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ASSESSMENT OF PHYSIOTHERAPISTS' KNOWLEDGE AND ADHERENCE TO CLINICAL PRACTICE GUIDELINES (CPGs) OF KNEE OSTEOARTHRITIS: A CROSS-SECTIONAL STUDY

Original Research

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ABSTRACT

Background: Osteoarthritis (OA) is one of the most prevalent musculoskeletal disorders and a leading cause of pain and disability worldwide, particularly affecting weight-bearing joints such as the hip and knee. Physical therapy plays a crucial role in the conservative management of knee osteoarthritis (KOA). However, inadequate knowledge and poor adherence to evidence-based Clinical Practice Guidelines (CPGs) may contribute to suboptimal patient outcomes. Physiotherapists are expected not only to understand current guideline recommendations but also to implement them effectively in clinical practice.

Objective: To assess physiotherapists' knowledge of and adherence to Clinical Practice Guidelines (CPGs) for the management of knee osteoarthritis.

Methodology: A cross-sectional online survey was conducted among physiotherapists working in Khyber Pakhtunkhwa. Participants were recruited using a non-probability convenience sampling technique, and informed consent was obtained prior to participation. Demographic data including age, gender, level of education, and years of clinical experience were collected. Knowledge of knee OA CPGs was assessed through agreement with 23 guideline-based statements using a Likert scale, with consensus defined as ≥70% agreement. Adherence was evaluated using a clinical vignette describing a case of knee osteoarthritis, where responses were categorized as Delivering, Partially Delivering, or Non-Delivering recommended treatment.

Results; A total of 289 physiotherapists participated in the study. The mean age was 26.99 ± 2.90 years. Among them, 90 (31.1%) were male and 199 (68.9%) were female. Consensus was achieved for 13 out of 23 statements related to knee OA CPGs. Level of education showed a statistically significant association with adherence ($p = 0.03$). The overall adherence was low, with 4 (1.4%) physiotherapists categorized as Delivering, 108 (37.4%) as Partially Delivering, and 177 (61.2%) as Non-Delivering recommended treatment.

Conclusion: The findings indicate that physiotherapists demonstrated a good level of knowledge regarding knee OA CPGs, particularly concerning weight loss advice and patient education on pathophysiology. However, adherence to guideline-recommended interventions in clinical practice was low. Level of education significantly influenced adherence. The study highlights a considerable evidence–practice gap and emphasizes the need for structured implementation strategies to improve adherence to CPGs.

Keywords: Adherence; Clinical Practice Guidelines; Knee Osteoarthritis; Knowledge; Physiotherapist.

INTRODUCTION

Knee osteoarthritis (KOA) is a leading cause of persistent pain, activity limitation, and disability in adults, and its burden has continued to rise globally over recent decades. Analyses using Global Burden of Disease (GBD) data show substantial increases in KOA prevalence and years lived with disability across regions, largely driven by population ageing, obesity, and longer survival with chronic conditions (1). Beyond individual suffering, KOA contributes to reduced work productivity, increased healthcare utilization, and long-term socioeconomic costs, making effective, evidence-based conservative care a priority for health systems (1).

Clinical practice guidelines (CPGs) have been developed internationally to translate the best available evidence into practical recommendations for KOA management and to reduce unwarranted variation in care. Contemporary CPGs consistently emphasize non-surgical, non-pharmacological interventions as the foundation of KOA treatment—particularly patient education, structured therapeutic exercise, and weight management where indicated (2–5). For example, the UK National Institute for Health and Care Excellence (NICE) guideline for osteoarthritis recommends offering tailored therapeutic exercise for all individuals with OA and supporting weight loss for those living with overweight or obesity, alongside information and shared decision-making to promote self-management (2). The Osteoarthritis Research Society International (OARSI) guideline similarly provides patient-focused, evidence-informed recommendations supporting core conservative treatments such as education and exercise, with other interventions recommended or discouraged based on comorbidities and patient phenotype (3). In the United States, the American College of Rheumatology/Arthritis Foundation (ACR/AF) guideline strongly recommends exercise and other non-pharmacologic approaches (including self-management education) for knee OA and evaluates additional therapies with graded recommendations (4). Likewise, the American Academy of Orthopaedic Surgeons (AAOS) evidence-based guideline for knee OA (non-arthroplasty) summarizes research and provides recommendations spanning exercise-related and other conservative options (5). Collectively, these CPGs underline that high-quality KOA care is not centered on passive modalities alone but on active management strategies that improve function, reduce pain, and support long-term behavioral change (2– 6).

