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Knowledge, attitude and practice of patients with ankle injury regarding osteochondral lesions of the talus: a cross-sectional study in Wuxi, China

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ABSTRACT

Objective To investigate knowledge, attitude and practice (KAP) of patients with ankle injury regarding osteochondral lesions of the talus (OLT).

Design A cross-sectional study.

Setting Between March and September 2023, at the Ninth People's Hospital of Wuxi, affiliated with Soochow University.

Participants Among patients with OLT.

Primary and secondary outcome measures KAP scores and associated factors.

Methods Data were collected through a researcher-designed, validated questionnaire with four dimensions (sociodemographic characteristics, knowledge, attitude and practice). Structural equation modelling (SEM) was applied to explore associations among variables.

Results A total of 537 valid (valid rate: 78.85%) questionnaires were obtained from the responders who were aged 27.18±11.01 years, with 151 (28.12) males. The mean KAP scores were 17.28±4.84 (possible range: 0–28), 29.44±4.21 (possible range: 9–45) and 18.01±5.39 (possible range: 6–30), respectively. SEM revealed that employment (employed vs unemployed, β=1.33, p=0.002), had medical insurance (β=1.19, p=0.019) and with a history of ankle sprains (β=1.08, p=0.009) exhibited positive direct effects, while whether with cartilage injury of the talus (no vs yes, β=−0.73, p=0.001) had negative direct effect on knowledge. Additionally, knowledge (β=0.08, p=0.032) showed positive direct effects, while gender (males vs females, β=−1.81, p<0.001) showed negative direct effects on attitude. Furthermore, knowledge (β=0.38, p<0.001), attitude (β=0.18, p<0.001), had medical insurance (β=1.05, p=0.045) and had recovered from an ankle injury (β=1.38, p=0.025) exhibited positive direct effects on practice.

Conclusion Patients with ankle injury had inadequate knowledge, negative attitude and inactive practice toward OLT. Gender, job, medical insurance, cartilage injury of the talus, history of ankle sprains and recovery from ankle injury influenced their KAP.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Large sample size: The study collected 537 valid questionnaires, providing an adequate sample for statistical analysis.
⇒ High reliability: The questionnaire demonstrated high internal consistency with a Cronbach's α coefficient of 0.823.
⇒ Cross-sectional design: The cross-sectional design does not establish causal relationships.
⇒ Self-reported data: Reliance on self-reported responses in the questionnaires may introduce response bias or inaccuracies, affecting the reliability of the results.
⇒ Single-centre study: The study was conducted in a single centre, limiting its generalisability.

INTRODUCTION

Osteochondral lesions of the talus (OLT), recognised as an increasingly common injury, are one of the major challenges in orthopaedic surgery, often resulting from acute ankle trauma.[1 2] These lesions involve the articular cartilage of the talus and associated subchondral bone, and they occur in up to 73% of all ankle fractures, 50% of ankle sprains and 41% of ankles with lateral instability.[3 4] The talus's small articular surface, combined with its exposure to high loads, makes it particularly susceptible to such degenerative lesions.[5] These injuries, characterised by cartilage degeneration, lead to joint pain and destruction, presenting a significant hurdle in orthopaedic care.[6] Additionally, OLT remains a common and challenging issue in the field, often encountered in the context of ankle injuries, particularly in sports medicine.[7 8] Effective management and treatment strategies for these lesions are vital in providing the best possible care and outcomes for patients with OLT.

A knowledge, attitude and practice (KAP) survey is a valuable tool for assessing patients' understanding, beliefs and behaviours regarding health conditions.[9–11] Given that OLT can result in significant discomfort and negative impact on quality of life,

understanding patients' KAP is critical for improving clinical communication, addressing misconceptions and refining treatment strategies.[12]

However, limited studies have explored patients' KAP regarding OLT, leaving a gap in understanding how knowledge and attitudes influence their behaviours toward diagnosis and treatment. This study aimed to investigate the KAP of patients with ankle injuries regarding OLT and identify factors influencing these dimensions.

