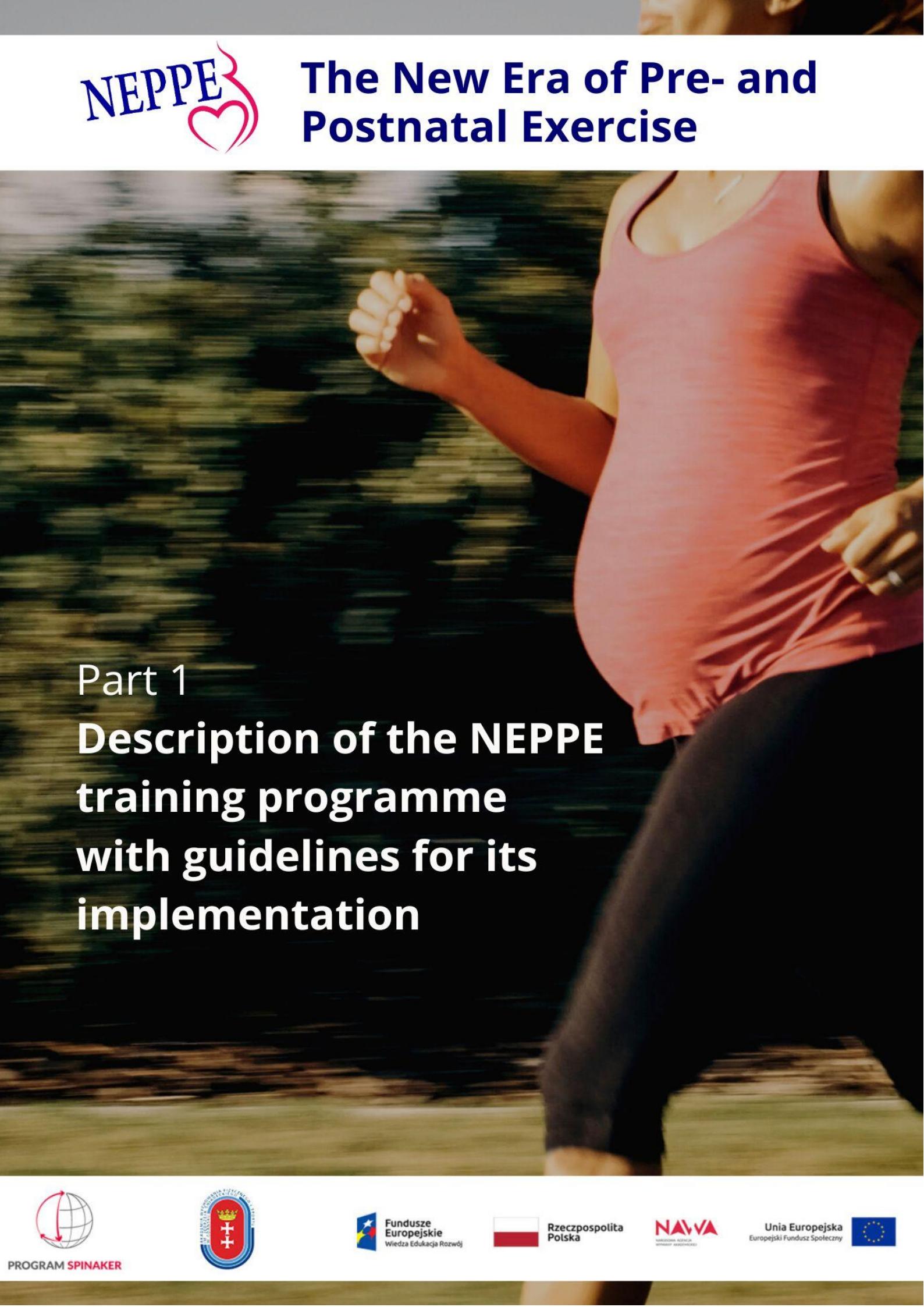




The New Era of Pre- and Postnatal Exercise



Part 1

Description of the NEPPE training programme with guidelines for its implementation



PROGRAM SPINAKER



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The New Era of Pre- and Postnatal Exercise

Evidence-based education for exercise professionals
to provide physical activity programs for clients
in the perinatal period

Final report

Part 1

Description of the NEPPE training programme
with guidelines for its implementation



Gdansk, 2023



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Project experts and coauthors of the final report

Anna Szumilewicz, Gdansk University of Physical Education and Sport, Poland – the project coordinator and the final report editor

Lou Atkinson, EXI, United Kingdom

Julian Berriman, EuropeActive, Belgium

Marcin Białas, Gdansk University of Physical Education and Sport, Poland

Kari Bø, Norwegian School of Sport Science, Norway

Isabel Corrales Gutiérrez, the Virgen Macarena Hospital in Seville, University of Seville, Spain

Laura Dabasinskiene, 'Mano MAMA juda', Lithuania

Dorota Dancewicz-Nosko, Gdansk University of Physical Education and Sport, Poland