Despite the availability of high-quality CPGs, a persistent “evidence-to-practice gap” has been reported in OA care, including underuse of first-line conservative strategies and continued reliance on low-value or unsupported interventions. Research indicates that physiotherapists’ knowledge of OA CPGs and their adherence to key recommendations may be suboptimal and variable across settings. For instance, a national cross-sectional study in Italy examined physiotherapists’ knowledge of and adherence to osteoarthritis guidelines and reported gaps in both familiarity with guideline content and implementation of recommended care elements, reinforcing that guideline dissemination alone may not ensure guideline-consistent practice (7). Similarly, a hospital-based study from Lagos State assessed physiotherapists’ knowledge and adherence to KOA CPGs and suggested that clinician characteristics and contextual factors may influence guideline uptake, again pointing to inconsistent implementation in real-world practice (8). More recent work—including studies designed to map current physiotherapy practice and guideline adherence in hip and knee OA—also reflects ongoing concern that recommended care is not consistently delivered and that understanding barriers and facilitators is necessary for targeted improvement strategies (9).

Importantly, measuring both knowledge and adherence provides a more complete picture of implementation. Knowledge refers to awareness and understanding of guideline recommendations—such as the central role of therapeutic exercise, education, and weight management in KOA (2–5). Adherence refers to how consistently physiotherapists apply these recommendations in assessment, clinical decision-making, and treatment delivery. A clinician may be aware of guidelines yet not adhere due to contextual constraints or, conversely, may provide guideline-consistent care without explicitly recognizing it as guideline-based. Therefore, cross-sectional evaluations that assess knowledge and self-reported or practice-indicative adherence—along with associated factors such as training level, years of experience, workplace setting, and access to resources—are valuable for identifying priority gaps and designing targeted interventions (7–10)

This study aimed to assess physiotherapists’ knowledge and adherence to clinical practice guidelines (CPGs) of knee osteoarthritis.

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MATERIALS AND METHOD

Approval for this investigation was secured from the Advanced Studies & Research Board and the Ethical Review Board of Khyber Medical University, Peshawar, following which formal permission was obtained from the Chief Executive Officers of the relevant public and private sector hospitals across Khyber Pakhtunkhwa (KPK), Pakistan. A cross-sectional design was employed over a six-month period to evaluate physiotherapists' knowledge of and adherence to Clinical Practice Guidelines (CPGs) for knee osteoarthritis (KOA). Using OpenEpi (available from www.openepi.com), the required sample size was calculated to be 289 participants, based on a presumed outcome frequency of 25% ± 5 (15), a 5% confidence limit, and a 95% confidence level. Participants were recruited through a non-probability convenience sampling technique and were required to provide written informed consent after receiving a detailed information sheet about the study's purpose and procedures.

The study included both male and female physiotherapists who were actively working in a clinical setting and had treated at least one patient with knee osteoarthritis within the preceding six months. Physiotherapy technicians or assistants, as well as those with less than six months of clinical experience, were excluded from participation. Demographic data were recorded for each eligible physiotherapist who met the screening criteria.

To assess knowledge, a structured questionnaire comprising 24 statements derived from established CPG recommendations was administered. Responses were captured on a 5-point Likert scale ranging from 1 (Completely Disagree) to 5 (Completely Agree). Of these 24 statements, 11 were reverse-coded to minimize acquiescence bias; for these items, responses of 1 or 2 (disagree/completely disagree) were interpreted as agreement with the guideline-consistent position. Consensus for each recommendation was defined a priori as agreement by 70% or more of the participants with a given statement.

Adherence to CPGs was evaluated using a clinical vignette that presented a case scenario of knee osteoarthritis, encompassing management options across three domains: assessment, management, and treatment. Responses were analyzed by calculating the proportion of guideline-recommended options selected within each section, allowing physiotherapists to be categorized as delivering, partially delivering, or not delivering the recommended treatment.

Data analysis was performed using SPSS, version 20. Descriptive statistics were employed for demographic data, and frequencies were calculated for the variable "read at least one OA CPG." Consensus was determined by calculating the percentage agreement for each statement. Adherence levels were expressed as percentages of physiotherapists falling into each treatment delivery category. The chi-square test was applied to examine associations between categorical variables.

