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The Knowledge and Adherence of Saudi Arabian Physiotherapists to Evidence-Based Practice Guidelines and Recommendations for the Treatment of Lateral Ankle Sprain

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ABSTRACT

Background: The most common musculoskeletal injury to the lower extremities that occurs during sports and leisure activities is lateral ankle sprain (LAS). However, it appears that physiotherapists are using more non-evidence-based treatments. So, this study examined the knowledge and adherence of Saudi physiotherapists to the LASs' clinical practice guidelines (CPGs) and recommendations.

Methods: A questionnaire was used for this cross-sectional study. Two clinical examples, using the Ottawa Ankle Rules (OAR), were described: one positive (vignette II) and one negative (vignette I). The treatment that the physiotherapists would employ was described. The CPGs and recommendations were categorized as follows: partially followed, partially not followed, and not followed. Then, they used a 1-5 Likert scale to indicate their level of agreement with various CPG and guideline statements.

Results: 386 physiotherapists (62.2% men and 37.8% women) completed the survey. Acute LAS with negative OAR was the clinical vignette. I. 2.07% of them reported "following" the recommended treatments, 39.64% "partially following," 8.55% "partially not following, and 52.59% "not following." An acute LAS with positive OAR was the clinical vignette II, 5.18% of them reported "following" the recommended treatments, 18.65% "partially following" and 76.17% "not following". The statements for which a 70% consensus was attained were two statements (18.18%). The third and fifth statements were among those that the participants agreed upon, which were related to the assessment phase.

Conclusion: The first-line suggested therapy for acute LAS management was unknown to the Saudi physiotherapists. Moreover, three-quarters of them were unable to recognize positive outcomes after radiation (OAR). The current findings highlight a gap between evidence and practice in LAS management.

Keywords: Ankle sprain, evidence-based, physical therapy, clinical guidelines.

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INTRODUCTION

The most common musculoskeletal injury to the lower limbs that occurs during sports and leisure activities is lateral ankle sprain (LAS) [1]. LASs are very common in both the general and active population, which places a significant burden on healthcare systems [2]. Ankle sprains are caused by a quick twist that tenses the structures surrounding the joint. It must be nothing more than soft tissue being wrenched painfully. However, if a strong force is exerted, ligament rupture could occur [3]. The inversion of the plantar-flexed foot is the most common mechanism of injury [4] which, in over 90% of cases, affects the ankle's lateral ligaments [3].

Individuals who participate in jumping sports like basketball have problems like hindfoot varus, or have a history of ankle sprains, are among the risk factors [5]. In Saudi Arabia, 63.8% of athletes have LAS, which was related to previous ankle injuries, lack of stretching and warm-up, and not using a brace. In all, 47.9% of athletes preferred to receive medical attention in a hospital, 15.8% chose physiotherapy treatment and 56% lacked any prior injury prevention training [6]. It may develop into a chronic condition that disturbs the kinematics and kinetics of the trunk [7] and ankle and foot [8–11], and increases the energy expenditure of physical activity even if it was a unilateral ankle sprain [12].

Because ankle injuries are typically thought of as minor injuries, they continue to go unreported [13]. As a result, many people who have an ankle sprain use self-management techniques [14]. Physiotherapists are commonly the first practitioners to be contacted for the examination and treatment of ankle sprains, even though medical therapy is rarely considered for many ankle injuries [15]. Several clinical practice recommendations (CPGs) and agreement statements have been published in recent years to support the application of evidence-based practice (EBP) in the treatment of LAS [16–19]. Once a patient with LAS is under care, clinicians should begin analyzing LAS hazard factors such as the type and intensity of the sport they play, workload and participation level, previous LAS history, and their proprioception and range of motion deficiencies [17,18,20].

The external supports were recommended for 4-6 weeks during the acute phase of treatment [20]. During exercise therapy, individuals with LAS should progressively increase the weight on the affected limb, regardless of the severity of their condition [18]. Exercise is also recommended in conjunction with manual therapy techniques, including active and passive releasing of the soft tissues, joint mobilization, lymphatic drainage, and anteroposterior talar mobilization techniques [16]. It is recommended to utilise anti-inflammatory non-steroidal medications [20], rest, compression, elevation, and repeated intermittent ice applications [18] to alleviate pain. The scientific evidence for electrotherapy, low-laser therapy, and diathermy is inconsistent and weak [17,18]. It may be possible to prevent the onset of symptoms linked to chronic injuries through proper diagnosis, treatment, and injury recurrence prevention, thereby significantly reducing the associated socioeconomic burden. However, it appears that physiotherapists are using more non-evidence-based treatments. Multiple studies published in a systematic review found that up to 81% of patients received care of unclear value and up to 43% received non-recommended therapy [21].

