



8.ULUSLARARASI

KARADENİZ

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23-24 MAYIS 2026

TRABZON

EDİTÖRLER:

Prof. Dr. Songül TÜMKAYA

Doç.Dr.Yunus Emre ŞİMŞEK

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KONGRE KİTABI



INDEX

CONGRES ID		II-VI
PROGRAM		VII-XXXV
GALLERY		XXXVI-XXXIX
ACADEMIC INCENTIVE		XL
NOTIFICATIONS		XLI-LVII



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10³⁰ : 12¹⁵



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HEAD OF SESSION: Prof. Dr. Murat ÖZDAL

TOPIC TITLE	AUTHORS	AFFILIATION
A Literature Review Of "Crime And Addiction" Studies Produced In Türkiye	Emrullah BOZKURT Assist.Prof.Dr.Burak ACAR	Tokat Gaziosmanpaşa University TÜRKİYE
Results Of A Tai Chi Introduction Event As A Social Contribution Project Of A Research And Application Center	Assoc.Prof.Dr. Şebnem AVCI Lect. Gözde TEKİN	Bolu Abant İzzet Baysal University TÜRKİYE
Histometric Analysis Of Goblet Cells And Histological Changes In The Small Intestine During Pregnancy	Assoc. Prof. Dr. Erhan ŞENSOY	Karamanoglu Mehmetbey University TÜRKİYE
Current Wound Care Practices In Palliative Care And The Role Of The Wound Care Nurse	Hanife İNÇ Lect.Dr.Şahizer ERAYDIN	Tokat Gaziosmanpaşa University TÜRKİYE
Artificial Intelligence Advisory In Audiology-Based Sensory Integration Approaches: Clinical Accuracy And Consistency Analysis Of Chatgpt Responses	Assoc. Prof. Dr.Banu BAŞ Emine Nur ATEŞ	Ankara Yıldırım Beyazıt University TÜRKİYE
Investigation Of The In Vitro Characterization Properties Of Vitamin D-Loaded Oxidized Bacterial Cellulose Hydrogel Carriers For Intra-Articular Applications	Prof. Dr. Songül CÖMERT KILIÇ Prof. Dr. Murat ÖZDAL	Ataturk University TÜRKİYE



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05.06.2026

İLGİLİ MAKAMA

8. ULUSLARARASI KARADENİZ BİLİMSEL ARAŞTIRMALAR VE İNOVASYON KONGRESİ 22-23 ŞUBAT 2026 tarihleri arasında TRABZON'da ve online olarak 19 farklı ülkeden (Türkiye:105 ve diğer Ülkeler:;110 Toplam:215 akademisyen/araştırmacıların katılımı ile gerçekleşmiştir. Kongre, 16 Ocak 2020 Akademik Teşvik Ödeneği Yönetmeliğine getirilen ‘’ Tebliğlerin sunulduğu yurt içinde veya yurtdışındaki etkinliğin uluslararası olarak nitelendirilebilmesi için Türkiye dışından en az 5 ülkeden farklı tebliğ sunan konuşmacının katılım sağlaması ve tebliğlerin yarıdan fazlasının Türkiye dışından katılımcılar tarafından sunulması esastır. ‘’ değişikliğine uygun düzenlenmiştir. Bilgilerinize arz edilir.