RESULT

The demographic profile of the participants indicates that the physiotherapists included in this study were relatively young, with a mean age of 26.99 ± 2.90 years, ranging from 23 to 47 years. The sample was predominantly female (68.9%), while males constituted 31.1% of the participants. Slightly more than half of the respondents (53.3%) held a Master of Science (MS) degree, whereas 46.7% had a Doctor of Physical Therapy (DPT) qualification. In terms of clinical experience, the majority (86.5%) had between 1 to 5 years of practice, with only a small proportion having more than 6 years of experience, indicating that most participants were early-career professionals. The minimum reported experience was six months and the maximum was 18 years. Furthermore, a substantial proportion (79.9%) reported having read at least one knee osteoarthritis clinical practice guideline, suggesting general exposure to evidence-based recommendations among the respondents.

Table 1: Physiotherapist's Demographics

Variable	Result
Age (years)	Mean = 26.99 ± 2.90
	Min = 23, Max = 47
Gender	Male = 90 (31.1%)

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Variable	Result
	Female = 199 (68.9%)
Highest Level of Education	DPT = 135 (46.7%)
	MS = 154 (53.3%)
Years of Experience	<1 year = 12 (4.2%)
	1–5 years = 250 (86.5%)
	6–10 years = 21 (7.3%)
	>10 years = 6 (2.1%)
	Min = 6 months, Max = 18 years
Read at least one Knee OA CPG	Yes = 231 (79.9%)
	No = 58 (20.1%)

The level of agreement with statements related to knee osteoarthritis clinical practice guidelines demonstrates generally good knowledge among physiotherapists, particularly regarding core conservative interventions. Very high agreement was observed for recommending weight loss (98%), motivating patient adherence (96%), including education in rehabilitation (95%), assessing function and quality of life (92%), and considering footwear or braces (92%). A strong majority also agreed on recommending physical activity (82%), prescribing 10–12 treatment sessions (84%), and recognizing the effectiveness of topical NSAIDs (80%). However, lower agreement was noted for statements related to diagnostic criteria (52%), hyaluronic acid/corticosteroid injections (50%), and referral for arthroscopy (45%), indicating knowledge gaps in areas related to advanced or adjunctive management. Moderate agreement was seen regarding the role of radiographs (60–71%) and the use of modalities such as TENS (68%) and other physical therapies (75%). Overall, while physiotherapists demonstrated strong understanding of first-line, evidence-based conservative management strategies, inconsistencies were evident in areas concerning diagnostic decision-making and secondary or invasive interventions.

TABLE 2: Level of Agreement with Knee OA CPG Statements

Statement	Agreement (%)	N
Exercise effective regardless of pain severity	62%	181
Education must be included	95%	278
Topical NSAIDs effective	80%	234
TENS should be considered	68%	197
Recommend physical activity	82%	240
Recommend weight loss	98%	287
Clinical diagnostic criteria sufficient	52%	154
Footwear/braces considered	92%	269
Assess function & QoL	92%	267
10–12 sessions required	84%	245
Motivate adherence	96%	279

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Statement	Agreement (%)	N
HA/corticosteroid injections	50%	147
Advanced stage exercise damages joint (rev)	66%	190
Manual therapy always included (rev)	52%	150
Exercise only after drugs (rev)	81%	234
Radiographs needed for diagnosis (rev)	60%	173
Radiographs needed for planning (rev)	71%	205
Avoid physical activity (rev)	62%	179
Severe degeneration → rest (rev)	80%	231
Severe pain → arthroplasty preferred (rev)	67%	193
Physical therapies (laser, US) considered (rev)	75%	216
Refer for arthroscopy (rev)	45%	130
Supplements considered (rev)	78%	225

The association between baseline characteristics and level of adherence revealed that most demographic variables were not significantly related to adherence to knee OA clinical practice guidelines. The mean age across the Delivering, Partially Delivering, and Non-Delivering groups was 28.5, 27.7, and 30.5 years respectively, showing no meaningful association (p = 1.5). Similarly, gender did not significantly influence adherence (p = 0.7), as both male and female physiotherapists were distributed across all adherence categories. Years of clinical experience also showed no statistically significant association (p = 2.9), with the majority of participants in all groups having 1–5 years of experience. However, level of education demonstrated a statistically significant relationship with adherence (p = 0.03), indicating that higher qualification may positively influence implementation of guideline-recommended care. In contrast, reading at least one knee OA clinical practice guideline did not significantly affect adherence (p = 1.3), suggesting that mere exposure to guidelines does not necessarily translate into appropriate clinical practice.

