innovation (Ref: NACOSTI/P/19/13833/31736), the Physiotherapy Council of Kenya (Ref: PCK/ADM/277/Vol.1 and the relevant government agencies. The participants gave informed consent for their participation, which was voluntary. They could withdraw from the study at any time without suffering any repercussions.

RESULTS

Socio-demographic information: The response rate was ($n=391$; 55.9%). Male respondents were in the majority ($n=252$; 64.5%), and most of the respondents were aged between 30 and 39 years ($n=120$; 30.7%). As evident from Table 1, the majority of the respondents ($n=113$; 28.9%) had (>20) years of work experience since their graduation, while 12.3% ($n=48$) had the least number of years of work experience (<5 years) since graduation.

Knowledge regarding EBP: Agreement with the positive statements (i.e. an understanding of EBP) was mostly evident in the following areas: “EBP helps me to make decisions about work” ($n=356$; 91%), “Literature and research findings are useful in the day-to-day work situation” ($n=355$; 90.7%) and “EBP helps in decision making concerning the choice of treatment” ($n=354$; 90.5%). As presented in Table 2, another area of agreement was “EBP is necessary in daily sports physiotherapy practice” ($n=349$; 89.2%). The disagreements with the positive statements (i.e. a lack of understanding of EBP) were in areas such as “the use of EBP at work” ($n=107$; 27.4%), “familiarity with the medical search

engines” such as PEDro and PubMed (n=105; 26.8%) and in “access to relevant databases for evidence-based research articles” (n=92; 23.5%) (Table 2).

In order to provide a summative level of knowledge regarding EBP, those respondents who agreed with only a third of the statements were considered to have “low levels of knowledge”, while those who agreed with up to two-thirds and more than two-thirds of all statements were considered to possess “moderate” and “high levels of knowledge” respectively (Table 3).

The respondents were further required to demonstrate their basic knowledge of common EBP research terminology. Most of the respondents demonstrated a lack of understanding of the EBP research terms (Table 4). The least understood terms were “heterogeneity” (n=330; 84.4%), “publication bias” (n=299; 76.5%), “meta-analysis” (n=296; 75.7%), “odds ratio” (n=287; 73.4%) and “confidence interval” (n=267; 68.2%). The respondents indicated a complete understanding of only “systematic review” (n=166; 42.5%), “absolute risk” (n=158; 40.4%) and “relative risk” (n=155; 39.6%).

Adherence to EBP process steps: As indicated in Table 6, a starker non-adherence to the EBP

process step was observed in about two-thirds of the respondents in the areas of “critically appraising any literature to establish the methodological quality” (n=253; 64.7%), “not tracking down the relevant evidence once a question has been formulated” (n=204; 52.2%), and “not formulating a clearly answerable clinical question” (n=202; 51.6%).

Noteworthy adherence to the EBP process steps was noticed in the areas of “integrating research evidence with one’s expertise” (n=199; 50.8%), in “searching for literature from electronic databases” (n=194; 49.6%) and in “formulating a clearly answerable clinical question” (n=189; 48.3%).

A collective assessment of adherence to the EBP process steps indicates that (n=248; 63.4%) of the respondents were non-adherent to the EBP process. The adherents to the EBP process accounted for (n=143; 36.6%).

Association between demographic characteristics and adherence to EBP process steps: As indicated in Table 7, training (p=0.002), gender (p=0.009) and specialization (p=0.000) each had a significant relationship with adherence to EBP process steps.

Table 1: Socio-demographic information (n=391 ; 55.9%).

Gender											
Male						Female					
252 (64.5%)						139 (35.5%)					
Age group											
20-29 years		30-39 years		40-49 years		≤ 50 years					
81 (20.7%)		120 (30.7%)		111 (28.4%)		79 (20.2%)					
Experience as a Physiotherapist											
< 5 years		≥ 5 & < 10 years		≥ 10 & < 15 years		≥ 15 & < 20 years		≥ 20 years			
48 (12.3%)		83 (21.2%)		75 (19.2%)		72 (18.4%)		113 (28.9%)			
Level of Physiotherapy Training											
Diploma		B.Sc. Students		B.Sc. Graduates		M.Sc. Students		M.Sc. graduates		Others: HND	
238 (60.9%)		22 (5.6%)		84 (21.5%)		27 (6.9%)		6 (1.5%)		11 (2.8%)	
3 (0.8%)											
Core Physiotherapy Specialization											
Yes (Specialized)				No (Not Specialized)							
78 (19.9%)				313 (80.1%)							
Area of Specialization											
Orthopedics		Neuro		OMT		Musculoskeletal		Sports Physiotherapy		Pain	
13 (16.6%)		8 (10.2%)		33 (42.2%)		5 (6.3%)		7 (8.8%)		1 (1.2%)	
								1 (1.2%)		1 (1.2%)	
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								1 (1.2%)		1 (1.2%)	
								1 (1.2%)		1 (1.2%)	

Table 2: Knowledge regarding EBP (n=391).