Many studies in various countries have looked at physiotherapists' awareness of and compliance with CPGs for a range of musculoskeletal disorders (MSDs) [22–25]. Few studies, meanwhile, have examined the adherence to [26,27] or knowledge of CPGs and recommendations in isolation [28]. Ankle injuries have been reported to cost more than $11,000 each injury, making them a significant financial problem facing society in the United States [29]. A Saudi study reported that one-third of high school students had an ankle injury, with only one-fifth requiring treatment. This study recommended that future research is needed to improve the understanding of ankle injuries and how to manage and rehabilitate them to reduce their frequency [30]. Indeed, no research has evaluated the knowledge of Saudi physiotherapists regarding the CPGs for LAS. From these perspectives, the importance of the current study becomes apparent, as it aimed to investigate physiotherapists' knowledge of and adherence to the CPGs for LAS.

METHODS

Study design

An online survey examining knowledge and adherence to evidence-based practice (EBP) guidelines and recommendations for the treatment of LAS served as the basis for the current cross-sectional study. Taif University's Scientific Research Ethics Committee in Saudi Arabia granted ethical approval (Application No. 45-141). The guidelines provided by Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) for reporting observational studies were adhered to [31].

Participants

The participants were recruited by directly contacting them or reaching out to them via social media using Google Forms. Using the calculation, a 95% sampling confidence level, and a 5% margin of error, the estimated sample size was 370, considering SCFHS statistics of 12544 licensed physiotherapists in Saudi Arabia. After providing their consent form, they were required to be orthopaedic physiotherapists working as physiotherapists in Saudi Arabia and have seen at least one LAS case in the previous two years to be eligible. Participants were excluded if they were not licensed to practice in Saudi Arabia, did not agree to fill out the questionnaire, or were not physiotherapists.

Data collection

The questionnaire was adapted from the study of Caffini et al. (2022) [32] which was divided into three parts. Section 1 was related to the participants' demographics (gender, age, marital status, education level, location of

residence, place of employment, years of experience, and attendance at training courses). Section 2 covered the clinical vignettes, and Section 3 covered the statement consensus. Ankle stability and movement coordination impairments were the main topics of both sections: The international classification of functioning disability and the CPGs of ankle ligament sprains "Diagnosis, treatment, and prevention of ankle sprains: updated EBP guideline"[20], and "Health from the Orthopedic Section of the American Physical Therapy Association" [18].

Section 2: Vignette I and II

Vignette I: Initial acute LAS episode with no signs or symptoms of a bone fracture (negative OAR).
History: Z.A. is a 40-year-old lady who likes gardening and works as a teacher. Yesterday, while gardening, she was exposed to the first episode of LAS whereas her foot went into plantarflexion with inversion. She went back home with a limp. The day after the injury, she went to the physiotherapist, keeping the injured foot off the ground and use two crutches to help her walk. Physical assessment: When instructed to place her foot on the floor and try to walk four steps, the patient stated that she was afraid of feeling pain. Despite this, she managed to walk across the room without limping; the Visual Analogue Scale (VAS) presented her lateral compartment pain as a score of 4 out of 10. With palpation, there was no pain on the posterior 6 cm of the malleoli (lateral and medial midfoot region). The ankle's anterolateral compartment has a minimal haematoma and mild oedema.
Vignette II: Positive signs and symptoms of acute reinjury LAS that increase the risk of a bone fracture (Positive OAR).
History: B.H. is a female basketball player who is a 20-year-old university student. She had LAS two days ago while playing a match. She experienced a lateral ankle sprain (LAS) episode after landing from a jump with her foot in plantarflexion and inversion. This is the second attack of ankle sprain, her initial sprained ankle injury happened three years ago, and she had to undergo rehabilitation before she was able to resume playing. During the competition, she was forced to immediately quit playing, and while hopping, she exited the court on the contralateral foot. She immediately administered ice to the ankle, which swelled rapidly. She attempted to go to the changing room while using bare weight by placing her foot on the ground, but the pain severity was too great (VAS 8/10). Even though she has never walked on the ground and kept her foot in an elevated position while applying an ice bag, her ankle hurts a lot at night (VAS 8/10). When she visited the physiotherapist two days after the injury, she was using two crutches to walk without bearing any weight. Physical assessment: When instructed to plant her foot on the floor and try to take four steps, when palpating the region 6 cm posterior to the peroneal malleolus, she reported a pain severity of 7 out of 10.