Margie Davenport, University of Alberta, Canada

Paweł Drobniak, Gdansk University of Physical Education and Sport, Poland

Moges Gashaw, University of Gondar, Ethiopia

Xian Guo, Beijing Sport University, China

Lene Haakstad, Norwegian School of Sport Science, Norway

John van Heel, the New Health Foundation, the Netherlands

Rui Jorge, Agrarian School of Santarém & Sport Sciences School of Rio Maior Polytechnic

Institute of Santarém, School of Health Sciences (ESSLei) – Polytechnic Institute of Leiria Portugal

Linda May, East Carolina University in Greenville, North Carolina, USA

Hanlie Moss, North-West University, South Africa

Michelle F. Mottola, Western University, Canada

Taniya Nagpal, University of Alberta, Canada

Miguel Angel Oviedo Caro, the University of Seville, Spain

Simona Pajaujiene, Lithuanian Sports University, Lithuania

Magdalena Piernicka, Gdansk University of Physical Education and Sport, Poland

Oksana Mazorenko, National University of Economics, Ukraine

Mireille van Poppel, University of Graz, Austria

Barbara Radomska, Gdansk University of Physical Education and Sport, Poland

Rita Santos-Rocha, Sport Sciences School of Rio Maior – Polytechnic Institute of Santarém, Portugal

Najmeh Shojaeian, Islamic Azad University, Iran

Iva Sklempé Kokic, Josip Juraj Strossmayer University of Osijek, Croatia

Maciej Tauber, Educational Research Institute, Warsaw, Poland

Mikael Vincent, Lenus, Denmark

Aneta Worska, Gdansk University of Physical Education and Sport, Poland

Hongli Yu, Jiangyou Education Bureau, China

Reviewers:

Susana Franco, Sport Sciences School of Rio Maior – Polytechnic Institute of Santarém, Portugal

Vilma Dudoniene, Lithuanian Sports University, Lithuania

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General project information

Project title: The New Era of Pre- and Postnatal Exercise - training for instructors and trainers of various forms of physical activity in the field of online provision of exercise for pregnant and postpartum women

Acronym: NEPPE: New Era of Pre- and Postnatal Exercise

Entity executing the project: Gdansk University of Physical Education and Sport (GUPES)

Project coordinator: dr Anna Szumilewicz, assoc. prof. GUPES

Project timeframe: 1st of May 2021 – 31st of August 2023

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Project objective: to develop and implement an Intensive International Educational Programme (Intensywny Międzynarodowy Program Kształcenia – IMPK), hereinafter referred to as the NEPPE programme, aimed at preparing exercise professionals to remotely provide exercise for pregnant and postpartum clients.



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Introduction

This report aims to present step by step how the international evidence-based NEPPE training for exercise professionals was developed and implemented, entirely online. There were three NEPPE training editions: in May and November of 2022 and in March of 2023. During these two years, our offer reached 41 countries, with the cooperation of a team of 32 high-class experts from 18 countries. Therefore, the educational solutions and materials presented below can be treated as universal and worthy of wide application in improving the competences of exercise professionals and promoting health-enhancing physical activity programmes during pregnancy and postpartum.

The subject matter is of particular importance. In recent years, many high-quality research papers have been published proving that regular physical activity in pregnancy leads to positive health outcomes of the mother and child, and substantially increases the chances of proper pregnancy development, childbirth and postpartum (1-3). Institutions promoting a healthy lifestyle, including the World Health Organization, are increasingly publishing guidelines on this topic (4). One of the basic recommendations is that during pregnancy and postpartum one should perform at least 150 minutes of moderate-intensity aerobic physical activity a week and limit the amount of time they spend sedentary (5). The participants who were active before pregnancy are encouraged to continue their exercise programmes. Nevertheless, questions often arise: what should this continuation look like? Whether, and if so, what modifications to the exercises are necessary so that they remain effective and safe for the course of pregnancy and postpartum?

Exercise professionals should be ready to answer the above questions. Unfortunately, studies have shown that most of them present a low level of knowledge about pre- and postnatal physical activity (6). The lack of appropriate competences will certainly make it difficult to perform their professional tasks. In turn, unavailability of targeted exercise programmes may contribute to physical inactivity during pregnancy and after childbirth. Many authors in various countries observe the problem of too low level of physical activity in the perinatal period (7). The reasons for this phenomenon are, among others, the lack of evidence-based information about physical activity during pregnancy and after childbirth (8, 9) and lack of social support (10, 11). Therefore, the main goal of the NEPPE project was to develop and implement a new educational programme that meets the above social needs. After the NEPPE training, exercise professionals should have sufficient knowledge and skills to fully support their pregnant and



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postpartum clients in leading a healthy, active lifestyle. If necessary, they should be able to cooperate with others specialists, including obstetric care providers, physiotherapists, psychologists or nutritionists.