Knowledge regarding EBP	Disagree (%)	Agree (%)
I learnt the foundations of EBP during my academic years.	78 (20)	313 (80)
EBP is necessary in my daily sports physiotherapy practice.	42 (11)	349 (89.2)
EBP helps me make decisions about my work.	35 (8.9)	356 (91)
EBP helps me make decisions in the choice of treatment.	35 (8.9)	354 (90.5)
I use EBP in my work.	107 (27.4)	284 (72.6)
I am familiar with medical search engines such as PEDro and PubMed.	105 (26.8)	286 (73.1)
I know how to access relevant databases for evidence-based research articles.	92 (23.5)	299 (76.5)
Literature and research findings are useful in my day-to-day work.	36 (9.2)	355 (90.7)
I feel confident in my ability to find relevant research studies to answer	60 (15.3)	331 (84.6)
I am confident in my ability to critically review scientific literature.	82 (20.9)	309 (79)

Table 3: Levels of EBP knowledge (n=391).

Levels of Knowledge	n (%)
Low level of EBP knowledge	24 (6.1)
Moderate Level of EBP knowledge	102 (26.1)
High level of EBP knowledge	265 (67.8)

Table 4: Understanding research terms (n=391).

Understanding Research Terms	Understand completely n (%)	Do not understand n (%)
Understanding Relative Risk	155 (39.6)	236 (60.3)
Understanding Absolute Risk	158 (40.4)	233 (59.6)
Understanding Systematic Review	166 (42.5)	225 (57.5)
Understanding Meta-Analysis	95 (24.3)	296 (75.7)
Understanding Odds Ratio	104 (26.6)	287 (73.4)
Understanding Confidence Interval	124 (31.7)	267 (68.2)
Understanding Publication Bias	92 (23.5)	299 (76.5)
Understanding Heterogeneity	61 (15.6)	330 (84.4)

Table 5: Association between demographic characteristics and levels of EBP knowledge.

Levels of Knowledge								Asymptotic Significance (two-sided) (df)
Age n (%)	20-29 years (n=81)	30-39 years (n=120)	40-49 years (n=111)	50 years and above (n=79)				
Low level	4 (4.9)	4 (3.3)	8 (7.2)	8 (10.1)				0.526 (6)
Moderate Level	20 (24.6)	30 (25)	32 (28.8)	20 (25.3)				
High level	57 (70.4)	86 (71.6)	71 (63.9)	51 (64.5)				
Physiotherapy Training (n %)								
	Diploma (n=238)	B.Sc. student (n=22)	B.Sc. (n=84)	M.Sc. student (n=27)	M.Sc. (n=6)	Other (HND) (n=11)	Ph.D. student (n=3)	
Low level	20 (8.4)	0 (0.0)	3 (3.6)	1 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0.526 (6)
Moderate Level	82 (34.5)	7 (31.8)	9 (10.7)	1 (3.7)	0 (0.0)	3 (27.3)	0 (0.0)	
High level	136 (57.1)	15 (68.2)	72 (85.7)	25 (92.6)	6 (100)	8 (72.7)	3 (100)	
Work Experience (n %)								
	< 5 years (n=48)	> 5 years- <10 years (n=83)	> 10 years -< 15 years (n=75)	> 15 years- < 20 years (n=72)	> 20 years (n=113)			
Low level	3 (6.3)	2 (2.4)	2 (2.6)	7 (9.7)	10 (8.8)			0.299 (8)
Moderate Level	12 (25)	23 (27.7)	15 (20)	21 (29.2)	31 (27.4)			
High level	33 (68.7)	58 (69.8)	58 (77.3)	44 (61.1)	72 (63.7)			
Gender n (%)								
	Male (n=252)			Female (n=139)				
Low level	13 (5.2)			11 (7.9)			0.006 (2)	
Moderate Level	54 (21.4)			48 (34.5)				
High level	185 (73.4)			80 (57.5)				
Specialization in core physiotherapy areas n (%)								
	Yes (n=78)			No (n=313)				
Low level	1 (1.28%)			23 (7.3%)			0.003 (2)	
Moderate Level	12 (15.3%)			90 (28.7%)				
High level	65 (83.3%)			200 (63.9%)				

HND: Higher National Diploma

Table 6: Adherence to EBP process steps (n=391).

