



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,

CK4Stim is a 30 months KA220-VET - Cooperation partnerships in vocational education and training project supported by Turkish National Agency, on electrical stimulation approach of physiotherapy and rehabilitation science.

The project is being carried under coordination of Pamukkale University (PAU) with the partnership of Hatay Mustafa Kemal University (HMKU - Türkiye), Başkent University (BU - Türkiye), Süleyman Demirel University (SDU - Türkiye), University of Craiova (UCV - Romania), Šiauliai State University of Applied Sciences (ŠVK - Lithuania), and Burdur Mehmet Akif Ersoy University (MAKU - Türkiye).

The 3rd Transnational Meeting of CK4Stim was convened on the 14th and 15th of September 2023 at Šiauliai State University of Applied Sciences in Lithuania. All partners participated in the meeting. The goal of the 3rd meeting was to discuss the progress of online education materials (guidebook, presentations and videos) and perform an evaluation. The questionnaire to be used during the pilot was also discussed and finalized.

The meeting enjoyed full participation from all partners. Those in physical attendance included esteemed representatives such as Nilüfer ÇETİŞLİ-KORKMAZ, Fatih ÇETİŞLİ and Arzum İŞİTAN from Pamukkale University (PAU), Eva ILIE and Oana Bianca BUDEANCA-BABOLEA from University of Craiova (UCV), Zeliha Özlem YÜRÜK from Başkent



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University (BU), Yasemin KARAASLAN from Hatay Mustafa Kemal University (HMKU), Mehmet DURAY from Süleyman Demirel University (SDU), Vaida ALEKNAVIČIŪTĒ-ABLOSNKĒ and Dovydas GEDRIMAS from Šiauliai State University of Applied Sciences (SVK), as well as Betül SÖYLEMEZ and Fatma Nur ALÇIN from Burdur Mehmet Akif Ersoy University (MAKU). Esra DOĞRU-HÜZMELI (HMKU) and Furkan BİLEK (PAU) participated in the meeting remotely. It is noteworthy that Nilüfer ÇETİŞLİ-KORKMAZ represented the Turkish Physiotherapy Association, Eva ILIE represented the Order of Physiotherapists in Romania, and Vaida ALEKNAVIČIŪTĒ-ABLOSNKĒ and Dovydas GEDRIMAS represented the Lithuanian Physiotherapy Association.

On the 14th of September 2023 (Thursday), the official proceedings commenced promptly at 9:30 within the halls of the University's Faculty of Healthcare. The event was inaugurated with welcoming addresses delivered by Ph.D. Vaida ALEKNAVIČIŪTĒ-ABLONSKĒ, who represented the esteemed Šiauliai State University of Applied Sciences, and Prof. PT.Ph.D. Nilufer ÇETİŞLİ-KORKMAZ, who was the representative of Pamukkale University. Also present were the Dean of the Faculty of Healthcare, Ginta GERIKAITĒ, and Vice Dean Ph.D. Lina GARŠVĒ. Further, the gathering was graced by the presence of Ph.D. Lina TAMUTIENĒ, the Director of SVK.

Between 10:00 and 11:45, all attendees were cordially invited to visit the research centre within the Health Care Faculty at SVK. This tour encompassed visits to classrooms dedicated to the cosmetology program, complete with state-of-the-art equipment for instructional purposes and the provision of cosmetic services. Additionally, facilities for the Physical Therapy program were explored, which included practice and manual skills development rooms, a physiotherapy chamber, and a dedicated laboratory equipped for testing and implementing rehabilitation programs in alignment with test outcomes. The delegation also had the privilege of inspecting a modern social work laboratory, where research activities in this domain are undertaken.



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In the interval from 12:15 to 13:00, Zeliha Özlem YÜRÜK undertook the responsibility of presenting the guidebook prepared by the project participants. She thoughtfully presented the edits and comments that were pertinent to all project contributors. In this regard, Nilüfer ÇETİŞLİ-KORKMAZ, in adherence to the outlined project objectives, deadlines, and the unanimous consent of all participants, stipulated the deadline by which all guidebook revisions were to be completed, namely, by the 25th of September 2023.

Prepared 5 guidebook chapters and their corresponding slide presentations, including video presentations.

Module 1. Healthy & denervated muscles physiology (was prepared SDU&UCV). the key point of this module are: (1) understanding the physiology and pathophysiology of healthy muscles, (2) exploring the changes in muscle physiology due to denervation, (3) exploring the changes in nerve due to degeneration.

Module 2. Currents (was prepared SDU&UCV&SVK). The key points of this module are: (1) exploring the fundamentals of electrical currents, (2) discussing various types of electrical currents used in muscle stimulation, (3) understanding the applications of electrical currents in physiotherapy and rehabilitation.