The first part of this report is addressed primarily to educational institutions, both universities and vocational training providers, as well as teachers conducting classes for exercise professionals working with pregnant and postpartum clients. We will present here recommendations regarding educational solutions and tools, starting from the recruitment process, through the implementation of classes, verification of learning outcomes, to programme evaluation. They are intended to provide a transparent process of acquiring professional competences, ending with obtaining a certificate that is reliable for various stakeholders.

The second part is addressed also to exercise professionals. It contains educational materials, including sample multimedia presentations, information sources, links to videos, etc. In the second part, we will also discuss cultural issues that may determine the implementation of exercise programmes for pregnant and postpartum clients in different countries. A completely new, previously untouched topic will be the inclusion of people with disabilities in the area of physical activity in the perinatal period.

To strengthen the international context of the NEPPE project, in creating the educational programme we based on the lifelong learning standards ‘Exercise in Pregnancy and Postpartum’, developed by the European sector organisation EuropeActive (EA) (12). We also used the latest recommendations, scientific and practical achievements in the area of pregnancy and postpartum physical activity. Additionally, a key element was the inclusion of the basic assumptions of the EA ‘Online provision of fitness services’ qualification (13). The use of online tools, both to support the implementation of the NEPPE training and as educational content for exercise professionals, allowed us to increase the area of our educational activities and reach countries from various continents, including the least developed countries. We hope that thanks to the NEPPE project we will strengthen the global promotion of physical activity during pregnancy and after childbirth.



The development of the NEPPE training programme

The NEPPE program is based on many years of international cooperation of experts in the field of perinatal exercises, both practicing exercise professionals, fitness operators, researchers and policy makers. For the first time, the concept of developing a common educational standards under the affiliation of EA was discussed at the 5th International Standards Meeting, in Amsterdam, October 2014. The stakeholders participating in the thematic session devoted to this issue unanimously confirmed the need to develop such a standard and recognized classes for pregnant and postpartum clients as one of the fitness trends.

The first version of the EA standards for the Pregnancy and Postnatal Exercise Specialist (level 5 EQF) was published in 2016, thanks to the cooperation of 25 experts from 13 countries (14). It was the first document of this type specifying the learning outcomes necessary for the design and delivery of exercise programmes for clients during pregnancy and postpartum, set within the concept of the European Qualification Framework (EQF) (15).

In 2022 a new version of this document was published as 'Exercise in pregnancy and postpartum' Lifelong Learning (LLL) Standards (level 4 EQF) (12). This time 27 experts from 19 countries participated in the process of the standards development or external consultation in 2021-2022. The experts involved in the NEPPE project played an important role in this standard development, sharing their expertise from high quality research and educational projects.

One of the significant changes compared to the 2016 version was the creation of two separate educational modules: 'Exercise in Pregnancy' and 'Exercise in Postpartum'. Pregnancy and postpartum clients are two different populations requiring from exercise professionals different knowledge and skills. Training providers should plan a separate time for the educational process aimed at achieving and verifying the learning outcomes defined for these two modules. Another change introduced in the 2022 document was that, after thorough analysis, only those professional competences were left that are most needed on the labour market in order to effectively and safely work with a client in an uncomplicated pregnancy or uncomplicated puerperium. Therefore, EQF level 4 has been assigned to these standards instead of the EQF level 5, assigned to their previous version. Nevertheless, after obtaining all learning outcomes specified in the updated standards, exercise professionals are encouraged to undertake further training in order to obtain more advanced knowledge and skills, among others enabling supervision of exercise programmes for clients with complicated pregnancy (e.g., with



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gestational diabetes or hypertension) or for clients with postpartum complications or dysfunctions (e.g., with urinary incontinence, diastasis recti abdominis, diabetes or hypertension).

In the NEPPE training programme, in the educational module 1 and module 2, we have adopted the main assumptions, learning outcomes and verification criteria, in accordance with 'Exercise in pregnancy and postpartum' LLL Standards. The NEPPE graduate, after passing the theoretical and practical parts should be ready to independently design and implement exercise programmes for clients with uncomplicated pregnancies and with an uncomplicated postpartum period (from the day of giving birth to about a year after giving birth).

In addition, we have included two educational modules in the NEPPE training.

Module 3 included methods and tools supporting the implementation of exercise programmes in online mode. Technology has been reported as one of the main drivers of the fitness industry in the last few years (16-18). It supports the implementation of training programmes for various population, including special and clinical populations. Various online tools are increasingly supporting a healthy, active lifestyle also during pregnancy and after childbirth (19). However, not all technological solutions available on the market are based on scientific evidence (20). Therefore, in the NEPPE training we have included the content of education, which is to prepare exercise professionals to a basic degree to use online tools in the effective provision of exercise programmes for pregnant and postpartum clients, taking into account the potential risks associated with it. When developing module 3, we were based on the EA 'Online provision of fitness services' LLL qualification (13).