LAS; Lateral ankle sprain

In Section 2, the physiotherapists were asked to respond to two clinical scenarios presented in two clinical vignettes. Which are reliable and valid instruments for conformity to EBP guidelines and evaluating clinical decision-making [33]. Following an ankle injury, both cases showed a scenario in the acute and protected motion phases. The Ottawa Ankle Rules (OAR) for the suspicion of a bone fracture were reported as negative in the first scenario and as positive in the second. Following a careful reading of the vignettes, which listed 19 treatment techniques focused on the assessment and management of the two simulated cases, the physiotherapists were asked to select the ones they would utilise during the first week of physiotherapy treatment.

In section 3, the physiotherapists were asked to use a Likert scale with a range of 1 to indicate how much they agreed with each of the eleven assertions. Strongly agree; strongly disagree with 5 [34]. A score of 4-5 indicated that they agreed with the statement, and a score of 1-3 indicated that they disagreed with it. Furthermore, four statements were inverted so that disagreeing with them would imply agreement with the recommendations and CPGs (scoring 1-2) [25,35]. To reduce the propensity to agree with every survey statement, or acquiescence bias [36]. Every statement was obtained by the consensus statement [20] and the review of the CPGs [17,37].

Section 2: Consensus statements

Statements about assessment	
1.	Within 24 hours following an ankle sprain, a clinical evaluation of ligament damage should be conducted (Reversed statement)
2.	The Ottawa ankle rules are not advised to be used when there is a suspicion of an ankle or foot fracture (Reversed statement)
3.	It's important to evaluate past ankle sprain incidents during the anamnesis.
4.	The Ottawa ankle guidelines should never be used in the event of a second LAS episode (Reversed statement).
5.	Physiotherapists should examine patients with ankle sprains incorporating functional outcome measures into evaluation, such as the Foot and Ankle Ability Measure (FAAM).
Statements about treatment	
6.	A rehabilitative exercise program for balance and coordination should be followed for at least a year after the trauma if the patient has recurring ankle sprains.
7.	The brace helps to prevent the recurrent episodes of LAS.
8.	For the management of patients suffering from severe LAS, at least one of the following therapy techniques is highly advised: diathermy, electrotherapy, laser therapy, and ultrasound (Reversed statement).
9.	Clinicians should employ manual therapy techniques including soft tissue and joint mobilization and lymphatic drainage when treating patients who have an ankle sprain.
10.	For patients with severe LAS, physiotherapists should employ rehabilitation programs that include therapeutic exercises.
11.	Physiotherapists should plan a follow-up until a year following the injury in order to evaluate the results of the LAS rehabilitation program.

LAS; Lateral ankle sprain, FAAM; Foot and ankle ability measure

Statistical analysis

Descriptive analysis was used to determine the mean, frequencies, and standard deviations (SD) for the demographics. Continuous variables were shown as mean ± SD, whereas categorical data were shown as absolute and percentage frequencies. Based on their responses, the participants were split into four subcategories for the analysis of section 2 of the study: 'following, partially following, partially not following, and not following' the recommendations and CPGs [32]. Regarding vignette I (patient had negative OAR), the physiotherapists were categorised as either following the recommendations if they only selected highly recommended therapies, such grade A or level 1, or 'partially following' the recommendations if they selected both therapies with a high recommendation level, such as grade A or level 1, and therapies with less stringent requirements, such as level 2 or grade B-C. 'partially not following' the guidelines if they only therapies that have low recommendations grades (level 2-3-4 or grades C-D-E-F); 'not following' the guidelines if

they selected therapies that are not advised to be employed (such as grade A ultrasound therapy), either by itself or in conjunction with other treatments [32].