Adherence to EBP process steps	Non-adherent (n%)	Adherent (n%)
I formulate a clearly answerable clinical question	202 (51.6)	189 (48.3)
I track down the relevant evidence once I have formulated the question	204 (52.2)	187 (47.8)
I search for literature from electronic databases	197 (50.4)	194 (49.6)
I critically appraise any literature to establish its methodological quality	253 (64.7)	138 (35.3)
I integrate research evidence with my expertise	192 (49.1)	199 (50.8)

Table 7: Association between demographic characteristics and adherence to EBP process steps.

Adherence to EBP process steps								Asymptotic Significance (two-sided) (df)
Age n (%)	20-29 years (n=81)	30-39 years (n=120)	40-49 years (n=111)	50 years and above (n=79)				
Non-Adherent	51 (62.9)	71 (59.2)	76 (69.1)	50 (63.3)				0.539 (3)
Adherent	30 (37)	49 (40.8)	35 (31.9)	29 (36.7)				
Physiotherapy Training n (%)	Diploma	B.Sc.	B.Sc. (n=84)	M.Sc. student	MSc (n=6)	Others (HND)	Ph.D. student(n=3)	
Non-Adherent	170 (71.4)	11 (50)	44 (52.3)	13 (48.1)	3 (50)	7 (63.6)	0 (0)	0.002(6)
Adherent	68 (28.5)	11 (50)	40 (47.6)	14 (51.8)	3 (50)	4 (36.3)	3 (100)	
Work Experience n (%)	< 5 years (n=48)	> 5 years- <10 years (n=83)	> 10 years- < 15 years (n=75)	> 15 years- < 20 years (n= 72)	> 20 years (n=113)			
Non-Adherent	22 (45.8)	54 (65.1)	50 (66.6)	50 (69.4)	72 (64)			
Adherent	26 (54.2)	29 (35)	25 (33.3)	22 (30.6)	41 (36.2)			
Gender n (%)	Male (n=252)	Female (n=139)						
Non-Adherent	148 (58.7)	100 (71.9)						0.009 (1)
Adherent	104 (41.3)	39 (28.1)						
Specialization in core physiotherapy areas n (%)	Yes (n=78)	No (n=313)						
Non-Adherent	30 (38.5)	218 (69.6)						0.000 (1)
Adherent	48 (61.5)	95 (30.4)						

DISCUSSION

This is the first study to determine the levels of knowledge and adherence to evidence-based standards among sports physiotherapists in Kenya. There were more male physiotherapists (64.5%) than females (35.5%) in this study. This is informed by the greater preponderance of male over female physiotherapists in Kenya and therefore the larger number of male respondents. [16] established a similar finding in Nigeria with (63%) males and (37%) females. The Colombian [9], Swedish [21], Canadian [15] and North American [8] experiences were different, with females dominating the populations studied, with more than 60% in each case. This study found a majority of 30.7% of the physiotherapists who were between the ages of 30 and 39 years. As opposed to the over-50 age group, and owing to their training at college, they would be expected to understand EBP more readily.

Almost a third (28.9%) of Kenya's physiotherapy population had over 20 years of work experience. In Kenya, EBP is a relatively new concept having been taught at the undergraduate level for less than a decade. Those with over 20 years of work experience might not provide adequate information regarding EBP and might in fact require continuous professional training to enable them to practise as such. Studies conducted by [22] and [8] found that therapists who graduated more than 15 years previously were

unlikely to have learnt the foundations of EBP in their academic programmes and would therefore be more likely to post lower levels of confidence in EBP. Furthermore, a US study reported that younger graduates tended to be more knowledgeable about EBP than those with more than 15 years of work experience [8]. The same study reported that training, confidence to conduct search strategies and the use of data bases and critical appraisal skills were associated with the younger age groups [8]

The training of most of the physiotherapists in Kenya was found to be at diploma level (60.9%), while training at the postgraduate levels was minimal. On the other hand, only 19.9% had gained core specialization in physiotherapy. The discrepancy in these levels significantly contributed to knowledge about and adherence to EBP in the Kenya physiotherapy profession. This result points to the need for higher levels of training for physiotherapists in Kenya. Specializing in any of the core physiotherapy areas would also be important. [27] in Sweden found the level of education to have a positive relationship with knowledge regarding EBP, while [8] in the USA found that education and knowledge regarding EBP are associated with entry levels and advanced academic degrees. Furthermore [8], found that therapists with a Baccalaureate Certificate as their first professional Degree were less likely to have had training and confidence in skills pertaining to

EBP than those with a Master's Degree or a Doctorate as their highest degree.