Since the NEPPE training was addressed primarily to students of foreign universities, module 4 was aimed at promoting Polish culture and Poland as an educationally attractive country. As part of this module, experts from the Folk Dance Ensemble 'NEPTUN' run at the GUPES presented Polish folk dances, including the dances of the Kaszuby region. Particular steps of folk dances, performed individually or in pairs, were suggestions for exercises for pregnant and postpartum clients.

Module 4 also included classes on the Polish Qualifications Framework and the Polish Integrated Qualifications System (21), with particular emphasis on the Sectoral Qualifications Framework for the Sport sector (22) and qualifications related to conducting sports activities during pregnancy and after childbirth (23). Emphasizing the coherence of Polish educational solutions with the European system, the programme also included a presentation on the



European Qualifications Framework and educational services offered by EA (24). Educational standards developed under the EA affiliation were presented, as well as the main assumptions and registration process in the European Register of Exercise Professionals (EREPS).

Main occupational roles of the NEPPE training graduate

The NEPPE training graduate should gain following professional competencies to:

- Communicate with a pregnant and postpartum clients and their obstetric or health care provider in tasks related to the design and implementation of an exercise programme;
- Perform initial basic health and fitness screening of pregnant or postpartum clients before their participation in an exercise programme;
- Plan, implement and supervise group or individual exercise, according to the client's condition, fitness level, particular trimester of pregnancy, type of delivery, the course of puerperium, and following evidence-based guidelines and physicians' recommendations;
- Adapt various forms of sport activity and exercise to the client's needs and preferences, stage of pregnancy, mode of delivery, the course of puerperium, and also to the infant's activity and feeding practices;
- Recognise and respond to the typical physical and psychological adaptations and signs and symptoms related to the pregnancy and postpartum period;
- Recognise and respond to warning signs to terminate exercise;
- Provide clients with information on pre- and postnatal physical activity and healthy lifestyle;
- Supports the performance of professional tasks with online tools;
- Respect own professional limitations in implementing exercise programmes for pregnant and postpartum clients.

This professional is **not** endorsed to:

- Prescribe or conduct rehabilitation programmes (e.g., unrecovered C-section, unrecovered episiotomy, pelvic organ prolapses, or other dysfunctions; pathological Inter Rectus Distance), which are the tasks of physiotherapists;



- Provide extensive exercise testing for pregnant and postpartum clients in laboratory settings, for clinical or research purposes, which are the tasks of exercise physiologists;
- Provide exercise testing, prescription or physical activity implementation for clients with complicated pregnancy or complicated puerperium (e.g., with GDM, hypertension), which are the tasks of clinical exercise physiologists;
- Prescribe any kind of medication or supplements, which are the tasks of medical doctors;
- Prescribe nutritional programmes, which is the task of nutritionists;
- Diagnose any psychological disorders or mental health conditions, which are the tasks of psychiatrists;
- Provide any kind of psychological counselling, which is the task of psychologists;
- Diagnose contraindications to exercise, diseases, disabilities or other clinical conditions, which are the tasks of medical doctors;
- Conduct the preparation for birth courses, which is the task of midwives' or other obstetric care providers.

The Learning Outcomes defined for the NEPPE training

In accordance with the assumptions of the European Qualifications Framework, the learning outcomes defined for this qualification refer to the areas of knowledge, skills and responsibility and autonomy. In order to organize the education and the learner's achievements verification processes, they have been grouped into units of learning outcomes. Verification criteria have been defined for each learning outcome, which ensures comparability of the achievements of individual training participants. All learning outcomes and assessment criteria listed below have been discussed by NEPPE experts and modified where necessary prior to the start of the NEPPE training.



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The learning outcomes defined for the 'Exercise in Pregnancy' Module:

The 'Exercise in Pregnancy' Module is divided into five, following learning outcomes units.

1. Theoretical basis of planning and conducting exercise programmes for pregnant clients;
2. Health issues and safety considerations related to pregnancy;
3. Health screening and fitness assessment in pregnant clients;
4. Prescription, implementation, and adaptation of exercise for pregnant clients;
5. Promotion of physical activity and healthy lifestyle during pregnancy.

Table 1. Learning outcomes and verification criteria for the unit 1: Theoretical basis of planning and conducting exercise programmes for pregnant clients