MATERIALS AND METHODS

Study design and participants

This cross-sectional study adhered to the Strengthening the Reporting of Observational Studies in Epidemiology guidelines and was conducted between March and September 2023 at the Ninth People's Hospital of Wuxi, affiliated with Soochow University, towards patients of OLT. The inclusion criteria were patients with ankle injuries who visited for treatment. The exclusion criteria included individuals with cognitive impairments, language barriers that precluded questionnaire completion or those providing incomplete demographic or medical information.

Questionnaire

The design of the questionnaire was created by the research team following a comprehensive review of relevant literature pertaining to OLT. The questionnaire was evaluated and revised according to feedback from a panel of orthopaedic specialists and public health researchers before being pilot-tested among 50 patients. A final Cronbach's α coefficient of 0.823 was obtained from reliability analysis based on the pilot-tested data, which confirmed that the questionnaire had strong internal consistency. The final questionnaire, which was administered in Chinese, encompassed data collection across four distinct dimensions, comprising a total of 49 items. The 'sociodemographic characteristics' dimension, which included 19 items, gathered data on various aspects such as age, gender, height, body mass index (BMI), education, ethnicity, employment, monthly per capita income, smoking status, alcohol consumption and medical insurance (defined as whether participants had active health insurance at the time of the survey (yes/no)). Data on the history of ankle sprains referred to any previous incidents of ankle sprains, regardless of recovery status. Recovered from ankle injury referred to asking about whether the participants were recovered from ankle injury, which was defined as reporting full functional recovery following an ankle injury. Diffuse tender points around the ankle joint were described as inconsistent or variable pain and tenderness around the ankle joint without a fixed point of discomfort. Additionally, information was collected on the severity of ankle injuries and the presence of underlying or chronic diseases. The 'Knowledge Dimension,' consisting of 14 items, evaluated respondents' knowledge with all items having correct answers, where each correct response earned 2 points, unclear answers received 1 point and incorrect answers received 0 points, resulting in a potential score range of 0–28 points. The 'Attitude Dimension', comprising 9 items, primarily used a 5-point Likert scale, where items 7, 8 and 9 had specific scoring values assigned to each response option. Items 1–6 had reversed scoring. The potential score range for the attitude dimension ranged from 9 to 45 points. The 'Practice Dimension', which consisted of 6 items, used a 5-point Likert scale, with item 8 having reversed scoring, and the potential score range for the practice dimension was 6–30 points. Attaining scores above 70% of the maximum in each section indicated adequate knowledge, positive attitude and proactive practice.[13]

Questionnaire distribution and quality control

The questionnaires were administered to study participants through WeChat and in the clinical setting. This process involved four dedicated research assistants who played pivotal roles in the distribution and collection of the questionnaires. To ensure the smooth execution of these tasks, the research assistants underwent training in small, face-to-face meetings, which encompassed a brief orientation to the subject matter of OLT, as well as comprehensive instruction on the proper procedures for questionnaire distribution and collection. Regular monthly meetings were convened to review the survey's progress and promptly address any emerging issues. The sampling strategy entailed convenience sampling of patients during their clinical visits and subsequent follow-up appointments. Initially, the sampling pool comprised around patients who met the specified research criteria, although those with inaccurate contact information were subsequently excluded despite efforts to rectify this through communication. Contact information and options for follow-up, including phone numbers, email addresses and clinical appointments, were thoughtfully provided to participants to facilitate communication and address any concerns in the later stages of the study. During data cleansing, respondents who completed the questionnaire in less than 90 s, those who omitted essential demographic information such as age and height, and individuals who were unwilling to disclose their other medical conditions were regarded as invalid questionnaires.

Sample size calculation

The sample size was calculated using the formula for cross-sectional studies: α=0.05, $n = \left(\frac{Z_{1-\alpha/2}}{\delta}\right)^2 \times p \times (1-p)$ where $Z_{1-\alpha/2} = 1.96$ when α=0.05, the assumed degree of variability of p=0.5 maximises the required sample size and δ is admissible error (which was 5% here). The theoretical sample size was 480, which includes an extra 20% to allow for subjects lost during the study.