Saygılarımla


Sefa Salih BİLDİRİCİ
HEAD OF İSARC

İbrahim TAŞ Murat YÜCEL	STRUCTURAL CABLING DESIGN IN HIGH-CAPACITY DATA CENTERS: COMPARISON OF CLASSIC LC AND MPO/MTP ARCHITECTURES AND A PYTHON-BASED SIMULATION TOOL	375-381
İrem ALTUNAY İzzet İSLAMOĞLU	INVESTIGATION OF CREATIVE REASONING LEVELS IN TAEKWONDO ATHLETES	382-386
Nesibe ERDEMCİ Funda ÇETİNKAYA	NURSING CARE OF A PATIENT WITH SUBDURAL HEMATOMA ACCORDING TO OREM'S SELF-CARE DEFICIT THEORY: A CASE REPORT	387-393
Nesibe ERDEMCİ Funda ÇETİNKAYA	EVALUATION OF POSTOPERATIVE ILEUS DEVELOPING AFTER TRAUMATIC ABDOMINAL SURGERY ACCORDING TO THE ROY ADAPTATION MODEL: A CASE REPORT	394-406
Fatma Nur POLAT Funda ÇETİNKAYA	ACTIVITIES OF LIFE MODEL IN POSTOPERATIVE CARE AFTER CORONARY ARTERY BYPASS GRAFT: CASE REPORT	407-413
Can Dünder Yücel Can	THE YOUNG ADULT CHILD'S EXPERIENCE OF PARENTAL DIVORCE: AN ANALYTICAL AUTOETHNOGRAPHIC STUDY	414-423
Zehra Nur KOÇ	ITALY'S ASIAN DIPLOMACY: SPATIAL AND TEMPORAL PATTERNS OF LEADER VISITS	424-433
Sevgi Büşra ÖZLÜ Feride TAŞKIN YILMAZ Handenur GÜNDOĞDU	EVIDENCE-BASED PRACTICES IN PREVENTING DEEP VENOUS THROMBOSIS AFTER ORTHOPEDIC SURGERY	434-451
Rana TUFAN Feride TAŞKIN YILMAZ	EVIDENCE-BASED PRACTICES IN PREVENTING COMPLICATIONS RELATED TO POST-SURGICAL WOUND CARE	452-463
Feyza AKYÜZ	INTERPRETATION OF VERSES CONTAINING "MINNET" (FAVOR/OBLIGATION) IN SURAH AL-BAQARAH WITHIN THE CONTEXT OF BEYÂNU'L-HAK TAFSİR	464-475
Gül Pınar MUTLU Semra ARSLAN SELÇUK Güneş MUTLU AVINÇ	A CONCEPTUAL FRAMEWORK FOR CONNECTION DESIGN IN DIGITAL MODULAR ARCHITECTURE: FROM MONOLITHIC INTEGRATION TO AUTONOMOUS NODES	476-489
Çağatay YILDIRIM Yahya AYSAN	QUALITY MANAGEMENT SYSTEMS AND STUDENT SATISFACTION MANAGEMENT IN HIGHER EDUCATION: A SYSTEMATIC EXAMINATION WITHIN THE CONTEXT OF ONDOKUZ MAYIS UNIVERSITY'S UNIKYS (UNIVERSITY QUALITY MANAGEMENT SYSTEM).	490-504
Altug OCAK	MARKETING INNOVATION CAPABILITY AND FIRM GROWTH: THE MEDIATING ROLE OF INNOVATION PERFORMANCE IN DEVELOPED AND EMERGING MARKETS	505-521
Guliyev Araz Gunduz	BALANCING RISK AND RETURN IN THE CUSTOMER PORTFOLIO	522-527
Erhan ŞENSOY	HISTOMETRIC ANALYSIS OF GOBLET CELLS AND HISTOLOGICAL CHANGES IN THE SMALL INTESTINE DURING PREGNANCY	528-532
Şebnem Avcı Gözde Tekin	RESULTS OF A TAI CHI INTRODUCTION EVENT AS A SOCIAL CONTRIBUTION PROJECT OF A RESEARCH AND APPLICATION CENTER	533-539
Melike Nur BERBEROĞLU Emre ESENER	EXPERIMENTAL INVESTIGATION OF THE BENDING BEHAVIOR OF S235 STEEL PROFILES WITH DIFFERENT PUNCH GEOMETRIES	540-548
Hoang Le Buu	ESTABLISHING THE LEGAL CONTENT OF THE "RIGHT TO CLIMATE STABILITY" AS AN AUTONOMOUS HUMAN RIGHT	549-558
Erhan BARAN	A DIGITAL TWIN-DRIVEN AI FRAMEWORK FOR ENERGY-AWARE MULTI-OBJECTIVE PRODUCTION SCHEDULING	559-565



BİR ARAŞTIRMA UYGULAMA MERKEZİ TOPLUMSAL KATKI PROJESİ OLARAK TAI CHI TANITIM ETKİNLİĞİNİN SONUÇLARI

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ÖZET

Yaşlı nüfusun artışıyla birlikte denge bozuklukları, düşmeler ve fonksiyonel kayıplar önemli bir halk sağlığı sorunu olmuştur. Düşmeleri önlemeye yönelik güncel yaklaşımlar arasında egzersiz temelli uygulamalar öne çıkmakta; Tai Chi ise düşük-orta şiddette, güvenli ve uygulanabilir bir zihin-beden egzersizi olarak dikkat çekmektedir. Bu çalışma, Yaşlı Sağlığı Bakımı Uygulama ve Araştırma Merkezi tarafından yürütülen Tai Chi Tanıtım Etkinliğinin sonuçlarını değerlendirmek amacıyla gerçekleştirilmiştir.