Unit 1: Theoretical basis of planning and conducting exercise programmes for pregnant clients	
Learning outcomes – the learner:	Assessment criteria – the learner:
1.1. Knows organisational and legal issues in terms of conducting prenatal exercise sessions or programmes	<p>1.1.1. Defines the job purpose of an exercise professional holding the 'Exercise in Pregnancy and Postpartum' LLL Certificate, defines own professional roles and limitations, including the place in a multidisciplinary task team working with pregnant clients, if necessary (e.g., consisting of specialists like gynaecologist-obstetrician, midwife, nutritionist, exercise specialist, psychologist, physiotherapist, exercise physiologist);</p> <p>1.1.2. Discusses the health conditions of a pregnant client, which require referral to other specialists;</p> <p>1.1.3. Describes potential national legislation related to the provision of exercise to pregnant clients;</p> <p>1.1.4. Describes the range of responsibility and ethical issues regarding working with pregnant clients.</p>
1.2. Understands morphological, physiological and biomechanical aspects of pregnancy and response to exercise	<p>1.2.1. Describes current recommendations for physical activity of the pre-pregnancy inactive, active, female athletes and obese pregnant clients (e.g., WHO (5), ACOG (25), SOCG/CSEP (26), SMA (27), IOC (1), UK Sport (28);</p> <p>1.2.2. Describes the structure of the female reproductive organs;</p> <p>1.2.3. Describes the basics of the physiology of pregnancy in each trimester and the physiology of birth;</p> <p>1.2.4. Explains adaptive changes to pregnancy (including to the musculoskeletal, cardiovascular, respiratory, endocrine systems, body composition and biomechanics of clients),</p>



	<p>determining planning and conducting prenatal exercise programmes;</p> <p>1.2.5. Explains the potential benefits of prenatal physical activity for the mother, the course of pregnancy and foetal development and health, labour and delivery (including in terms of cardiovascular parameters, muscular strength, flexibility, neuromotor parameters, body composition and weight gain, posture and quality of life).</p>
1.3. Understands psychosocial aspects of pregnancy and its impact on physical activity	<p>1.3.1. Describes psychosocial changes related to pregnancy;</p> <p>1.3.2. Lists the main barriers to participation in prenatal physical activity and exercise;</p> <p>1.3.3. Describes signs of depression and anxiety in pregnant clients;</p> <p>1.3.4. Describes stress management techniques (e.g., relaxation exercises, breathing exercise, meditation, visualisation, etc.).</p>

Table 2. Learning outcomes and verification criteria for the unit 2: Health issues and safety considerations related to pregnancy

Unit 2: Health issues and safety considerations related to pregnancy	
Learning outcomes – the learner:	Assessment criteria – the learner:
2.1. Understands the preventive role of physical activity for the health of pregnant clients and their children	<p>2.1.1. Describes the risk factors and prevalence of discomforts and health conditions associated with pregnancy (including gestational diabetes, overweight, obesity, oedema, low back pain, pelvic pain, hypertension, pre-eclampsia, musculoskeletal disorders, diastasis recti abdominis, stress urinary and faecal incontinence and other pelvic-floor disorders, depression and anxiety, oral health, sleep disorders, headache, digestive disorders, foetal macrosomia, etc.);</p> <p>2.1.2. Explains the preventive role of prenatal physical activity in relation to common potential pregnancy discomforts, complications and chronic disease in mothers and children.</p>
2.2. Knows the limitations and contraindications to physical activity and exercise during pregnancy	<p>2.2.1. Lists absolute and relative contraindications for physical activity during pregnancy;</p> <p>2.2.2. Lists reasons for an urgent termination of a prenatal exercise session;</p> <p>2.2.3. Describes the possible adaptations to physical activity and exercise in the presence of specific discomforts in the course of pregnancy and the mother's health (e.g., back pain, UI);</p> <p>2.2.4. Lists sports and physical activities which should be performed with a special caution during pregnancy;</p>



	2.2.5. Lists sport activities to be avoided during pregnancy (e.g., high risk of fall and contact sports, diving, etc.).
2.3. Understands the role of a healthy lifestyle for a healthy course of pregnancy	2.3.1. Describes basic nutrition recommendations for pregnant clients; 2.3.2. Describes other aspects of healthy lifestyle related to pregnancy (e.g., use of tobacco, alcohol and caffeine, sleep and rest patterns, avoiding stress).

Table 3. Learning outcomes and verification criteria for the unit 3: Health screening and fitness assessment in pregnant clients

Unit 3: Health screening and fitness assessment in pregnant clients	
Learning outcomes – the learner:	Assessment criteria – the learner:
3.1. Knows the rules and tools for fitness screening and assessment of pregnant clients	3.1.1. Describes the rules and safety considerations in screening and exercise testing of pregnant clients; 3.1.2. Describes examples of specific tools used in the pre-exercise and fitness assessment of pregnant clients, based on questionnaires, e.g., Get Active Questionnaire for Pregnancy (29); the PARQ+; and based on functional tests e.g., for the assessment of cardiopulmonary capacity, strength, balance, flexibility, etc., or wearables, e.g., pedometer, heart rate monitors.
3.2. Is able to perform basic health screening and fitness assessments in pregnant clients	3.2.1. Checks client's medical clearance for exercise, based on clients' self-reported questionnaires, the obstetric care provider prescriptions and/or pregnancy documentation; 3.2.2. Performs basic health screening and fitness assessments of pregnant clients, using available tools.