In relation to vignette II, the physiotherapists were categorised as 'following' if they only selected to "contact the specialist or to go to the emergency room"; 'partially following' if they also selected to use a brace, refer a patient to the doctor for pharmacy anti-inflammatory non-steroidal, and adhere to the principles of (Rest, Ice, Compression, and Elevation; RICE), but only in adding to "contacting the specialist or to go to the emergency room"; or 'not following' when they decided to refer a patient to the emergency room (ER) or a specialist, or when they started a treatment without ruling out the chance of a bone fracture at one point. Given the particular emergency situation, the 'partially not following' group was not established [32].

To determine how much the participants approved of the declarations based on the recommendations and CPGs, Section 3 was examined. Responses of 1 for 'completely agree' and 2 for 'partially agree' were deemed to approve the declarations that were not reversed, on a 5-point Likert scale. On the other hand, responses that scored three on the scale 'neither agree nor disagree', 4 on the 'partially disagree', and five on the 'completely disagree' scale were deemed to disagree with the EBP guidelines. Regarding the reversible statements, responding with a score of 4 indicates 'partially disagree' and five indicates 'completely disagree' on the scale, which was deemed to be by the EBP criteria. Accordingly, responses that scored one on the scale for 'completely agree', 2 for 'partially agree', and 3 for 'neither agree nor disagree' were deemed to disagree with the EBP guidelines [32].

RESULTS

Participants' characteristics

A total of 386 physiotherapists completed the questionnaire. Most participants were males, 240 (62.2%), while females were 146 (37.8%). The mean age of physiotherapists was 31.9 ± 5.7 years, with 64.5% holding a bachelor's degree and 41.5% having one to five years of work experience (Table 1).

Regarding the patient with negative OAR (Vignette I), 8 (2.07%) physiotherapists were in the 'following', they administered only the highly recommended treatments (i.e., active mobility exercises, joint passive mobilization using the techniques of manual therapy, and exercise to protect the joint and a semi-rigid brace). Then, 153 (39.64%) physiotherapists were deemed to be 'partially following' because they combined low-level advice, like laser therapy (grades C–D), with high-level recommendations, like mobility exercises (grades A). 33 (8.55%) physiotherapists in the group 'partially not following' offered only low-level advice to the patient, like diathermy using (level 2, grade C) and RICE elements (level 2). 203 (52.6%) physiotherapists were in the 'not following' group; they selected treatments that recommended avoidance, such as ultrasound (grade A for non-utilization), 2 weeks of immobilization and rest, or treatments that are only not advised, such as those included in RICE alone (Table 2).

For the case with a positive OAR (Vignette II), 20 (5.18%) Physiotherapists ultimately found themselves in the "following" group; they preferred to refer the patient to either the emergency room or a specialist. Of the 72 (18.65%) physiotherapists in the 'partially following group', 18.65% made the right decision to send the patient to the ER or a specialist. However, they also suggested alternative treatments that these patients might not have initially considered, such as elevating the foot (level 2) or applying ice (grade C, level 2). Lastly, 294 (76.17%) participants were deemed to be 'not following' because they would start a rehabilitation program before determining whether fractures are a possibility or because they did not believe in the necessity to send the patients to the ER or a specialist (Table 3).

Table 1. Demographics of the participants (n = 386)

Variables		N (%) Following	Clinical vignette 1				Clinical vignette 2		
			Partially following	Partially not following	Not following	Following	Partially following	Not following	
Age, years n (%)	20-30	182 (47.2)	4	69	15	94	15	39	126
	31-40	189 (49.0)	4	77	9	99	5	28	157
	41-50	15 (3.89)	0	7	0	8	2	4	9
Level of education, n (%)	Bachelor of Science	249 (64.5)	6	95	18	130	11	47	191
	Master of Science	82 (21.2)	0	37	3	42	6	15	61
	Ph.D	18 (4.7)	0	8	0	10	1	7	10
	Completed some postgraduate	16 (4.1)	2	6	1	7	2	3	11
	Diploma	21 (7.3)	0	7	0	14	0	0	21
Living region, n (%)	Western	136 (35.2)	3	49	9	75	10	29	97
	Eastern	66 (17.1)	0	26	5	35	2	14	50
	Central	57 (14.8)	2	24	2	29	5	10	42
	Southern	66 (17.1)	3	29	5	29	0	10	56
	Northern	61 (15.8)	0	25	1	35	3	9	49

