



Clinical Key for Electrical Stimulation in Physiotherapy and Rehabilitation

KA220-VET Cooperation partnerships in vocational education and training

Project No: 2021-1-TR01-KA220-VET-000032970



Dear Reader,

Clinical Key for Electrical Stimulation in Physiotherapy and Rehabilitation (CK4Stim), is a KA220-VET - Cooperation partnerships in vocational education and training project supported by Turkish National Agency. The project is on electrical stimulation approach and will be carried in 30 months in partnership of between six institutions from Türkiye and EU. Pamukkale University (PAU - Türkiye), University of Craiova (UCV - Romania), Hatay Mustafa Kemal University (HMKU - Türkiye), Başkent University (BU - Türkiye), Süleyman Demirel University (SDU - Türkiye), Šiauliai State University of Applied Sciences (ŠVK - Lithuania), and Tartu Health Care College (THCC - Estonia) are the partners of the project that is being coordinated by Pamukkale University (PAU - Türkiye).

The 2nd Transnational Meeting of CK4Stim was held on 25th-26th of October 2022 at Europeca Hotel in Craiova, ROMANIA. All partners participated in the meeting. Nilüfer ÇETİŞLİ-KORKMAZ, Ahmet KUTLUHAN, Betül SÖYLEMEZ and Fatma Nur ALÇIN from PAU, Ligia RUSU, Eva ILIE and Mihai Robert RUSU from UCV, Esra DOĞRU-HÜZMELİ from HMKU, Zeliha Özlem YÜRÜK from BU, Mehmet DURAY from SDU and Dovydas GEDRIMAS from SVK participated to the meeting physically. Fatih CETİŞLİ, Arzum IŞITAN, and Furkan BİLEK from PAU, Vaida ALEKNAVICIUTE-ABLONSKE from SVK and Kirkke REISBERG from THCC (only joined at 26th of October) participated online to the meeting. Esra DOĞRU-HUZMELİ also represented the Turkish Physiotherapy Association and Eva ILIE represented



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the Romanian Physiotherapy Association. At the meeting, all activities that were carried out within the first 6 months and throughout the project were reviewed and strategic targets were determined.

On October 24th, (the day before the meeting) a bilateral meeting took place in between PAU Rector Prof.MD. Ahmet KUTLUHAN and UCV Vice Rector Prof.Eng.PhD. Dan SELISTEANU at UCV. After the bilateral meeting between Ahmet KUTLUHAN and Dan SELISTEANU, the project team was invited to the meeting room as well. While emphasizing international interaction, it was expressed that the results of the project are eagerly awaited and the wish to be together in new projects. After the visit, a trip to UCV research centers was made. An appointment was made for the laboratory visit at 10:30 at the next day 25th of October.

The transnational project meeting started with a short opening speech by the project coordinator Nilüfer ÇETİŞLİ-KORKMAZ, that was followed by short opening speeches of Prof.PT.PhD. Ligia RUSU and Ahmet KUTLUHAN (Rector of Pamukkale University) on October 25th. Both Ligia RUSU and Ahmet KUTLUHAN wished success to the entire project team. In the second transnational project meeting (TPM), the outputs related to the plans made in the first TPM were evaluated, reports were presented, results of WP1 were analyzed, milestones of WP2 were planned.

Work Package 1 proceeded to the analysis of the specific training needs of a physiotherapist in order to focus the course on the most important needs of their professional development. For this purpose, a questionnaire was prepared by the partners. University of Craiova (UCV), Suleyman Demirel University (SDU), and Pamukkale University (PAU) worked together and initialized formation of a questionnaire. With regarding the preferred ES approach and parameters with the information gained from the literature, a discussion was already carried on the questionnaire by each project team at the 1st TPM. The questionnaire included 19 items in order to determine the level of knowledge, skill, management, and attitude dimensions in ES approaches for assessment and treatment programs in physiotherapy and rehabilitation. The survey was anonymous hence personally identifiable information was not collected. The questionnaire was prepared in





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English. After finalization of the questionnaire, the partners translated the questionnaire into Turkish, Romanian, Estonian, and Lithuanian languages. The partners shared the questionnaire with physiotherapists in their countries via Google Forms and e-mail. All partners took responsibility while coordinating with their National Physiotherapist Associations.

The key for the statistical analysis package was prepared by the SDU partner. All partners collected data, filled properly the statistical analysis package, and wrote the report. The whole project was responsible for the international report under coordination of SDU and UCV. A total of 203 physiotherapists fulfilled the questionnaire. The 95 physiotherapists from Türkiye, 30 from Romania, 31 from Lithuania, and 47 from Estonia participated in the study.