Etkinlik, Bilimsel Araştırma Projeleri Ofisi desteğiyle düzenlenmiştir. Altmış yaş üzeri 60 birey dahil edilmiştir. Etkinlik öncesi Tai Chi bilgi düzeyi anketi uygulanmış; ardından uzman eğitmen eşliğinde teorik ve uygulamalı eğitim gerçekleştirilmiştir. Etkinlik sonunda bilgi düzeyi ve memnuniyet anketleri tekrar değerlendirilmiştir.

Etkinlik öncesinde katılımcıların %53,33'ü Tai Chi'yi daha önce duymadığını belirtirken, etkinlik sonrasında Tai Chi'nin kökeni, uygulanış biçimi, denge üzerindeki etkileri ve zihin-beden uyumuna katkısı konularında bilgi düzeylerinde belirgin artış gözlenmiştir. Katılımcıların %87,5'i Tai Chi'nin denge üzerine olumlu etkisini öğrendiğini ifade etmiştir. Genel memnuniyet düzeyi yüksek bulunmuş; katılımcıların %76,79'u etkinliğe tekrar katılmak istediğini, %75'i ise etkinliği başkalarına önereceğini belirtmiştir. En sık bildirilen kazanım "denge ve duruş farkındalığı" olmuştur.

Sonuç olarak, Tai Chi tanıtım etkinliğinin yaşlı bireylerde farkındalık oluşturduğu, bilgi düzeyini artırdığı ve yüksek memnuniyet sağladığı görülmüştür. Bulgular, Tai Chi'nin ileride denge, koordinasyon ve aktif yaşlanmayı destekleyen uzun dönemli uygulamalarda kullanılabileceğini düşündürmektedir. Ayrıca bu çalışma, Yaşlı Sağlığı Bakımı Uygulama ve Araştırma Merkezi gibi üniversitelerde faaliyet gösteren merkezlerin toplumsal katkı alanındaki önemini, bilimsel bilgiyi toplum temelli uygulamalara dönüştürme ve üniversite-toplum iş birliğinin güçlendirilmesine katkı sağlama konularıyla ortaya koymaktadır.

Anahtar Kelimeler: Tai Chi, yaşlı sağlığı, aktif yaşlanma, denge, toplumsal katkı, araştırma merkezi, fiziksel aktivite

RESULTS OF A TAI CHI INTRODUCTION EVENT AS A SOCIAL CONTRIBUTION PROJECT OF A RESEARCH AND APPLICATION CENTER

ABSTRACT

With the increasing elderly population, balance disorders, falls, and functional impairments have become important public health concerns. Among current approaches aimed at preventing falls, exercise-based interventions have gained prominence, while Tai Chi stands out as a low-to-moderate intensity, safe, and applicable mind-body exercise. This study was conducted to



evaluate the outcomes of a Tai Chi Introduction Event organized by the Geriatric Health Care Practice and Research Center.

The event was organized with the support of the Scientific Research Projects Office. Sixty individuals aged over 60 years participated. Before the event, participants completed a questionnaire assessing their level of knowledge about Tai Chi. Subsequently, theoretical and practical training sessions were conducted under the supervision of an expert instructor. At the end of the event, knowledge and satisfaction questionnaires were re-administered.

Before the event, 53.33% of the participants stated that they had never heard of Tai Chi. Following the event, a significant increase was observed in participants' knowledge regarding the origin of Tai Chi, its methods of practice, its effects on balance, and its contribution to mind-body harmony. Additionally, 87.5% of participants reported learning about the positive effects of Tai Chi on balance. Overall satisfaction levels were high; 76.79% of participants expressed a desire to attend similar events again, while 75% stated that they would recommend the event to others. The most frequently reported benefit was "awareness of balance and posture."