Table 4. Learning outcomes and verification criteria for the unit 4: Prescription, implementation, and adaptation of exercise for pregnant clients

Unit 4: Prescription, implementation, and adaptation of exercise for pregnant clients	
Learning outcomes – the learner:	Assessment criteria – the learner:
4.1. Understands rules of planning, conducting and monitoring exercise programmes for pregnant clients	4.1.1. Describes current guidelines for exercise prescription for pregnant clients, i.e., according to Santos-Rocha R. (30), ACSM (31), Mottola et al. (26); 4.1.2. Describes the most recommended forms of exercise (e.g., walking, aerobics/step exercise, water exercise, swimming,



	<p>indoor cycling, strength training, pelvic-floor training, stretching);</p> <p>4.1.3. Describes the recommended forms of exercise that require previous skill and adaptation (e.g., running and outdoor cycling);</p> <p>4.1.4. Describes the rules of adaptation of the so-called risky sports (e.g., skiing and skating, etc.);</p> <p>4.1.5. Describes the structure of the prenatal exercise session;</p> <p>4.1.6. Describes current recommendations on how to reduce sedentary time during pregnancy.</p>
<p>4.2. Is able to properly design an exercise programme for pregnant clients</p>	<p>4.2.1. Designs an exercise programme according to the exercise prescription principles (i.e., type of exercise, intensity of exercise, duration of the sessions, weekly frequency of sessions, volume, and progression/periodisation) relevant to a pregnant client, trimester of pregnancy, previous level of physical activity, the client's goals, preferences, medical history and exercise environment;</p> <p>4.2.2. Selects exercises, starting positions and modifies their techniques with regard to the client's well-being, functional readiness and the course of pregnancy; in particular the appearance of pregnancy-related discomforts (e.g., back pain, urinary incontinence, dizziness);</p> <p>4.2.3. Selects the appropriate place and equipment to conduct exercise session, as well as their alternative options outside the fitness club or at home;</p> <p>4.2.4. Incorporates the exercise programme into the pregnant client's other daily activities, taking into account her preferences and exercise abilities.</p>
<p>4.3. Is able to properly conduct, monitor and adapt an exercise programme for pregnant clients</p>	<p>4.3.1. Instructs the pregnant client how to perform exercises (including aerobic, resistance, stretching, neuromotor, body posture, and pelvic floor muscle exercises) in a way that is understandable to the client, using professional terminology;</p> <p>4.3.2. Demonstrates proper technique for performing exercises recommended for pregnant clients;</p> <p>4.3.3. Monitors the exercise session, including the intensity and technique of exercise, taking into account the information available about the course of pregnancy and the health and fitness status of the pregnant client;</p> <p>4.3.4. If necessary, uses the options of difficulty and intensity of exercises, adjusting to the well-being and abilities of the pregnant client;</p>



	<p>4.3.5. Corrects incorrectly performed exercises, explaining to the client the importance of changing the technique for the prevention or elimination of pregnancy ailments;</p> <p>4.3.6. Evaluates the exercise programme and adjust it as necessary, taking into account the pregnant clients' goals, capabilities, preferences, exercise progression, the course of pregnancy and indications from other professionals (e.g., obstetric care provider, diabetologist, physiotherapist).</p>
4.4. Is able to incorporate the childbirth preparation exercises into the exercise programme	<p>4.4.1. Describes physiological and psychosocial aspects of birth;</p> <p>4.4.2. Explains the role of various tools to decrease the level of anxiety or childbirth fear and implement appropriate exercises against these conditions into an exercise programme (e.g., pregnancy and childbirth visualisation, stress management techniques, exercises for pain relief);</p> <p>4.4.3. Demonstrates relaxation, breathing and birth positions exercises and incorporates them into exercise sessions;</p> <p>4.4.4. Describes, demonstrates and conducts pelvic floor muscles exercises and explains their role in the childbirth preparation and prevention of pelvic floor dysfunctions.</p>

Table 5. Learning outcomes and verification criteria for the unit 5: Promotion of physical activity and healthy lifestyle during pregnancy

Unit 5: Promotion of physical activity and healthy lifestyle during pregnancy	
Learning outcomes – the learner:	Assessment criteria – the learner:
5.1. Is able to provide pregnant clients with proper information before, during and after exercise sessions	<p>5.1.1. Provides pregnant clients with information on the rules of exercising during pregnancy (including safety, methods to assess intensity, symptoms requiring immediate discontinuation of exercise, recommended outfit, bra, shoes and equipment);</p> <p>5.1.2. Provides pregnant clients with information about the benefits of the individual exercises for health and well-being (e.g., indicates exercises to prevent back pain, urinary incontinence);</p> <p>5.1.3. Uses appropriate motivational tools to keep the pregnant client's adherence to the exercise programme and to promote daily physical activity and limit sedentary time.</p>
5.2. Is ready to promote physical activity and healthy lifestyle among pregnant	<p>5.2.1. Justifies the need for physical activity during pregnancy, explaining the positive impact of physical activity and the negative impact of inactivity on the health of mother and child, pregnancy and childbirth;</p>



clients, other exercise professionals and representatives from other sectors, including the health sector	<p>5.2.2. Provides general advice about healthy lifestyle, such as nutrition, sleep, rest and stress management;</p> <p>5.2.3. Dispel common myths about exercise during pregnancy (e.g., associating first-trimester exercise with miscarriage, associating exercise with adverse birth outcomes);</p> <p>5.2.4. Signposts the pregnant clients to reliable sources of information on physical activity and exercise during pregnancy.</p>
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The learning outcomes defined for the 'Exercise in Postpartum' Module:

The 'Exercise in Postpartum' Module is divided into five, following learning outcomes units.