Statistical analysis

Statistical analysis was conducted using R V.4.3.1 software. Continuous variables were described using mean±SD, and between-group comparisons were performed using t-tests or

Table 1 KAP scores

	Total score	Possible range	Percentage, %
Knowledge	17.28±4.84	0–28	61.71
Attitude	29.44±4.21	9–45	65.42
Practice	18.01±5.39	6–30	60.03

analysis of variance. Categorical variables were presented as n (%). Pearson correlation analysis was employed to assess the correlations among KAP scores. Demographic characteristics with statistical differences (p<0.05) in KAP scores among different classifications were included in the path analysis of structural equation modelling (SEM). Additionally, in multivariate analysis, 70% of the maximum possible score was used as the cut-off value. Variables in univariate logistic regression analysis with p<0.05 were enrolled in multivariate logistic regression analysis. Two-sided p<0.05 was considered statistically significant in this study.

RESULTS

Initially, a total of 648 questionnaires were collected. After data cleaning, the following questionnaires were excluded: (1) 58 questionnaires with response time less than 90 s; (2) 48 questionnaires with logical errors, such as abnormal age, height and weight value, and for multiple choice questions, such as 'Do you have any underlying or chronic medical conditions?', while selecting 'none' and any other disease option; (3) 5 questionnaires from respondents under 18 years old. Finally, 537 valid (valid rate: 82.87%) questionnaires remained. Respondents' average age was 27.18±11.01 years, with 151 (28.12) males. Their mean KAP scores were 17.28±4.84 (possible range: 0–28), 29.44±4.21 (possible range: 9–45) and 18.01±5.39 (possible range: 6–30), respectively (table 1). Moreover, the knowledge and practice scores varied from patients with medical insurance states (p=0.005 and p=0.033), history of ankle sprains (p=0.026 and p=0.001), with diffuse tender points around the ankle joint (p=0.020 and p=0.002), with an injury to the calcaneal cartilage (both p<0.001) and whether recovered (p=0.025 and p=0.005). Meanwhile, the knowledge score varied from patients with different employment (p<0.001), monthly

Table 2 Path coefficients of structural equation modelling

	Coef.	P value>|z|
Knowledge <— —		
Employment (employed vs unemployed)	1.33	0.002
Income (low vs higher)	−0.22	0.137
Medical insurance (with vs without)	1.19	0.019
Frequent participation in sports (with vs without)	0.32	0.459
History of ankle sprains (with vs without)	1.08	0.009
Diffuse tender points around the ankle joint (with vs without)	0.26	0.321
Cartilage injury of the talus (without vs with)	−0.73	0.001
Attitude <— —		
Knowledge	0.08	0.032
Employment (employed vs unemployed)	−0.40	0.302
Age	−0.02	0.256
Gender (male vs female)	−1.81	0
Education (higher vs low)	0.18	0.527
Smoking (never vs yes)	0.13	0.654
Practice <— —		
Knowledge	0.38	0
Attitude	0.18	0
Income (low vs higher)	−0.05	0.752
Medical insurance (with vs without)	1.05	0.045
Diffuse tender points around the ankle joint (with vs without)	−0.46	0.087
Cartilage injury of the talus (without vs with)	−0.20	0.386
Gender (male vs female)		0.073
Smoking (never vs yes)	0.16	0.669
Alcohol consumption (yes vs never)	−0.17	0.539
Recovered from ankle injury (yes vs no)	1.38	0.025