Have you treated at least one patient with an ankle sprain in the last two years, n (%)	Yes	356 (92.2)	8	144	18	186	16	67	273
	No	30 (7.8)	0	9	4	17	4	5	21
Workplace, n (%)	Private rehabilitation	158 (40.9)	3	66	8	81	9	33	116
	University hospitals	47 (12.2)	2	20	3	22	3	10	34
	Military hospitals	50 (13)	0	18	1	31	3	8	39
	MOH hospitals	118 (30.6)	2	47	7	62	5	16	97
	MOH primary	13 (3.4)	1	2	3	7	0	5	8
Years of work experience, n (%)	1 to 5 years	160 (41.5)	2	61	15	82	9	35	116
	6 to 10 years	115 (29.8)	2	48	6	59	4	13	98
	> 10 years	66 (17.1)	1	28	0	37	3	18	45
	< 1 year	45 (11.7)	3	16	1	25	4	6	35
Have you ever attended any specific course or seminary on the topic "rehabilitation of patients with ankle sprain", n (%)	Yes	126 (32.6)	6	39	17	64	6	36	84
	No	260 (67.4)	2	114	5	139	14	36	210

MOH: Ministry of Health, n= sample number, SD = Standard deviation.

Table 2. The percentage of each treatment modality

Question	Clinical vignette 1				
	Following	Partially following	Partially not following	Not following	Total
Application of ice/cryotherapy alone	0 (0)	1 (1.1)	0 (0)	93 (98.9)	94 (24.4)
Application of ice/cryotherapy in combination with tolerated active mobilization	0 (0)	133 (47.8)	9 (3.2)	136 (48.9)	278 (72)
Compression	0 (0)	117 (42.9)	11 (4)	145 (53.1)	273 (70.7)
Elevation	0 (0)	119 (41.5)	10 (3.5)	158 (55.1)	287 (74.4)
Protection with a semi-rigid brace	3 (5.1)	16 (27.1)	0 (0)	40 (67.8)	59 (15.3)
Protection with a lace-up brace	1 (2.5)	11 (27.5)	1 (2.5)	27 (67.5)	40 (10.4)
Protection with elastic tape (kinesiotape)	2 (1.4)	54 (38.6)	1 (0.7)	83 (59.3)	140 (36.3)
Advice to the patient to contact the specialist or to go to the emergency room	0 (0)	15 (26.3)	11 (19.3)	31 (54.4)	29 (7.5)
Advice to the patient to contact the specialist or to go to the emergency room, starting in the meantime the rehabilitation program	0 (0)	8 (23.5)	5 (14.7)	21 (61.8)	34 (8.8)
Referral of the patient to doctor for possible pharmacological treatment	0 (0)	9 (30)	3 (10)	18 (60)	30 (7.8)
Recommend resting and immobilization for 2 weeks	0 (0)	1 (3)	0 (0)	32 (97)	33 (8.5)
Recommend for laser therapy	0 (0)	18 (29)	1 (1.6)	43 (69.4)	62 (16.1)
Recommend for diathermy	0 (0)	1 (4.2)	0 (0)	23 (95.8)	24 (6.2)
Recommend for antalgic electrotherapy	0 (0)	7 (14)	1 (2)	42 (84)	50 (13)
Recommend for ultrasound therapy	0 (0)	0 (0)	0 (0)	122 (100)	122 (31.6)
Passive joint mobilization with manual therapy techniques alone	0 (0)	20 (31.3)	1 (1.6)	43 (67.2)	64 (16.6)
Passive joint mobilization with manual therapy techniques in combination with other active treatments	4 (2.2)	83 (46.4)	0 (0)	92 (51.4)	179 (46.4)
Active mobility exercises	2 (0.9)	109 (48.4)	0 (0)	114 (50.7)	225 (58.3)
Exercises such as step up, squat, jumps and aerobic endurance	1 (1.5)	24 (36.9)	0 (0)	40 (61.5)	65 (16.8)

Table 3. Frequencies of answers to clinical vignette 2 by level of adherence to clinical practice guidelines