In conclusion, Tai Chi introduction event was found to increase awareness, improve knowledge levels, and provide high satisfaction among elderly. The findings suggest that Tai Chi may be used in future long-term interventions aimed at supporting balance, coordination, and active aging. Furthermore, it demonstrates the importance of university-based centers such as Geriatric Health Care Practice and Research Center in the field of social contribution through transforming scientific knowledge into community-based practices and strengthening university-community collaboration.

Keywords: Tai Chi, elderly health, active aging, balance, social contribution, research center, physical activity

1. INTRODUCTION

The proportion of the elderly population is steadily increasing worldwide. It is reported that approximately 11% of the world population is aged 60 years and over, and this rate is expected to rise to 22% by 2050 (1). The aging population worldwide increases the incidence of balance disorders, falls, and related injuries among older adults. Falls lead to adverse outcomes such as disability, dependency on others, and decreased quality of life in elderly individuals. This situation places a burden on healthcare systems and increases the need for long-term care (2). Balance problems and falls associated with aging are global issues, and effective prevention strategies need to be developed.

In recent years, updated guidelines on fall prevention and management for older adults have been published, emphasizing the importance of exercise in improving balance (3). Exercise improves neuromuscular function and prevents falls in older adults; however, the same exercise program may not be sustainable for every individual. For some elderly individuals, many exercise activities may be either too intense or too simple. Therefore, it is necessary to identify accessible and safe exercise models suitable for different age groups (4).

Bolu Abant İzzet Baysal University Elderly Health Care Practice and Research Center (EHCPRC) began its activities in March 2024 following the appointment of administrative and academic staff. The center was established particularly to improve the general health status and quality of life perceptions of older adults and to develop innovative research projects in the field of geriatrics. The objectives of the center include providing educational activities aimed at improving the health of older adults living in our city, supporting physical activity programs for musculoskeletal problems, and contributing to health literacy among elderly individuals through collaboration with other healthcare professionals specialized in the field. In addition, the center aims to support healthy aging programs, contribute to the field through scientific



studies, and collaborate with public institutions and organizations to raise awareness about healthy and active aging. Practice and Research Centers operating within universities have important missions in terms of cooperation among society, universities, and public institutions. To date, seminars entitled “Take Action for Your Health,” “Sleep in Older Ages,” and “Probiotics and Nutrition in Older Adults” have been organized within the center. Information presented by expert speakers was reinforced through question-and-answer sessions. Survey data collected at the end of each event were analyzed to evaluate both the effectiveness of the presentations and the demands for future activities. In addition to these theoretical activities, bone mineral density measurements were performed for “Osteoporosis Assessment,” and appropriate medication was initiated by our physician for individuals in need. A “Cross-Country Skiing Event” was organized to introduce older adults living in our city to different sports branches and to increase interest in physical activity. Older adults received cross-country skiing training and practice opportunities from expert ski instructors at Gerede Arkut Mountain, a region highly suitable for winter sports. Another important activity was the “Orienteering for Individuals Over 60 Years of Age” event, which emphasized the importance of mental and physical health in older adults by requiring not only physical performance but also cognitive skills.

There are many approaches in the literature that can be used to improve balance and coordination in older adults. Among these, Tai Chi attracts attention due to its applicability as a group activity and its relatively easy structure for heterogeneous groups with different physical conditions. Tai Chi is a traditional Chinese exercise practiced since the Ming Dynasty in the 17th century (5). Known for its slow and graceful movements, Tai Chi is widely practiced in China. Tai Chi exercises help preserve and enhance energy by gently stretching, extending, rotating the extremities and trunk, and coordinating movements with breathing. There are two main styles of Tai Chi: Chen-style Tai Chi and Yang-style Tai Chi. These two styles consist of up to 108 movements. Chen-style Tai Chi requires greater skill in balancing energy and strength, whereas Yang-style Tai Chi is more suitable for the general population (6–8). Tai Chi is increasingly described as a multimodal mind-body exercise combining physical, cognitive, social, and meditative components within the same activity. With its low-to-moderate intensity, ease of learning, and rhythmic structure, Tai Chi stands out as a suitable option for older adults (9,10). Furthermore, consisting of slow, low-impact, and coordinated movements, Tai Chi places minimal stress on the joints and cardiovascular system, making it an appropriate form of exercise for older adults (11).

In line with the establishment and operational objectives of our center, the aim of the Tai Chi Introduction Event was determined as introducing older adults living in our city to a new sports branch they had not previously experienced, evaluating their satisfaction levels regarding the continuity of such activities even as a one-day event, and examining whether they gained new knowledge about Tai Chi.