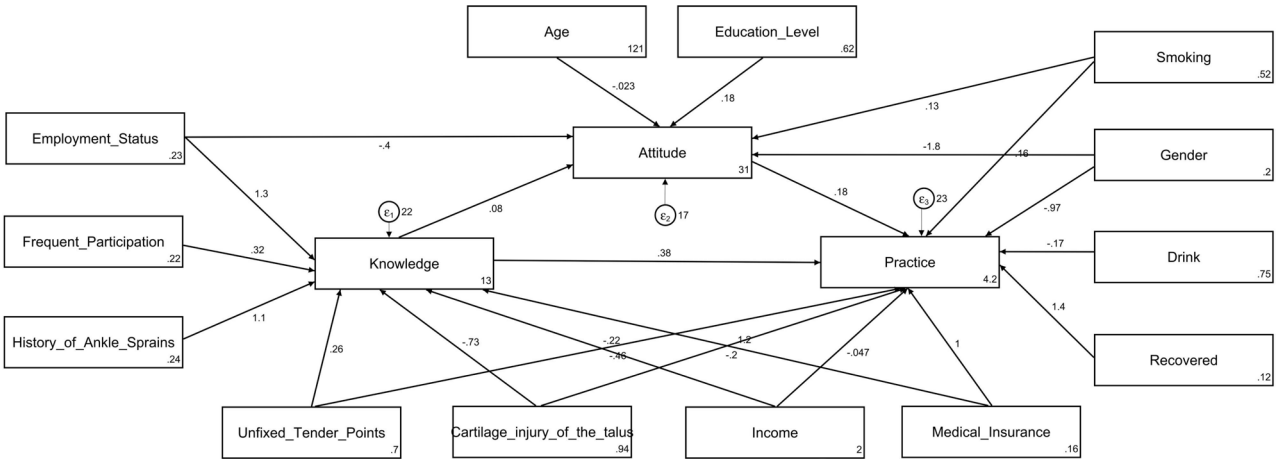

Figure 1 Structural equation modelling.

per capita income (p<0.001) and alcohol consumption (p=0.047). Attitude scores were more likely to differ by gender (p<0.001). Practice scores differed by gender (p=0.010), education (p=0.028), employment (p=0.033), monthly per capita income (p<0.001) and smoking states (p=0.028) (online supplemental table S1).

The distribution of knowledge dimensions revealed that the question with the highest number of participants choosing the 'Correct' option (K5: 'Understanding that OLT requires early medical intervention to prevent progression') was 48.23%. On the contrary, the question with the highest number of participants choosing the 'Unclear' option (K7: 'Awareness of the potential for cartilage regeneration in OLT') was 60.89% (online supplemental table S2). Regarding attitudes, a significant portion (56.43%) of respondents recognised the significance of ankle sprains, emphasising that they should not be taken lightly (A1). Acceptance of minimally invasive arthroscopic treatment was shown by 38.36% of respondents, perceiving it as having minimal trauma and low risk (A7). Nearly half (45.81%) strongly agreed or agreed that it is necessary to visit the hospital for potential OLT after an ankle sprain (A8). A substantial majority (49.54%) expressed their willingness to gain a comprehensive understanding of the emergency treatment and daily management of OLT (A9) (online supplemental table S3). Participants demonstrated varied behavioural practices; 39.11% of the participants mentioned prioritising rest to alleviate strain on the ankle and reduce the risk of calcaneal cartilage injury (P3). A substantial 56.61% of respondents reported their inclination to base their treatment decisions on medical advice (P5). Interestingly, 31.48% of participants expressed their openness to considering minimally invasive surgery as a treatment option (P6), while only 5.77% stated they would never consider it (online supplemental table S4).

Pearson's correlation analysis showed that the correlation between knowledge and attitude (r=0.076, p=0.077) was not statistically significant, while significant positive correlations were observed between knowledge and practice (r=0.382, p<0.001) and between attitude and practice (r=0.220, p<0.001) (online supplemental table S5). The SEM analysis indicated a highly favourable model fit, affirming a well-fitting model (online supplemental table S6). It revealed that employment (employed vs unemployed, β=1.33, p=0.002), had medical insurance (β=1.19, p=0.019) and with a history of ankle sprains (β=1.08, p=0.009) exhibited positive direct effects, while whether with cartilage injury of the talus (no vs yes, β=−0.73, p=0.001) had a negative direct effect on knowledge. Additionally, knowledge (β=0.08, p=0.032) showed positive direct effects, while gender (males vs females, β=−1.81, p<0.001) showed negative direct effects on attitude. Furthermore, knowledge (β=0.38, p<0.001), attitude (β=0.18, p<0.001), had medical insurance (β=1.05, p=0.045) and had recovered from ankle injury (β=1.38, p=0.025) exhibited positive direct effects on practice (table 2 and figure 1). In addition, multivariate logistic regression showed that employed (OR=1.667, 95% CI: 1.100 to 2.528, p=0.016), history of ankle sprains (OR=1.603, 95% CI: 1.057 to 2.434, p=0.026) and diffuse tender points around the ankle joint (OR=1.713, 95% CI: 1.009 to 2.911, p=0.046) were independently associated with knowledge (online supplemental table S7 and table 3). Knowledge (OR=1.050, 95% CI: 1.007 to 1.094, p=0.022) and age (OR=0.974, 95% CI: 0.947 to 0.999, p=0.048) were independently associated with attitude (online supplemental table S7 and table 4). Furthermore, knowledge (OR=1.114, 95% CI: 1.060 to 1.171, p<0.001), attitude (OR=1.114, 95% CI: 1.085 to 1.209, p<0.001) and with cartilage injury of the talus (OR=5.584, 95% CI: 1.991 to 15.813, p=0.001) were independently associated with practice (online supplemental table S7 and table 5).