Question	Clinical vignette 2			
	Following	Partially Following	Not Following	Total
Application of ice/cryotherapy alone	0 (0)	38 (18.4)	169 (81.6)	207 (53.6)
Application of ice/cryotherapy in combination with tolerated active mobilization	0 (0)	9 (14.1)	55 (85.9)	64 (16.6)
Compression	0 (0)	34 (23.6)	110 (76.4)	144 (37.3)

Elevation	0 (0)	42 (17.1)	204 (82.9)	246 (63.7)
Protection with a semi-rigid brace	0 (0)	28 (27.7)	73 (72.3)	101 (26.2)
Protection with a lace-up brace	0 (0)	10 (14.9)	57 (85.1)	67 (17.4)
Protection with elastic tape (Kinesiotape)	0 (0)	7 (17.5)	33 (82.5)	40 (10.4)
Advice to the patient to contact the specialist or to go to the emergency room	20 (9.6)	72 (34.4)	117 (56)	209 (54.15)
Advice to the patient to contact the specialist or to go to the emergency room, starting in the meantime the rehabilitation program	0 (0)	0 (0)	116 (100)	116 (30.1)
Referral of the patient to doctor for possible pharmacological treatment	0 (0)	17 (13)	114 (87)	131 (33.9)
Recommend resting and immobilization for 2 weeks	0 (0)	29 (14.7)	168 (85.3)	197 (51)
Recommend for laser therapy	0 (0)	3 (7.3)	38 (92.7)	41 (10.6)
Recommend for diathermy	0 (0)	0 (0)	10 (100)	10 (2.6)
Recommend for antalgic electrotherapy	0 (0)	4 (12.5)	28 (87.5)	32 (8.3)
Recommend for ultrasound therapy	0 (0)	4 (6.3)	59 (93.7)	63 (16.3)
Passive joint mobilization with manual therapy techniques alone	0 (0)	4 (5.1)	74 (94.9)	78 (20.2)
Passive joint mobilization with manual therapy techniques in combination with other active treatments	0 (0)	2 (5.1)	37 (94.9)	39 (10.1)
Active mobility exercises	2 (0.9)	3 (8.6)	32 (91.4)	35 (9.1)
Exercises such as step up, squat, jumps and aerobic endurance	0 (0)	0 (0)	17 (100)	17 (4.4)

On a 5-point Likert scale, Table 4 displayed the respondents' percentages of agreement and disagreement, considering that 386 participants finished section 3. The statements for which a 70% consensus was attained were displayed in Figure 1. Overall, agreement with the statements was achieved for 2 statements (3 and 5 out of 11) which represented 18.18%. Among the statements that found an agreement among the participants, both were for the assessment phase; Assessing previous events of ankle sprains during the anamnesis and during evaluating patients with ankle sprains, physiotherapists should include functional outcome indicators. Conversely, consensus was not achieved for the other 9 statements (81.82%).

Table 4. Section III: consensus statements (n = 386)

No.	Statements about assessment	Agreement, n (%)	Disagreement, n (%)
1.	The clinical assessment of damage to the ligaments after an ankle sprain should be performed within 24 hours from the trauma (Reversed statement)	220 (57)	166 (43)
2.	In case of suspected fracture of the ankle or the foot, it is not recommended to apply the Ottawa ankle rules (Reversed statement)	164 (42.5)	222 (57.5)
3.	During the anamnesis it is important to assess previous events of ankle sprains.	291 (75.4)[a]	95 (24.6)
4.	In front of a second episode of lateral ankle sprain it is never necessary to apply the Ottawa ankle rules (Reversed statement)	160 (41.5)	226 (58.5)
5.	Physiotherapists should incorporate functional outcome measures such as the FAAM (Foot and Ankle Ability Measure), as part of the examination of people with ankle sprain.	295 (76.4)[a]	91 (23.6)
	Statements about treatment		
6.	In front of recurrent ankle sprains, the clinician should recommend following a therapeutic exercise program for coordination and balance for at least 1 year from the trauma.	134 (34.7)	252 (65.3)
7.	The brace has a role in the prevention of recurrent lateral ankle sprains events.	226 (58.5)	160 (41.5)
8.	At list one of the following treatment modalities is strongly recommended for the management of patients with ankle sprain during the acute phase: ultrasound, laser therapy, electrotherapy, diathermy (Reversed statement)	88 (22.8)	298 (77.2)
9.	In the treatment of people with ankle sprain, clinicians should use manual therapy procedures, such as lymphatic drainage, joint and soft tissue mobilization.	264 (68.4)	122 (31.6)
10.	For people with severe ankle sprains, physiotherapists should implement rehabilitation programs that include therapeutic exercises.	261 (67.6)	125 (32.4)
11.	When evaluating the results of the rehabilitation program for an ankle sprain, physiotherapists should plan a follow-up until one year since the trauma.	152 (39.4)	234 (60.6)