1. Theoretical basis of planning and conducting exercise programmes for postpartum clients;
2. Health issues and safety considerations related to the postpartum period;
3. Health screening and fitness assessment in postpartum clients;
4. Prescription, implementation, and adaptation of exercise for postpartum clients, including exercising with an infant;
5. Promotion of physical activity and healthy lifestyle during postpartum period.

Table 6. Learning outcomes and verification criteria for the unit 1: Theoretical basis of planning and conducting exercise programmes for postpartum clients

Unit 1: Theoretical basis of planning and conducting exercise programmes for postpartum clients	
Learning outcomes – the learner:	Assessment criteria – the learner:
1.1 Knows organizational and legal issues in terms of conducting postnatal exercises	<p>1.1.1 Defines the job purpose of an exercise professional holding the 'Exercise in Pregnancy and Postpartum' LLL Certificate, own professional roles and limitations, including the place in a multidisciplinary task team working with postpartum clients, if necessary (e.g., consisting of specialists like a general practitioner or obstetrician, midwife, physiotherapist, nutritionist, exercise physiologist or psychologist);</p> <p>1.1.2 Discusses the health conditions of a postpartum client, which requires referral to other specialists;</p> <p>1.1.3 Describes potential national legislation related to the provision of exercise to postnatal clients;</p>



	1.1.4 Describes the range of responsibility and ethical issues regarding working with postnatal clients.
1.2. Understands morphological, physiological, and biomechanical aspects of postpartum period and response to exercise	<p>1.2.1. Describes current recommendations for physical activity during postpartum for pre-pregnancy inactive, active, female athletes and obese clients, (e.g., WHO (5), ACOG (25), SOCG/CSEP (26), SMA (27), IOC (3), UK Sport (28));</p> <p>1.2.2. Describes the basics of the physiology of each phase of postpartum period (acute, immediate, delayed postpartum) and physiology of lactation;</p> <p>1.2.3. Explains adaptive changes to postpartum (including to the musculoskeletal, cardiovascular, respiratory, endocrine systems, body composition and weight loss, and biomechanics of clients), determining planning and conducting postnatal exercise programmes;</p> <p>1.2.4. Explains the potential benefits of postnatal physical activity for the mother's health and the course of puerperium (e.g., in terms of body composition, posture, sleep patterns, and quality of life).</p>
1.3. Understands psychosocial aspects of postpartum period and impact of physical activity	<p>1.3.1. Describes psychosocial changes related to postpartum period;</p> <p>1.3.2. Describes the potential benefits of PA in postpartum for mother's well-being and interaction with the baby;</p> <p>1.3.3. Lists the main barriers to participation in postnatal physical activity and exercise;</p> <p>1.3.4. Describes signs of depression and anxiety in postpartum clients;</p> <p>1.3.5. Describes stress management techniques (e.g., relaxation exercises, breathing exercise, meditation, visualisation, etc.).</p>

Table 7. Learning outcomes and verification criteria for the unit 2: Health issues and safety considerations related to the postpartum period

Unit 2: Health issues and safety considerations related to postpartum period	
Learning outcomes – the learner:	Assessment criteria – the learner:
2.1. Understands the preventive role of physical activity for the health of postpartum clients	<p>2.1.1. Describes the risk factors and prevalence of discomforts and health conditions associated with postpartum (e.g., inflammation of stitches and vulva veins, perineal injury or caesarean section wound, painful breasts or inflammation of the breasts or mastitis, back pain, hip instability, urinary incontinence, pelvic organ prolapse, diastasis recti abdominis,</p>



	<p>fatigue, interrupted sleep; overweight; diabetes, hypertension);</p> <p>2.1.2. Explains the preventive role of postnatal physical activity in relation to common potential postpartum discomforts, complications, and chronic disease.</p>
2.2. Knows the limitations and contraindications to physical activity and exercise during postpartum period	<p>2.2.1. Lists contraindications for physical activity during postpartum period;</p> <p>2.2.2. Lists reasons for an urgent termination of a postnatal exercise session;</p> <p>2.2.3. Describes the possible adaptations to physical activity and exercise in the presence of specific complications in the course of puerperium and the mother's health;</p> <p>2.2.4. Lists sport activities to be avoided or limited during at different stages of postpartum (e.g., exercise in water or high-impact activities).</p>
2.3. Understands the role of healthy lifestyle for proper course of puerperium	<p>2.3.1. Describes basic nutrition recommendations for postpartum and lactating clients;</p> <p>2.3.1. Describes other aspects of healthy lifestyle related to postpartum and early motherhood (e.g., sleep and rest patterns, avoiding stress use of tobacco, alcohol and caffeine).</p>