Module 3. ES for healthy muscles (was prepared BU&SVK&PAU), The key points of this module are: (1) learning how electrical stimulation can benefit healthy muscles, (2) exploring techniques for optimizing muscle performance using electrical stimulation, (3) discussing the safety and effectiveness of electrical stimulation for healthy muscles.

Module 4. ES for de-innervated muscles (was prepared by HMKU&BU&MAKU&PAU). The key points of this module are: (1) understanding the challenges of denervated muscles, (2) exploring the use of electrical stimulation for denervated muscles, (3) discussing strategies for improving muscle function in denervated conditions.

Module 5. ES for re-innervated muscles (was prepared HMKU&MAKU&PAU). The key points of this module are: (1) exploring the concept of reinnervation and its impact on



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muscle function, (2) discussing how electrical stimulation can aid reinnervated muscles, (3) understanding the rehabilitation and therapeutic approaches for reinnervated muscles.

From 14:40 to 15:40, Esra DOĞRU-HÜZMELI and Yasemin KARAASLAN presented audio slides prepared by the project participants. It was observed that certain slides did not meet the stipulated editorial criteria and were of shorter duration than the prescribed 20 minutes. Consequently, several project partners were obliged to rectify their audio slides. This session was expertly guided by Nilüfer ÇETİŞLİ-KORKMAZ. The ensuing deliberations pertained to the optimal approach for presenting audio slides in national languages and resulted in the endorsement of two viable options: either (1) recording the entire modules in the national languages of project partners, or (2) retaining the English audio slides but appending a comment in the national language after each slide, corresponding to its content. In view of the diverse linguistic backgrounds of project partners (Turkish, Romanian, and Lithuanian), it was unanimously agreed that audio slides in national languages should not exceed a duration of 15 minutes, with all information presented in the video presentation made available in a Word document by the 25th of September 2023.

From 15:40 to 16:00, Nilüfer ÇETİŞLİ-KORKMAZ, Ligia RUSU, and Vaida ALEKNAVIČIŪTĒ-ABLONSKĒ, the coordinators representing the project institutions, engaged in a thoughtful discussion and reached a consensus on the translation deadlines for the guidebook and slides. It was resolved that the translation of the guidebook should be concluded by the 12th of November 2023, and the translation of the slides should be finalized by the 19th of November, 2023.

Subsequently, from 16:00 to 16:20, all partners deliberated on the CK4Stim website. An observation was made that an error existed on the Lithuanian webpage, incorrectly designating it as Latvia. This segment of the meeting was conducted under the stewardship of Fatih ÇETİŞLİ.



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Commencing at 16:30, the cultural component of the project was initiated, featuring an organized excursion to the Hill of Crosses. The conclusion of the first day of the meeting was marked by a gala dinner hosted at the Šaulys Restaurant.

The 15th of September 2023 (Friday) ushered in the second day of the 3rd meeting. The day unfolded in accordance with the pre-established agenda. The initial proceedings, occurring between 9:15 and 10:00, were skilfully orchestrated by the project coordinator, Nilufer ÇETİŞLİ-KORKMAZ, who presented the plan for the 2nd Interim Report. Subsequently, project participants offered constructive feedback and engaged in discussions pertaining to past achievements and forthcoming tasks.

From 10:00 to 10:15, Fatih ÇETİŞLİ delivered a meticulous and comprehensive summary of the project's financial report. It was highlighted that the universities in Romania and Lithuania had fully expended the allocated funds, while the universities in Turkey had yet to exhaust a portion of their financial allocation. This discrepancy was attributed to the complex situation arising from Tartu Health Care College's withdrawal from the project, necessitating a methodical and crucial transfer of funds from the European National Agency funds. The scheduled disbursement of project funds to the partner institutions was considered imperative to facilitate the seamless execution of the project, even amidst the challenges encountered.

Continuing from 10:15 to 10:30, Arzum İŞİTAN provided a focused and lucid exposition on dissemination activities, a critical facet to realize the project's quality plan. The discussion encompassed the distribution of these activities and the strategies to ensure their successful implementation. It culminated in a brief yet substantive exchange of ideas among the project partners, who bear the onus of implementing these activities. This discourse was instrumental in enriching the collective knowledge and approach.