n: number; %: percentage for the statements the answers of agreement are 4 or 5 on a 5-point Likert scale; reversed statement =the answers of agreement are 1 or 2 on a 5-point Likert scale; a: the consensus is > 70%.

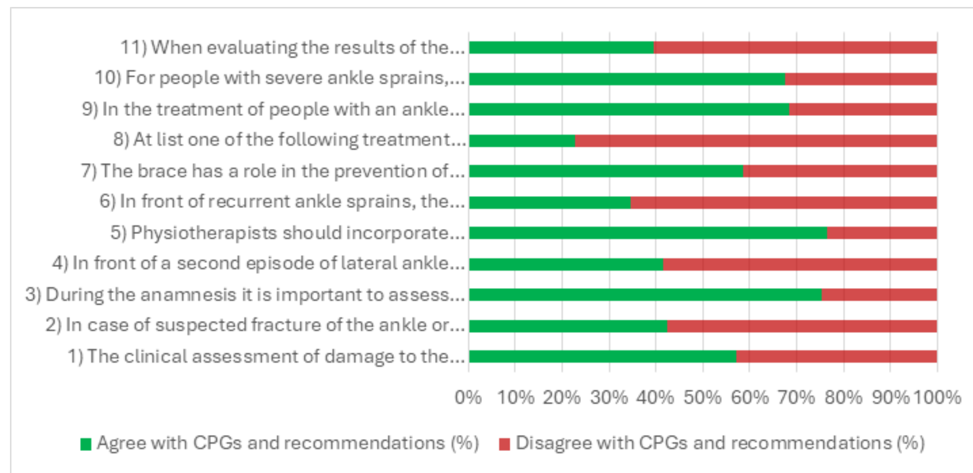

Figure 1. Reported answers to section III and consensus at 70% (Complete sentences are available in section III: consensus statements).

DISCUSSION

Evidence-based medicine therapies must be communicated via CPGs and EBP recommendations. Physiotherapists ought to be aware of these suggestions and apply them in their clinical work. The term "evidence-to-practice gap" refers to the inconsistency between the application of a recommendation in clinical practice and its understanding [21,38]. For individuals with LAS to resume their prior levels of employment, sports, and regular physical activities, an evidence-based evaluation and rehabilitation are necessary [32]. This limited evidence-to-practice bridge can help individuals with LAS recover joint functionality as best they can and reduce the likelihood of recurring ankle sprains, which in turn reduces the risk of chronic ankle instability [18,20,37,39].

Regarding the demographics of the present study, males made up the majority of participants (62.2%), while the Italian study reported male participants with 61.5% [22]. This consistency can be due to the high prevalence of working physiotherapists male in Saudi Arabia [40]. The currents study included 41.5% of the participants with experience from 1 to 5 years followed by 29.8% for 6 to 10 years. On the other hand, the Italian study included 37% of the participants with experience from 1 to 5 years followed by 33% for more than 10 years. Only 32.6% of the participants in the current study attended any particular course on the subject "rehabilitation of patients with ankle sprain", while 32% on the Italian study [32] which was consistent with the present study.

In the current study, treatments that were highly recommended were occasionally combined with therapies that were indicated less frequently, such as the use of physical therapies in clinical vignette 2 including electrotherapy (8.3%), laser therapy (10.62%), diathermy (2.59%), and ultrasounds (16.3%), and in clinical vignette 2 including electrotherapy (13%), laser therapy (16.1%), diathermy (6.2%), and ultrasounds (31.6%). These results can be explained by which some less advised treatments may nevertheless be used in clinical practice in an effort to satisfy patients' expectations and values [32]. However, the only treatments that can cause long-term symptoms that reduce LAS patients' quality of life and physical activity are low-recommended ones like RICE alone or the usage of unrecommended therapies like ultrasound therapy [2,35,39]. Furthermore, this non-evidence-based practice may lead to a larger financial burden because of the direct costs of long-term therapies and the indirect costs of lost time at work [2]. Therefore, in order to close the gap between what patients desire and what they truly need, physiotherapists should look into what patients expect from their treatments and offer educational strategies that go beyond simply meeting their expectations [32].