2. MATERIALS AND METHODS

This event was carried out through the collaboration of EHCPRC and the Department of Physiotherapy and Rehabilitation, Faculty of Health Sciences at Bolu Abant İzzet Baysal University, under the title of “Social Contribution Activities” included in our university’s Strategic Plan. Financial support was obtained through an application submitted by our center to the university’s Scientific Research Projects Office, with the approval number BAİBÜ BAP 2025-SOS-025.



Individuals aged over 60 years who had been participating for many years in the balance and coordination training programs conducted by the Department of Physiotherapy and Rehabilitation were included in the training.

The Tai Chi instructor was an experienced trainer who had been providing education in the field for many years at his own center and participated in our program from Ankara for this event.

The event was held on March 11, 2026, at the Multi-Purpose Sports Hall affiliated with the Bolu Provincial Directorate of Youth and Sports.

Participants were asked to complete a Tai Chi knowledge questionnaire, which also included demographic information, before the practical session. No prior information about Tai Chi was provided before the event in order to prevent even brief preliminary research on the topic.

Following the initial data collection, general information about Tai Chi was provided by the expert instructor, and practical exercises were performed together with the participants. At the end of the event, brief knowledge and satisfaction questionnaires were collected and statistically analyzed.

3. RESULTS

Sixty-one participants attended the event. Written informed consent forms indicating agreement to participate were requested; one individual who did not agree to sign the consent form and complete the questionnaire was excluded from the program. The findings were calculated for 60 participants (46 women, 14 men) with a mean age of 68.25 years. However, 56 participants completed the post-event questionnaire. Four participants were unable to provide responses because they left the venue due to personal reasons at the end of the event.

Before the Tai Chi introductory event, 53.33% of participants ($n = 32$) stated that they had not heard of Tai Chi before. The proportion of those who had heard of Tai Chi but had no idea what it was was 33.33% ($n = 20$). When asked about the country of origin of Tai Chi, 45% answered China; this rate increased to 98.21% ($n = 55$) after the event.

While 55% of participants initially believed that Tai Chi consists only of strength-based exercises, after the event this understanding shifted, with 98.21% ($n = 55$) recognizing it as slow and flowing movements combined with breathing. Before the event, 53.33% ($n = 32$) stated that Tai Chi could have a positive effect on balance, while 31.67% ($n = 19$) selected the option that it primarily develops muscle strength. After the event, 49 participants (87.5%) reported learning about the relationship between Tai Chi and balance.

The proportion of participants who believed that Tai Chi could only be performed in gyms was 51.67% ($n = 31$), whereas after the event, 87.5% ($n = 49$) learned that it can be practiced indoors or outdoors. Before the event, 24 participants (40%) described Tai Chi movements as slow, controlled, and balanced, while 10 participants (16.67%) thought it involved jumping and another 10 participants (16.67%) thought it consisted only of sitting movements. After the event, 94.64% of participants ($n = 53$) correctly identified the movements as slow, controlled, and balanced.

Regarding the question on the general structure of Tai Chi movements, before the event 19 participants (31.67%) believed it was mainly aimed at increasing muscle strength, 18 participants (30%) thought it included jumping movements, and 10 participants (16.67%) stated that it involves mind–body coordination. After the event, 92.86% of participants ($n = 52$) stated that it focuses on mind–body coordination.

After the event, 48 participants (85.71%) answered “yes” to the question of whether regular exercise has positive effects on memory and psychological well-being.

When asked whether their expectations before the event were met, 4 participants (7.14%) stated “not met at all,” 22 (39.29%) stated “partially met,” 19 (33.93%) stated “largely met,” and 11 (19.64%) stated “completely met.”



To the question “What was your most important takeaway from this event?”, 62.5% of participants (n = 35) responded “balance and posture awareness.”

Overall satisfaction with the event was reported as “good” by 42.86% (n = 24) of participants. Regarding the clarity of the training, 21 participants (37.5%) described it as “very clear and understandable,” while 18 participants (32.14%) stated it was “understandable.”

When asked about satisfaction with the instructor, 26 participants (46.43%) responded “satisfied,” and 22 participants (39.29%) responded “very satisfied.”

The proportion of participants who stated they would attend the event again was 76.79% (n = 43). The proportion of those who stated they would recommend the event to others was 75% (n = 42).