DISCUSSION

This study highlights that patients with ankle injuries demonstrated limited knowledge, negative attitudes and insufficient proactive behaviours toward OLT. These findings suggest that addressing knowledge deficits and misconceptions is crucial for improving patient outcomes. To our knowledge, this is the first study to

Table 3 Multivariate logistic regression analysis for knowledge, attitude and practice

Dimension	Variables	Multivariate analysis		
		OR	95% CI	P value
Knowledge				
	Employment			
	Employed	1.667	1.100 to 2.528	0.016
	Unemployed	Reference		
	Monthly per capita income, ¥			
	<2000	Reference		
	2000–5000	1.378	0.672 to 2.962	0.394
	5000–10 000	1.734	0.814 to 3.849	0.163
	>10 000	1.338	0.567 to 3.224	0.509
	Prefer not to disclose	0.798	0.374 to 1.767	0.566
	Medical insurance			
	Yes	1.578	0.933 to 2.753	0.097
	No	Reference		
	Frequent participation in sports			
	Yes	1.343	0.881 to 2.040	0.168
	No	Reference		
	History of ankle sprains			
	Yes	1.603	1.057 to 2.434	0.026
	No	Reference		
	Diffuse tender points around the ankle joint			
	With	1.713	1.009 to 2.911	0.046
	Without	Reference		
	Unclear	1.097	0.633 to 1.880	0.737
	Cartilage injury of the talus			
	Yes	0.793	0.283 to 2.099	0.646
	No	Reference		
	Unclear	0.464	0.293 to 0.726	0.001

comprehensively explore the interrelationship between KAP of patients with ankle injury towards OLT and associated influencing factors using SEM. This study suggests our findings support implementing educational programmes to improve patient knowledge, addressing misconceptions and encouraging early intervention and active participation in treatment.

Our study highlights that prior ankle injuries and exposure to related conditions were associated with higher knowledge levels. However, misconceptions about the regenerative capacity of cartilage and the perceived insignificance of ankle sprains remain prevalent. Tailored educational initiatives addressing these gaps could enhance patient understanding and early intervention.[14] Moreover, efforts should focus on dispelling misconceptions and fostering more positive attitudes toward treatment and rehabilitation.[15] Additionally, ensuring access to adequate medical insurance coverage can mitigate financial barriers that might otherwise hinder patients' access to necessary care.[16–18]

Our findings highlight several key factors that influenced patient outcomes, including employment status, history of ankle sprains, presence of cartilage injury and medical insurance coverage. Specifically, employed patients showed better knowledge scores, those with prior ankle sprains demonstrated higher awareness, while patients with cartilage injury had different practice patterns. Additionally, patients with medical insurance (defined as having active health insurance coverage vs paying out-of-pocket) showed more proactive behaviours in seeking care. Key factors such as employment, financial status and prior injury history were found to influence patients' knowledge, attitudes and practices. Previous studies have also highlighted the impact of BMI, age, lesion size and anatomical location on patient-reported outcomes and quality of life in symptomatic OLT cases.[19] Notably, patients with medical insurance demonstrated more proactive behaviours, underscoring the importance of addressing financial barriers to ensure equitable access to care. These results emphasise the importance of