This study revealed that only 32.9% of physiotherapists interviewed were involved in structured sports physiotherapy practice. Football, track and field, rugby and volleyball sports practices were represented at 12.8%, 11%, 2.6% and 2.3% participation levels respectively. Football is a popular sport in the country but with minimal representation at the international level. Internationally, Kenya is renowned for its track, rugby and volleyball achievements. The remaining structured sports (tennis, golf, cricket, basketball, hockey, swimming and handball) were represented as less than 1% each. These sports are generally considered expensive and are practised at highly-resourced settings such as schools and clubs located in the urban areas.

The findings of this study show that 86% of the physiotherapists attended to less than five patients with sports-related injuries on a daily basis. Only about 1% attended to more than 15 patients with sports-related injuries on a daily basis. Considering that those in non-structured sports physiotherapy constituted only 67% implies that they also attended to clients with sports injuries and would therefore also require knowledge of EBP in order to provide quality care to their few clients. The small number of physiotherapists attending to more than 15 patients can be attributed to those in structured sports physiotherapy practice.

Knowledge regarding EBP: Our study established that 67.8% of the physiotherapists in Kenya had a high level of EBP knowledge. Gender, training and specialization showed statistically significant differences between them and the levels of knowledge ($p < 0.05$). Although gender appears to affect knowledge, the study may have experienced some bias in that there were more male physiotherapists than females. A high level of EBP knowledge was also found in Sweden, the USA and Australia [14, 29, 12 and 8]. However, [12] noted that a high self-rating of EBP knowledge or skills does not translate into a greater or a more accurate implementation of EBP. [29] added that although knowledge of EBP may improve practice it does not translate into any behavioural change.

Despite practitioners in Sweden rating their knowledge of EBP highly, only 12 to 36% of them could correctly define the EBP components [14]. Although self-reported rating for EBP knowledge was high, translation into behaviour was not directly proportional and would therefore call for ethnographic methods to establish the same causal behaviour in the future.

This study found that 91% of the respondents agreed that EBP helps in making decisions about work. [21] affirmed this argument from a Swedish context by stating that respondents are more likely to say that EBP helps them in decision making [8] proffered the same argument in their study involving 72% of the physiotherapy population in the USA.

The relevance of literature and research findings in day-to-day work was rated highly at 90.7% in the current study with similar findings (82%) recorded by [8] in the USA.

With regard to the role of EBP knowledge in making decisions in the choice of treatment, there was a high agreement of 90.5%. [8] established similar findings (79%) in their US respondents.

The ability to find relevant research findings to answer clinical questions was found in 84.6% of the physiotherapists in Kenya. On the contrary, [19] in the USA found that clinical instructors were able to retrieve relevant evidence in only 39.4 and 44.2% cases in Sweden [14].

Most of the Kenyan physiotherapists (80%) agreed that they had learnt the foundations of EBP during their foundational academic years. This finding was also established by [14, 22, 16 and 8].

Most Kenyan physiotherapists had a 76.5% access rate to relevant databases in their search for evidence-based research articles. Kenyan physiotherapists now have access to computers and laptops at their workplace, high-speed fibre connections at home and access to smartphones that make it easier to access relevant databases. Such aids are supported by the National Government's ICT 2019 policy that seeks to expand access to the ICT infrastructure in the country [30]. A large proportion (89%) of US respondents had greater access to online

information at home than at the workplace (65%) [8].

It was noted that 73.1% of the physiotherapists in Kenya were familiar with medical search engines such as PEDro and PubMed, with similar findings (70%) reported by [8] in the USA.

Most of the Kenyan physiotherapists collectively demonstrated a lack of understanding of the EBP research terminology. A knowledge of its terminology is essential in the understanding of the concept of EBP [31]. A UK study reported that most of its respondents had at least some understanding of the technical terms used in the literature [32]. The respondents in this study rated a complete understanding of the terms "systematic review", at 42.5%, "absolute risk" at 40.4% and "relative risk" at 39.6%. On the other hand, the least understood terms were "heterogeneity" at 84.4%, "publication bias" at 76.5%, "meta-analyses" at 75.7%, "odds ratio" at 73.4% and "confidence interval" at 68.2%. This was replicated from the scenario in a Columbian study [9]. According to [32], the terms, "odds ratio" and "confidence interval", were the least understood in the UK.