TABLE 3: Association of PT's Adherence with Baseline Characteristics

Variable	Delivering	Partially Delivering	Non-Delivering	P-value
Age (mean)	28.5	27.7	30.5	1.5
Gender				0.7
Male	2	34	54	
Female	2	47	123	
Years of Experience				2.9
<1 year	0	8	4	
1–5 years	2	90	158	
6–10 years	2	10	9	
>10 years	0	0	6	
Education				**0.03**

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Variable	Delivering	Partially Delivering	Non-Delivering	P-value
DPT	2	51	82	
MS	2	57	95	
Read CPG				1.3
Yes	0	20	38	
No	4	88	139	

The clinical vignette findings show that most physiotherapists performed evaluation and planning (88%) and recommended muscle strengthening exercises (81%), reflecting partial alignment with guideline-based care. However, only 57% advised weight loss despite the patient being overweight, and fewer recommended aerobic exercise (30%) or provided pathophysiology education (49%). Passive or non-core treatments such as manual therapy (58%), TENS (42%), laser/ultrasound (42%), and activity rest (47%) were frequently used, particularly among the Non-Delivering group. Overall, while strengthening exercises were commonly prescribed, comprehensive adherence to recommended conservative management strategies was inconsistent.

Table 4: PT's Responses to CPGs in Clinical Vignette by Level of Adherence

Section / Question	All Yes n (%)	All No n (%)	Delivering Yes	Delivering No	Partially Delivering Yes	Partially Delivering No	Non-Delivering Yes	Non-Delivering No
SECTION 1: MANAGEMENT								
Evaluation & plan	275 (88)	32 (11)	4 (100)	0 (0)	79 (73)	29 (26)	174 (98)	3 (1)
Weight loss advice	166 (57)	120 (41)	2 (50)	2 (50)	37 (34)	68 (62)	127 (71)	50 (28)
Referral for drug therapy	45 (15)	242 (84)	0 (0)	4 (100)	8 (7)	100 (92)	37 (20)	138 (77)
Referral for surgery	6 (2)	283 (97)	0 (0)	4 (100)	4 (3)	104 (96)	2 (1)	175 (98)
SECTION 2: ASSESSMENT								
Assessment of pain	203 (70)	86 (29)	2 (50)	2 (50)	69 (63)	39 (36)	132 (74)	45 (25)
Assessment of function	160 (55)	129 (44)	4 (100)	0 (0)	24 (22)	84 (77)	132 (74)	45 (25)

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Section / Question	All Yes n (%)	All No n (%)	Delivering Yes	Delivering No	Partially Delivering Yes	Partially Delivering No	Non-Delivering Yes	Non-Delivering No
Assessment of disability	152 (52)	137 (47)	2 (50)	2 (50)	56 (51)	52 (48)	94 (53)	83 (46)
SECTION 3: TREATMENT								
Muscle strengthening	235 (81)	54 (18)	4 (100)	0 (0)	83 (76)	25 (23)	148 (83)	29 (16)
Generic exercise (aerobics)	87 (30)	202 (69)	2 (50)	2 (50)	23 (21)	85 (78)	62 (35)	115 (62)
Pathophysiology education	143 (49)	146 (50)	4 (100)	0 (0)	15 (13)	93 (86)	124 (70)	53 (29)
Manual therapy	168 (58)	121 (41)	2 (50)	2 (50)	37 (34)	71 (65)	129 (72)	48 (27)
TENS	123 (42)	166 (57)	0 (0)	4 (100)	25 (23)	83 (76)	98 (55)	79 (44)
Load reduction devices & HA + steroid injections	121 (41)	168 (58)	0 (0)	4 (100)	18 (16)	90 (83)	103 (58)	74 (41)
Activity rest	136 (47)	153 (52)	0 (0)	4 (100)	12 (11)	96 (88)	124 (70)	53 (29)
Other therapies (Laser & US)	122 (42)	167 (57)	0 (0)	4 (100)	6 (5)	102 (94)	116 (65)	61 (34)
Supplements	49 (17)	240 (83)	0 (0)	4 (100)	2 (1)	106 (98)	47 (26)	130 (73)

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Section / Question	All Yes n (%)	All No n (%)	Delivering Yes	Delivering No	Partially Delivering Yes	Partially Delivering No	Non-Delivering Yes	Non-Delivering No
SECTION 4: SESSIONS								
Less than 5 sessions	9 (3)	280 (96)	0 (0)	4 (100)	4 (3)	104 (96)	5 (2)	172 (97)
Between 5 and 10 sessions	154 (53)	135 (46)	4 (100)	0 (0)	61 (56)	47 (43)	89 (50)	88 (49)
More than 10 sessions	127 (43)	162 (56)	2 (50)	2 (50)	50 (46)	58 (53)	75 (43)	102 (57)