Responses to the open-ended question regarding additional comments and suggestions were generally positive, with participants expressing satisfaction, requesting that the event be repeated, and indicating a desire for greater variety in movements.

Table 1. Data Before and After the Tai Chi Introduction Event

Question	Pre-Event n (%)	Post-Event n (%)
Total number of participants	60	56
Female	46 (%76,67)	-
Male	14 (%23,33)	-
Mean age	68,25 yıl	-
Had never heard of Tai Chi before	32 (%53,33)	-
Had heard of Tai Chi but had no idea what it was	20 (%33,33)	-
Identified China as the country of origin of Tai Chi	27 (%45,00)	55 (%98,21)
Thought Tai Chi consisted only of strength exercises	33 (%55,00)	-
Knew that Tai Chi consists of slow and fluid movements combined with breathing	-	55 (%98,21)
Thought Tai Chi had positive effects on balance	32 (%53,33)	49 (%87,50)
Thought Tai Chi was intended to improve muscle strength	19 (%31,67)	-
Thought Tai Chi could only be practiced in gyms	31 (%51,67)	-
Knew that Tai Chi could be practiced indoors or outdoors	-	49 (%87,50)
Thought Tai Chi involved slow, controlled, and balanced movements	24 (%40,00)	53 (%94,64)
Thought Tai Chi involved jumping movements	10 (%16,67)	-
Thought Tai Chi was performed only while seated	10 (%16,67)	-
Thought Tai Chi was only intended to increase muscle strength	19 (%31,67)	-
Thought Tai Chi included jumping movements	18 (%30,00)	-
Thought Tai Chi included movements focusing on mind-body harmony	10 (%16,67)	52 (%92,86)
Thought regular exercise had positive effects on memory and psychological well-being	-	48 (%85,71)



4. CONCLUSION

Practice and Research Centers established within universities have the responsibility of transforming scientific knowledge produced at universities into practical applications and sharing it with society. By directly interacting with the community and disseminating academic knowledge through social responsibility projects, awareness activities, seminars, and consultancy services, these centers transform universities from closed institutions that solely provide education into active stakeholders contributing to the health, social, and cultural development of their regions. Research centers maintain communication with stakeholders relevant to their fields and plan activities according to the real needs of society by obtaining service-related information directly from the field (12). Our center, which was specifically established to serve the elderly population, determines future activities by evaluating participant feedback after each event.

The literature reports that regular Tai Chi practice has positive effects on respiration, balance, and coordination (13), increases lower extremity muscle endurance, and improves neuromuscular control and proprioception of the knee and ankle joints (14). A 2019 Cochrane Systematic Review conducted among community-dwelling adults over the age of 60 found that Tai Chi reduced the rate of falls by 19% and the number of individuals experiencing falls by 20% (15). In a 2023 study by Chen et al., Tai Chi was reported to be an effective exercise for preventing falls and improving balance ability in both healthy older adults and those at high risk of falling (16). Tai Chi has been shown to improve static balance in older adults and, according to a recent expert consensus (2021), is recommended as an important component of balance training (17). It has also been reported that Tai Chi effectively reduces both the number of falls and fear of falling in older adults with sarcopenia and frailty (5). Research further indicates that Tai Chi may reduce sleep problems and slow the progression of cognitive impairment in older adults, with these effects being associated with prefrontal cortex activation (18).

The primary aim of our event was to provide older adults living in the central district of Bolu with the opportunity to experience a type of exercise they had not previously tried and to evaluate their knowledge levels regarding this activity. Our secondary aim was to determine whether Tai Chi, due to its ease of application for improving balance and coordination in older adults as reported in the literature, could generate a level of satisfaction that would pave the way for future studies. The increase in both knowledge levels and overall satisfaction after the event suggests that this initiative may evolve into further long-term studies focusing on more functional outcomes.

Centers actively engaged with society enable universities to be recognized not only for academic achievement but also for their capacity to generate social benefit. Since “social contribution” has become an important performance domain in higher education quality assessments today, these centers are directly associated with institutional strategic goals (19). In conclusion, while emphasizing that our Elderly Health Care Practice and Research Center serves as a bridge connecting the knowledge production capacity of our university with societal needs, the potential of our activities to guide similar centers is considered another positive outcome of this event report.

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