Table 4 Multivariate logistic regression analysis for attitude

Attitude	Variables	Multivariate analysis		
		OR	95% CI	P value
	Knowledge	1.050	1.007 to 1.094	0.022
	Age	0.974	0.947 to 0.999	0.048
	Gender			
	Male	0.625	0.368 to 1.041	0.076
	Female	Reference		
	Education			
	Junior high school or below	Reference		
	High school/vocational school	1.400	0.620 to 3.185	0.418
	College/Bachelor's degree	1.134	0.537 to 2.480	0.746
	Master's degree and above	1.173	0.282 to 4.158	0.812
	Employment			
	Employed	0.692	0.440 to 1.079	0.107
	Unemployed	Reference		
	Smoking			
	Never smoked	Reference		
	Former smoker	1.387	0.704 to 2.681	0.335
	Current smoker	0.668	0.321 to 1.319	0.260

tailoring patient education and awareness campaigns to specific demographic and health-related factors to bridge the knowledge gap.[14 20] The association between medical insurance coverage and practice scores underlines the significance of ensuring financial accessibility to medical care for patients.[21 22]

This study adds to the literature by identifying specific misconceptions and uncertainties regarding OLT among patients. For example, patients often underestimated the chronic nature of the condition or delayed seeking professional care. While some respondents demonstrated a basic awareness of the term 'OLT', the specific details regarding the location, function, symptoms and treatment of OLT were less clear to many. Several misconceptions and uncertainties were evident, such as the misconception that calcaneal cartilage can regenerate and the underestimation of the chronic nature of these injuries. This limited knowledge underscores the need for comprehensive patient education initiatives, emphasising accurate information about OLT, their management and potential long-term consequences.[16 23 24] Ensuring that patients have a correct understanding of this topic is essential for improving clinical practice, enabling early recognition, prompt intervention and better long-term outcomes for patients with OLT.[25 26]

Attitudes toward OLT were influenced by demographic factors, with certain groups more likely to perceive ankle injuries as minor and self-healing. Such perceptions may delay necessary interventions. Encouraging evidence-based treatment choices and addressing these attitudes through patient education is essential for improving clinical outcomes. For example, a significant proportion of respondents consider ankle sprains as minor injuries, potentially leading to a lack of attention and delayed intervention when OLT are associated with such sprains. The belief that OLT can heal on their own and that self-medication can expedite recovery might discourage patients from seeking professional medical care promptly. On the positive side, a considerable number of respondents seem to be open to minimally invasive arthroscopic treatment, indicating potential acceptability of this approach in clinical practice. These findings underscore the importance of addressing and redirecting potentially detrimental attitudes through patient education and awareness campaigns. Encouraging a more informed, proactive and open-minded approach to OLT is essential for improving clinical practice and ultimately patient outcomes.[27–29]

Patient practices revealed room for improvement, particularly in seeking timely medical care and adhering to professional treatment advice. While intentions to learn about OLT were evident, translating these intentions into effective actions remains a challenge. Educational efforts should focus on bridging this gap to foster evidence-based management practices. Notably, there is room for improvement in several areas to enhance clinical practice. While a substantial percentage of respondents express their intention to proactively learn about OLT, it is crucial to ensure that these intentions translate into informed actions.[30 31] Going to the hospital for a check after an ankle injury is a positive practice, but more patients could adopt this approach. However, there is still room for improvement, especially in ensuring that patients choose treatment plans based