DISCUSSION

The present study sought to examine the knowledge and adherence levels regarding clinical practice guidelines for knee osteoarthritis among physiotherapists in Khyber Pakhtunkhwa, revealing a complex interplay between theoretical understanding and practical application. The findings demonstrated that while physiotherapists possessed reasonably sound knowledge of core guideline recommendations, their actual adherence to these principles in clinical decision-making remained substantially limited. This observed discordance between knowledge and practice represents a significant evidence-to-practice gap that warrants careful consideration, as it suggests that merely possessing guideline awareness does not automatically translate into consistent implementation within routine clinical encounters. Such findings align with broader international literature documenting similar patterns across various healthcare contexts, where healthcare professionals frequently demonstrate adequate knowledge yet fail to integrate this knowledge into daily practice due to multiple interacting barriers at individual, organizational, and system levels (3,15).

Regarding knowledge assessment, consensus defined as 70% or greater agreement was achieved for 13 of the 23 statements evaluated. Particularly high levels of agreement were observed for fundamental recommendations including weight loss advice (98%), patient education (95%), motivation for adherence (96%), assessment of function and disability (92%), and muscle strengthening exercises (81%). These findings resonated strongly with established international guidelines that consistently emphasize education, therapeutic exercise, and weight management as the cornerstone first-line interventions in knee osteoarthritis management (12,13,18). The work of Dhawan and colleagues (12) has previously emphasized the critical importance of prioritizing conservative treatment approaches before considering surgical referral pathways. Similarly, the investigations by Kan and associates (13) alongside Walsh and Hurley (18) reinforced the fundamental role of structured exercise programs, physical activity promotion, and comprehensive self-management strategies in optimizing patient outcomes. The substantial agreement regarding topical NSAID utilization (80%) further aligned with contemporary recommendations favoring safer pharmacological adjuncts over systemic options with less favorable risk profiles (12,13).

Despite the generally satisfactory knowledge levels observed across core recommendations, notable knowledge gaps emerged in several clinically relevant areas that merit discussion. Specifically, lower agreement was documented for diagnostic criteria (52%), the appropriate role of radiographic findings (60%), utilization of hyaluronic acid and corticosteroid injections (50%), and indications for arthroscopy referral (45%). These particular knowledge deficiencies paralleled international research findings documenting similar variability in understanding regarding adjunctive or more advanced interventions across different healthcare settings (15,16). The comprehensive work by Battista and colleagues (15) reported comparable knowledge deficiencies among Italian physiotherapists practicing in diverse clinical environments. Furthermore, the extensive European investigation by Østerås and associates (16)

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highlighted considerable inconsistencies in secondary and tertiary care approaches across multiple countries, suggesting that these knowledge gaps may represent widespread phenomena rather than region-specific concerns. The observed uncertainty surrounding injection therapies and surgical referral pathways may partially reflect the conditional or varying recommendations present across different clinical practice guidelines, which sometimes present conflicting or nuanced guidance regarding these interventions (20,23). The systematic review by Dantas and colleagues (20) reinforced that intra-articular injections should not be considered first-line therapy but rather reserved for specific clinical scenarios. Similarly, the longitudinal work by Wang and associates (23) demonstrated that consistent adherence to conservative management strategies predicted significantly better long-term functional outcomes, further supporting the primary emphasis on non-pharmacological approaches.

The most striking finding of this investigation concerned the substantial disconnect between knowledge levels and actual adherence to guideline recommendations in clinical practice. Only 1.4% of participating physiotherapists were categorized as fully delivering recommended care according to the clinical vignette assessment, while a concerning 61.2% fell into the non-delivering category. This pronounced knowledge-practice gap mirrored international evidence documenting persistent challenges in translating guideline awareness into consistent clinical application across various healthcare systems and professional contexts (3,15,25). The qualitative investigation by Selten and colleagues (24) identified multiple barriers contributing to this phenomenon, including time constraints within busy clinical settings, conflicting patient expectations and preferences, and significant system-level limitations that constrain practice flexibility. The survey research conducted by MacKay and associates (25) revealed considerable uncertainty among physiotherapists regarding the practical application of CPGs specifically in early osteoarthritis management, suggesting that guideline implementation challenges may be particularly pronounced during initial disease stages where intervention might be most beneficial. Notably, educational level demonstrated a statistically significant association with adherence patterns ($p = 0.03$), with postgraduate qualification holders (MS degree) exhibiting relatively better compliance with guideline recommendations. This observation supported the proposition that advanced education enhances evidence-based decision-making capabilities and critical appraisal skills necessary for guideline implementation (25). However, the finding that simply having read a CPG did not significantly influence adherence reinforced the argument that passive knowledge acquisition remains insufficient without structured implementation strategies and active dissemination approaches (4). This distinction carries important implications for continuing education program design and professional development initiatives.