From 10:30 to 11:30, an educational tour was undertaken to acquaint the project participants with the laboratories of the Business and Technologies Faculty at SVK. The tour entailed a visit to the mechanical engineering laboratories and the opportunity to interact with



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electric mobility devices designed by the faculty's students. It is noteworthy that the academic programs of the Business and Technologies Faculty are not intrinsically aligned with Kinesiotherapy, but the demonstration of their educational infrastructure was deemed instrumental in reinforcing interdisciplinarity and interinstitutional collaboration, fostering a spirit of mutual benefit, and strengthening professional relationships.

From 11:30 to 12:00, a thorough discussion was held concerning the questionnaire designed for assessing the quality and success of the "Pilot Course". This dialogue was adeptly moderated by Esra DOĞRU-HÜZMELİ and Nilüfer ÇETİŞLİ-KORKMAZ. Amidst an intensive exchange of ideas and opinions, project partners provided valuable insights and observations regarding the questionnaire and its components.

From 12:00 to 13:00, a general discussion transpired among all project partners, intended to clarify questions, address uncertainties, and foster constructive dialogues in the interest of effective communication and cooperation. This unscripted and open exchange served to fortify the informal, transparent, and constructive rapport among project partners.

In the post-lunch period, from 14:00 to 15:00, Esra DOĞRU-HÜZMELİ and Nilüfer ÇETİŞLİ-KORKMAZ continued to moderate the proceedings, directing a comprehensive discussion regarding the evaluation of participants' pre-course and post-course levels of knowledge, skill, management, and attitude, a critical component of the "Pilot Course". Given the constrained timeframe remaining to fulfil the project's scheduled activities, it was collectively determined that the "PILOT study" would be executed over a two-week period. This phase would encompass the surveying of no fewer than ten working physiotherapists from each participating country. They would complete the entire audio course and questionnaire, offering remarks that would be used to refine the material (including the guidebook and video slides) in line with identified needs. The precise date of the Pilot Course remained unspecified, to be decided during an online meeting, and would accommodate the translation pace of national languages.



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From 15:15 to 15:45, all project partners showcased their completed or planned Dissemination activities. It is worth noting that particular acclaim and appreciation were bestowed upon the representatives from Pamukkale University, particularly Nillufer ÇETİŞLİ-KORKMAZ, for the comprehensive array of dissemination activities undertaken and scheduled. Despite the heartfelt commendations, it is essential to underscore the significant contribution of all project partners within the project, with each party's activities are respected and recognized.

From 15:45 to 16:30, each project partner succinctly and informatively presented their respective financial reports.

At 17:00, the day culminated with a traditional Lithuanian dinner featuring local delicacies, including "Bulviniai blynai," "Cepelinai su varške," and "Suvalkietiški blynai." These dishes were accompanied by a traditional Lithuanian beverage - "gira."

The 3rd meeting held in Šiauliai was marked not only by its diligent and productive working sessions but also by its ability to fortify the respectful and warm relationships among project partners.

The target group of the CK4Stim project is all project stakeholders including the project team members, university teachers and students, clinical physiotherapists and mentors, high school students and teachers, public and private institutions, associations, individuals and general society. The objectives of the CK4Stim are classified depend on target groups of the project as follows:

For Academicians and University Students (BSc and especially MSc and PhD)

- To create an innovative curriculum, open education resources (OERs), clinical application photos, a lecture guidebook.
- To encourage the application of ES approaches' courses and outputs.
- To guide them to prioritize ES approach in their academic career planning.
- To increase the scientific competencies with modules and guidebook.



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For Clinical Physiotherapist and Mentors

- To create a clinical needs report, a value chain extending from theoretical knowledge to clinical application.
- Life-long learning to increase vocational and job skills.
- To raise vocational awareness that standardized ES approach application is an issue that needs urgent action
- To obtain awareness about ES approaches

For Project Partner

- To increase digital skills for education and training
- Developing new projects

Project Results are

- An innovative curriculum
- Open education resources
- A lecture guidebook

CK4Stim Activities

Transnational meetings: The rest of the 3 transnational meetings will be held in Türkiye (Ankara, Budur, and Hatay).

Information meetings: Physiotherapists from the public and private sector, and academic will be invited.

International conference: CK4Stim has an international conference which will be held by SDU in Isparta/TÜRKİYE. This event will be organized to present all the outcomes of the project.

Social and vocational awareness activities: 6 awareness activities will be carried out as multiplier events.



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Fatih CETISLI, PhD.C.Eng.Prof.

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

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

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Associated Partners (in alphabetic order)

Lithuanian Physiotherapy Association

Order of Physiotherapists in Romania

Turkish Physiotherapy Association

Contacts

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

For all kinds of questions and information.

CK4Stim Project web page: <https://ck4stim.eu/>

CK4Stim Project You-Tube page: <https://www.youtube.com/@CK4Stim>

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MAKÜ
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