Table 5 Multivariate logistic regression analysis for practice

Practice	Variables	Multivariate analysis		
		OR	95% CI	P value
	Knowledge	1.114	1.060 to 1.171	<0.001
	Attitude	1.144	1.085 to 1.209	<0.001
	Age			
	Gender			
	Male	0.583	0.297 to 1.107	0.107
	Female	Reference		
	Monthly per capita income, ¥			
	<2000	Reference		
	2000–5000	1.438	0.599 to 3.790	0.436
	5000–10 000	2.541	1.035 to 6.847	0.051
	>10 000	2.473	0.887 to 7.371	0.091
	Prefer not to disclose	1.208	0.491 to 3.240	0.692
	Smoking			
	Never smoked	Reference		
	Former smoker	0.698	0.231 to 1.898	0.498
	Current smoker	0.965	0.394 to 2.281	0.937
	Alcohol consumption			
	Never consumed alcohol	Reference		
	Former drinker	0.791	0.371 to 1.612	0.530
	Current drinker	0.643	0.337 to 1.190	0.168
	Medical insurance			
	Yes	1.431	0.775 to 2.767	0.267
	No	Reference		
	Diffuse tender points around the ankle joint			
	With	0.624	0.322 to 1.173	0.152
	Without	Reference		
	Unclear	0.618	0.326 to 1.138	0.13
	Severity of ankle injury			
	Very severe, unable to walk			
	Moderately severe, pain with pressure			
	Not very severe, slight pain with pressure			
	Cartilage injury of the talus			
	With	5.584	1.991 to 15.813	0.001
	Without	Reference		
	Unclear	0.966	0.572 to 1.623	0.896
	Recovered from ankle injury			
	Yes	1.888	0.910 to 4.275	0.104
	No	Reference		

on medical advice. Overall, these results emphasise the need for patient education that fosters informed decision-making, promotes best practices in the management of OLT and encourages patients to follow medical recommendations, ultimately contributing to improved clinical outcomes.[32 33]

The observed associations between knowledge, attitudes and practices reaffirm the interconnected nature of these dimensions. Enhancing patient knowledge may lead to improved perceptions and more proactive behaviours, which are critical for effective management of OLT. Our findings further suggest that interventions

addressing knowledge gaps could have a cascading positive impact on attitudes and practices.[34] Similarly, the correlation between attitude and practice highlights the interconnected nature of these aspects. The SEM analysis reveals that employment, medical insurance, a history of ankle sprains and the presence of a calcaneal cartilage injury directly impact knowledge. Moreover, knowledge and gender directly affect attitude, and knowledge, attitude, medical insurance and recovery from ankle injury directly influence practice. These understandings can inform tailored interventions aimed at enhancing clinical practice by addressing these influential factors and fostering more informed, positive and proactive patient engagement in the management of OLT.[35 36]

This study had limitations, including its single-centre, regional focus, potentially limiting the generalisability of findings; the cross-sectional design's inability to establish causality or track changes over time; reliance on self-administered questionnaires, which may introduce response bias and interpretation inaccuracies; the possibility of social desirability bias in participant responses; limited demographic information, hindering the exploration of influential factors; the complexity of interpreting SEM results; and the absence of long-term follow-up, which could provide insights into changes in patients' KAP.

In conclusion, this study identifies significant gaps in knowledge, attitudes and practices related to OLT. By highlighting the role of demographic and clinical factors, such as prior injury history and medical insurance, this study underscores the need for targeted interventions to address misconceptions, improve patient education and promote timely care. Knowledge, attitude, gender, employment, medical insurance, cartilage injury of the talus, history of ankle sprains and recovery from ankle injury might have an effect on their KAP. To improve patient outcomes and care in this context, targeted interventions are warranted. Healthcare providers should focus on increasing patients' knowledge about OLT, potentially through educational programmes and materials. Moreover, efforts should be made to foster a more positive attitude among patients by addressing their concerns and misconceptions. Encouraging early intervention and active participation in treatment and rehabilitation should be a key objective. Lastly, it is crucial to emphasise the significance of medical insurance coverage for these injuries, ensuring that financial barriers do not hinder access to appropriate care.

Contributors XC and CS carried out the studies, participated in collecting data and drafted the manuscript. XZ and WW performed the statistical analysis and participated in its design. XC and YZ participated in the acquisition, analysis or interpretation of data and drafted the manuscript. All authors read and approved the final manuscript. The guarantor is CS.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Consent obtained directly from patient(s).

Ethics approval This study involves human participants and was approved by the Ethics Committee of the Ninth People's Hospital of Wuxi, Soochow University (KS2023070). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

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