This study noted that those with higher levels of training (education and specialization) were better placed to understand the research terms. This could be explained by the necessity to undertake research work at that level. A study in Australia reported that practitioners with higher levels of training were more likely to understand EBP terminology [12], while those with Baccalaureate Degrees were less knowledgeable about research terms than those with Master's degrees [8]. They also noted that those with specializations were two times more likely to understand the research terms than those without any specializations.

Adherence to EBP (EBP) process steps: Our study found that 63.4% of the physiotherapists were non-adherent to the EBP process steps. The study also found that most of the physiotherapists were only able to implement the EBP process steps on a monthly basis or not at all. This implies low adherence or non-adherence to the full range of EBP process steps. A study in Canada noted that although physiotherapists believed that EBP is important, they also felt that it was not their responsibility to undertake all of

the steps [22]. In this regard, any form of advanced learning beyond the majority's level, namely diploma, is important in offering the necessary impetus for adhering to the EBP process steps and thus in providing quality care. The quest to advance in training is gaining popularity among physiotherapists in Kenya and future studies will need to determine the impact of further education on evidence-based sports physiotherapy.

Half of the population (51.6%) in the current study was unable to formulate a clearly answerable clinical question which would imply that the subsequent steps of the process would not be executed properly by those failing to adhere to the first important step. This observation is consistent with the findings of [12], which noted that a clearly answerable clinical question renders a search for information a well-disciplined and efficient undertaking. Low adherence observations were also made in the European context. For example, in the Netherlands, [20] found that the non-adherence level of formulating any answerable clinical questions by the physical therapists scored a value of 16%. However, the relevant literature has also documented note-worthily high levels of ability to formulate a clearly answerable clinical question. For instance, [14] in Sweden found that 70% of the respondents were able to formulate a clearly answerable clinical question, while [12] in Australia recorded an ability of 59%. The formulation of answerable questions is a key factor at the formative stages of an impactful research study. Failure to achieve this would amount to non-existent research which could impact negatively on practice. Efforts to enable physiotherapists in Kenya to formulate answerable questions would contribute to scientifically rigorous studies emerging from the fieldwork.

With regard to tracking down or retrieving the best relevant evidence, 52.2% of the physiotherapists in Kenya did not comply. There was, however, a higher adherence to Step 2 (47.8%) than in the USA which recorded only a 39.4% adherence in this area [19].

Half of the physiotherapists in Kenya (50.4%) had never conducted literature searches from electronic databases. There were only 39.4% in the USA of those studied who were able to

retrieve relevant evidence from electronic databases [19]. As opposed to the Swedish experience, fewer of those studied by [14] (only 23%) had never conducted searches into the literature sources. Australia, as reported by [12], presented with an average ability of 52.5 % in respect of database searches. Furthermore, [12] noted that the use of high-quality and pre-appraised evidence of the PEDro and Cochrane databases significantly reduced the period spent by busy practitioners in the EBP process.

Almost two-thirds (64.7%) of the physiotherapists studied in Kenya never critically appraised any literature. A study in Canada reported that failure to critically appraise the literature might hinder the use of EBP [15]. A comparison made with a Nigerian study found that 71% of the physiotherapists were unable to critically appraise the literature [16]. Higher levels of adherence for critically appraising the literature were reported in the US, at 44% [19] and in Sweden, at 70% [14].

Our study found that 50.8% of the physiotherapists in Kenya were able to integrate research evidence with their clinical expertise, while even more Canadian physiotherapists (68%) were able to apply the research evidence that they had gleaned from the literature [15].

Our study confirmed that over half of the physiotherapists in Kenya did not adhere to the important steps required for practising EB sports physiotherapy. We reckon that most of these clinicians tend to work in settings where internet coverage and strengths in using this form of accessing information would often be limitations. Initiatives, whether personal or institutional, to procure stronger internet access were thought to be a motivation for EB sports physiotherapy adherence.

CONCLUSION

This study concludes that physiotherapists in Kenya present with high levels of knowledge in EB sports physiotherapy, but with lower levels of adherence. This may have been influenced by the revelation of the understanding of research terms which was found to be lower. Those with a university level of academic training were more inclined to adhere to the stepwise principles of EBP.

The researchers interpreted these results as implying that EB sports practices in physiotherapy are guided by training, specialization and possibly an understanding of the research terms.

For EBP to be effective in sports physiotherapy, it is necessary to have access to the relevant information about EBP and its processes. A study such as ours is therefore necessary to reveal the existing gaps in literature and make recommendations to mitigate them.

Recommendations: Future studies should seek to establish the actual impact of the current mode of practice on athletes with sports injuries in Kenya.

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