The clinical vignette responses provided further illumination regarding the specific nature of the evidence-practice gap. While most physiotherapists appropriately recommended muscle strengthening (81%) and comprehensive evaluation planning (88%), only 57% advised weight loss for the overweight patient depicted in the case scenario, despite the well-established evidence supporting weight management as a core intervention. This particular finding resonated with concerns raised by Allison and colleagues (21) regarding limited healthcare professional confidence and competence in delivering weight management counseling, which may reflect inadequate training in behavior change techniques and nutritional guidance within traditional physiotherapy curricula. Equally concerning was the frequent recommendation of non-recommended interventions, including rest (47%), laser or ultrasound therapy (42%), and various supplements (17%), despite clear guideline recommendations discouraging routine use of these passive modalities (20,23). The persistent reliance on adjunctive therapies such as TENS and manual therapy suggested a tendency toward symptomatic relief approaches rather than comprehensive, guideline-based rehabilitation addressing underlying biomechanical and functional impairments. This pattern may reflect patient pressure for immediate symptom reduction, practitioner habits developed during training, or limited confidence in explaining the rationale for active versus passive interventions. The work of Dantas and colleagues (20) and Wang and associates (23) consistently emphasized that optimal outcomes depend on addressing the multifaceted nature of osteoarthritis through combined approaches rather than isolated modality application.

Several methodological strengths of this investigation deserve acknowledgment, including the relatively large sample size achieved within the study region and the comprehensive assessment approach incorporating both knowledge questionnaires and clinical vignettes to capture different dimensions of guideline implementation. The use of established CPG recommendations as the reference standard ensured content validity for the knowledge assessment, while the clinical vignette methodology allowed standardized comparison across participants. Nevertheless, important limitations must be considered when interpreting these findings. The cross-sectional design precluded establishment of causal relationships between knowledge and adherence, capturing only a single time point that may not reflect practice consistency over time. The reliance on self-reported knowledge and vignette-based adherence may have introduced social desirability bias, potentially overestimating both knowledge and adherence compared to actual clinical practice. The study's confinement to a single province limited generalizability to other regions with different healthcare infrastructures, training programs,

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and practice cultures. Furthermore, the working setting of physiotherapists was not analyzed, potentially masking important differences between public hospital environments and private clinic settings that may influence adherence patterns through varying resource availability, workload pressures, and institutional protocols. The absence of observational components or chart reviews, necessitated by resource limitations, prevented objective verification of self-reported practices. Future investigations would benefit from multicenter designs incorporating direct observation, patient outcome measurements, and longitudinal follow-up to better understand the dynamic relationship between knowledge acquisition and sustained practice change. Implementation science frameworks should guide development and evaluation of structured interventions targeting the identified barriers, including clinical decision support tools, audit-feedback mechanisms, and enhanced training in behavior change counseling for weight management and exercise adherence.

CONCLUSION

The findings of the present study demonstrated that physiotherapists in Khyber Pakhtunkhwa possess a generally good level of knowledge regarding Clinical Practice Guidelines (CPGs) for knee osteoarthritis (KOA), particularly in areas related to weight loss advice, patient education, and pathophysiology. A high level of agreement was observed for first-line conservative interventions recommended by international guidelines. However, despite adequate knowledge, the overall level of adherence to CPGs was low. The majority of physiotherapists were categorized under the non-delivering group, indicating a substantial evidence–practice gap. Only a small proportion of physiotherapists fully adhered to recommended management strategies in the clinical vignette scenario. Among the baseline characteristics assessed, level of education was the only variable found to have a statistically significant association with adherence. Physiotherapists with higher qualifications demonstrated relatively better adherence to evidence-based recommendations. In summary, although knowledge of knee OA CPGs among physiotherapists was satisfactory, implementation of these guidelines in clinical decision-making remains inadequate.

AUTHOR CONTRIBUTIONS

Author	Contribution
Gul Sanga	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Azmat Khan*	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Ghulam Hussain	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Maria	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Nida Gul	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published
Samia Rizwan	Substantial Contribution to study design and Data Analysis Has given Final Approval of the version to be published

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