In an emergency scenario, just one-quarter of physiotherapists properly identified the OAR as positive and referred the patient to a physician. However, in a clinical context, three-quarters of the sample were unable to recognise them. Additionally, this study displays that physiotherapist do not know how long it should take to evaluate the ligaments after LAS, despite recommendations from the literature to do so four to five days following damage [20]. When treating patients with MSDs, physical therapists should possess sophisticated assessment abilities to carry out a thorough examination and, if required, refer them to additional experts. When direct access is involved, this becomes much more crucial, in which the patient refers them to the physiotherapist first [41]. So, it is crucial that physiotherapists acquire the advanced clinical knowledge and cognitive abilities necessary to recognise when the problems they are evaluating are unrelated to them.

The current study found that 2.07% of the participants were following the guidelines and recommendations regarding clinical vignette 1. While 39.64% of participants were partially following the guidelines and recommendations. This is inconsistent with the previous study reported 4.17% for following and 68.14% for partially following [32]. Regarding clinical vignette II, the current result found that 5.18% of them were 'following' and 18.65% 'partially following', while 76.17% 'not following' the guidelines and recommendations. This is also inconsistent with the Italian study which reported that 37% of the participants was

'following' while 35.05% was 'partially following' [32]. This inconsistency may be due to the low level of adherence of the Saudi physiotherapists toward the CPGs.

The current study's findings demonstrated that two (18.18%) of the eleven statements had reached consensus. Both statements regarding the assessment phase-which included evaluating previous events of ankle sprain incidents during the anamnesis and including measures of functional outcome like the FAAM were agreed upon by the participants. On the contrary, the agreement was not accomplished for the other 9 (81.82%) statements which was inconsistent with the findings of an Italian study reported that agreement to the statements was attained for 8 statements (73%) (2, 3, 4, 5, 6, 9, 10, 11) out of 11 [32]. Four statements that examined the assessment phase were among those that found consensus/agreement among the participants in the Italian study [32]. These statements covered risk variables such as past ankle injuries, how to determine if a bone fracture is present or not, and methods to evaluate the patient's reported results. Together with 4 statements that examined the treatment options, such as therapeutic exercise, manual therapy, and the treatment program duration until the final follow-ups. In contrast, three statements (27%) in the Italian study did not reach consensus (1, 7, 8) [32]. These statements centre on how long the clinical evaluation should take, the potential prevention function of brace, and how strongly physical therapies like laser therapy and ultrasound are recommended. This inconsistency may be attributed to the physiotherapists are subjected to excessive demands by EBP, which disregards patient preferences and the restrictions of clinical settings. They needed assistance from their workplaces and paid little attention to books [42].

There are certain limitations on the current investigation. To begin with, this study is observational in nature and employs descriptive statistics. Future research endeavors utilizing unique and complex designs, such as mixed-method and qualitative investigations, should investigate the factors contributing to the non-successful implementation of LAS clinical practice guidelines and suggestions. This study should encompass the viewpoints of both patients and Saudi physiotherapists. The present study also didn't inquire about the relative importance of each treatment. As a result, the present study couldn't comprehend how much time and attention they would devote to each treatment and whether they would prioritize it over the others. Finally, because the questionnaire was distributed via social media, it was impossible to determine the response rate. Nevertheless, the required sample size was obtained.

CONCLUSION

The first-line therapies that are advised for managing acute LAS are unknown to Saudi physiotherapists. They were aware that the most effective treatment for acute LAS is manual joint mobilization associated with active exercises. They would still offer some therapies, though, that are either unrecommended or partially recommended treatments. Additionally, 75% of participants were unable to identify a positive OAR. The current findings point to a gap between evidence and practice in LAS management, which could result in practices that are not supported by the available data. So, it is necessary to promote a greater understanding and application of CPGs in the clinical practice of physiotherapists. This will improve the quality of life and activity levels of patients with LAS and increase the bar for the care that physiotherapists give.

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