Mehmet DURAY presented the international report that was coordinated by SDU and UCV (Ligia RUSU, Mehmet DURAY, Evy ILIE), on 25th of October. The discussions on the results of the report pointed out that **the physiotherapists in all partner countries that participated in the survey emphasized that their knowledge, skills, attitudes, and management levels regarding the application of electrical stimulation were insufficient.** Although these results were found to be regrettable by all partners, **it was a pleasure to identify an important problem within the purpose of the project and to attempt a solution.** The questionnaire results showed that physiotherapists had the least knowledge of denervated muscle stimulation. Although electrical stimulation is the gold standard in sport rehabilitation, it was determined that physiotherapists do not prefer electrical stimulation. While the parameters of the electrical stimulation has to be revised as the improvement during the rehabilitation process is gained, it was unfortunately observed that the majority of physiotherapists continued to the treatment with the initial parameters. In addition to the international report, the answers of physiotherapists from each partner countries were examined and **it was determined that physiotherapists needed expert support in the field of electrical stimulation.**



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After presentations, Institutes and Laboratories in UCV were visited. These were the places especially where academic approaches were applied to the patients for physiotherapy and rehabilitation programs, educational areas for undergraduate and graduate level students and research departments. Especially the virtual reality and gait analysis laboratories were remarkable.

The decisions that were raised and the work that was output at the meeting according to the questionnaire results are summarized below:

- It was decided to write book chapters about the shortcomings of physiotherapists.
- Each chapter was allocated to expert academicians from each partner and a coordinator was appointed for each module.
- Authors/partners were asked to make a presentation for each chapter.
- It was decided to separately videotape each book chapter.
- Book chapters will always be presented to international and national readers.
- Presentations will be just in English.
- Congresses and meetings were planned to disseminate the project outputs and the developments achieved.
- A website was prepared to follow the developments, and Twitter, Instagram and Facebook accounts met with readers.

You can follow the developments regarding the CK4Stim project, where all project outputs will be prepared as open access newsletters that will be prepared every 6 months.



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Let's be aware of the electrical applications in physiotherapy and rehabilitation for standardization, variation, and to support evidence-based studies.

Project Partners:

Pamukkale University, TÜRKİYE

Ahmet KUTLUHAN, MD.Prof.

Nilufer CETISLI-KORKMAZ, PT.PhD.Prof. (Project Coordinator)

Fatih CETISLI, PhD..Prof.

Arzum ISITAN, M.Eng.PhD.Assoc.Prof.

Furkan BILEK,PT.PhD. Assist.Prof. (as Observer Post-Doc PhD)

Fatma Nur ALCIN, PT.MSc. (as Observer PhD Student)

Betul SOYLEMEZ, PT.MSc. (as Observer PhD Student)

University of Craiova, ROMANIA

Ligia RUSU, MD.Prof.

Eva ILIE, PT.PhD.Assist.Prof.

Mihai RUSU, PhD.Assist.Prof.

Baskent University, TÜRKİYE

Zeliha Ozlem YURUK, PT.PhD.Prof.

Hatay Mustafa Kemal University, TÜRKİYE



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Esra DOGRU-HUZMELI, PT.PhD.Assoc.Prof.

Suleyman Demirel University, TÜRKİYE

Mehmet DURAY, PT.PhD.Assist.Prof.

Šiauliai State University of Applied Sciences, LITHUANIA

Vaida ALEKNAVICIUTE- ABLONSKE, PT.PhD.Lecturer

Dovydas GEDRIMAS, PT.Lecturer

Tartu Health Care College, ESTONIA

Kirkke REISBERG, PT.MSc.Lecturer

Contacts

You can follow and access the project outputs and news via our website:

For all kinds of questions and information

CK4Stim Project e-mail: ck4stim.2022@gmail.com

CK4Stim Project Facebook page: <https://www.facebook.com/CK4Stim-109320221807989/>

CK4Stim Project Twitter page: <https://twitter.com/ck4stim>

CK4Stim Project Instagram page: <https://www.instagram.com/ck4stim>



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News:

<http://haber.pau.edu.tr/Haber/paunun-projesi-125-proje-arasindan-destek-almaya-hak-kazanan-21-projeden-biri-oldu>

<http://haber.pau.edu.tr/Haber/paunun-projesi-fizyoterapi-ve-rehabilitasyon-alaninda--klinik-anahtar-olacak>

<https://www.instagram.com/p/CeokLnno45d/?igshid=YmMyMTA2M2Y=>

<https://www.etis.ee/Portal/Projects/Display/ea972e08-ddc4-4f09-929f-6a6298812f60>

<https://www.nooruse.ee/et/teadus-ja-arendustegevus/projektid/kaimasolevad-rahvusvahelised-projektid>

<https://et-ee.facebook.com/tktartu/>

<https://www.facebook.com/152299624797353/posts/5897565936937331/>

<https://svako.lt/lt/naujienos/pirmasis-erasmus-bendradarbiavimo-partnerystes-projekto-susitikimas-turkijoje>

<http://efl.ee/rahvusvaheline-projekt/>



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Photos from the 2nd TPM:



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Electrical Stimulation

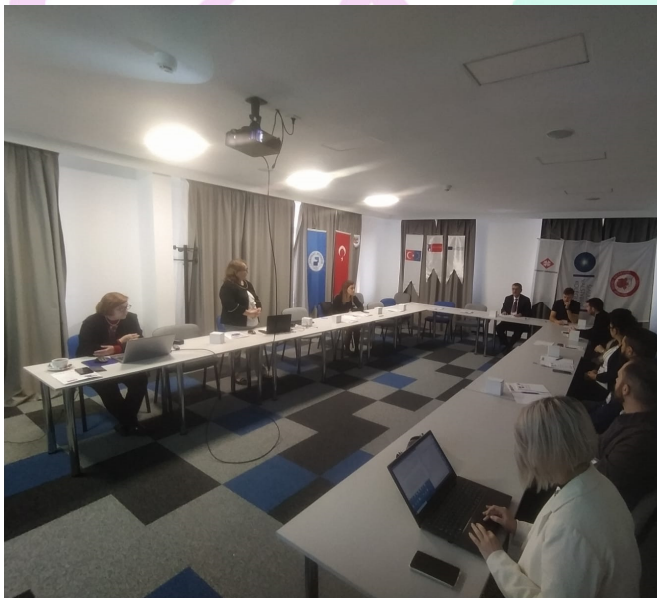


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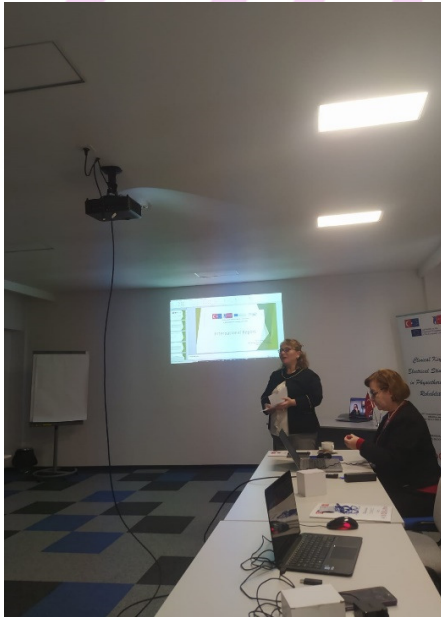


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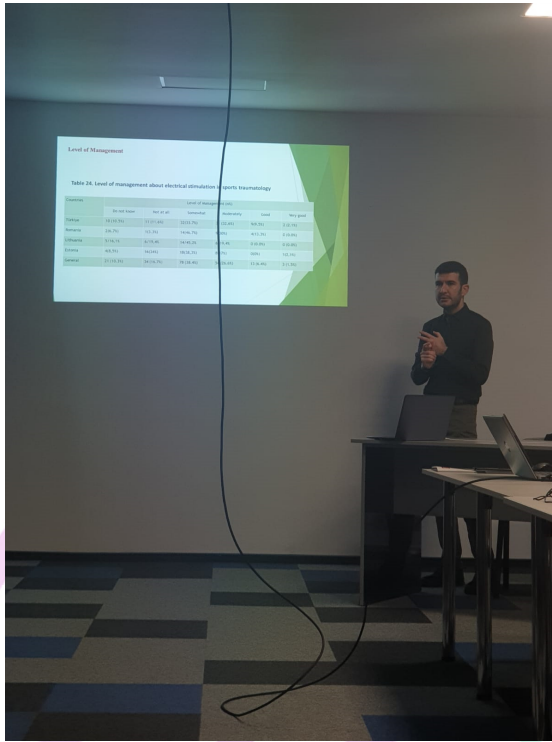


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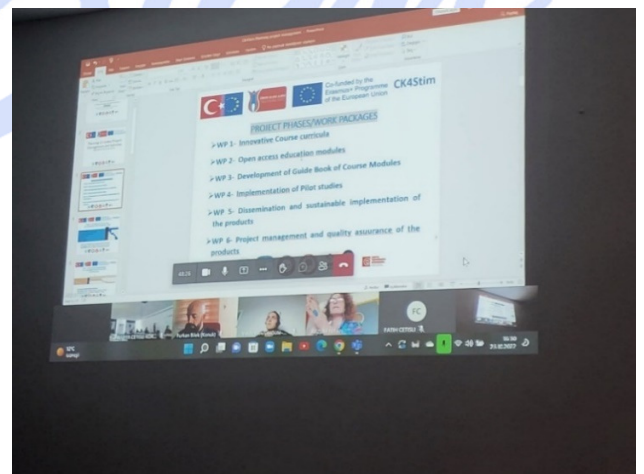
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Level of Management

Table 24. Level of management about electrical stimulation in sports biotechnology

Country	Year	Number of Publications	Number of Citations	Number of Authors	Number of Journals	Number of Conferences
Turkey	2010-2020	220	1000	100	100	100
Germany	2010-2020	150	700	70	70	70
France	2010-2020	100	500	50	50	50
Spain	2010-2020	80	400	40	40	40
Italy	2010-2020	60	300	30	30	30
USA	2010-2020	40	200	20	20	20
UK	2010-2020	30	150	15	15	15
Japan	2010-2020	20	100	10	10	10
China	2010-2020	10	50	5	5	5



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