Table 8. Learning outcomes and verification criteria for the unit 3: Health screening and fitness assessment in postpartum clients

Unit 3: Health screening and fitness assessment in postpartum clients	
Learning outcomes – the learner:	Assessment criteria – the learner:
3.1. Knows the rules and tools for fitness screening and assessment of postpartum clients	<p>3.1.1. Describes the rules and safety considerations in screening and exercise testing of postpartum clients;</p> <p>3.1.2. Describes tools which can be used in the pre-exercise and fitness assessment of postpartum clients (e.g. the protocol developed by Goom et al. (32), International Physical Activity Questionnaire (33); SF-12 Health Survey (34); PARQ+ (35), or wearables, e.g., pedometer, heart rate monitors.</p>
3.2. Is able to perform basic health screening and fitness assessments in postpartum clients	<p>3.2.1. Checks woman's medical clearance for exercise, based on clients' self-reported questionnaires and/or the obstetric care provider or physiotherapist prescriptions;</p> <p>3.2.2. Performs basic health screening and fitness and functional assessments of a postpartum clients, using available tools.</p>



Table 9. Learning outcomes and verification criteria for the unit 4: Prescription, implementation, and adaptation of exercise for postpartum clients, including exercising with an infant

Unit 4: Prescription, implementation, and adaptation of exercise for postpartum clients	
Learning outcomes – the learner:	Assessment criteria – the learner:
4.1. Understands rules of planning, conducting, and monitoring exercise programmes for postpartum clients	<p>4.1.1. Describes current recommendations for exercise prescription for postpartum clients (30);</p> <p>4.1.2. Describes the most recommended forms of exercise for each stage of postpartum period (e.g., walking, dancing, core training, posture correction, resistance and pelvic-floor training, stretching);</p> <p>4.1.3. Explains how the type of delivery may affect the planning and implementation of exercise for clients in immediate postpartum period, the so-called 'fourth trimester' (e.g., the need of proper selection of exercise positions and equipment);</p> <p>4.1.4. Describes exercises which can be performed by a woman at hospital and at home in the immediate postpartum period;</p> <p>4.1.5. Describes the rules of returning to sport activities of higher intensities, higher impacts, and more advanced skills (e.g., running, outdoor cycling, skating);</p> <p>4.1.6. Describes the structure of the postnatal exercise session and justifies the need for planning shorter intervals of exercise;</p> <p>4.1.7. Explains how the breastfeeding can affect the exercise programme planning and implementation;</p> <p>4.1.8. Describes alternative exercise equipment which can be used by a postpartum client at home (e.g., a chair, water bottles, barre);</p> <p>4.1.9. Describes potential activities which can reduce time spent sedentary by postpartum clients.</p>
4.2. Is able to properly design an exercise programme for postpartum clients	<p>4.2.1. Designs an exercise programme according to the exercise prescription principles (i.e., type of exercise, intensity of exercise, duration of the sessions, weekly frequency of sessions, volume, and progression/periodisation) relevant to a postpartum client, stage of postpartum period, previous level of physical activity, her goals, preferences, medical history, exercise environment, and their duties and needs related to the childcare and social support;</p> <p>4.2.2. Selects exercises, starting positions and modifies their techniques with regard to clients' well-being, functional readiness, the type of delivery, and the course of</p>



	<p>puerperium; in particular the appearance of postpartum-related discomforts (e.g., perineal injury or caesarean section wound, back pain, urinary incontinence, pelvic organ prolapse, incorrect body posture, diastasis recti abdominis, fatigue, interrupted sleep);</p> <p>4.2.3. Selects the appropriate place and equipment to conduct exercise sessions, as well as their alternative options outside the fitness club or at home (planning a suitable place to care for your baby or breastfeed if needed);</p> <p>4.2.4. Incorporates the exercise programme into the postpartum clients' other daily activities, taking into account their preferences and exercise abilities, and also the infants' activity and breastfeeding or feeding practices.</p>
<p>4.3. Is able to properly conduct, monitor and adapt an exercise programme for postpartum clients</p>	<p>4.3.1. Instructs the postpartum client how to perform exercises (including aerobic, resistance, stretching, neuromotor, posture correction, pelvic floor muscle exercises) in a way that is understandable to the client, using professional terminology;</p> <p>4.3.2. Demonstrates proper technique for performing exercises recommended for postpartum clients;</p> <p>4.3.3. Monitors the exercise sessions, including the intensity and technique of exercise, taking into account the information available about the course of postpartum and the health and fitness status of the postpartum client;</p> <p>4.3.4. If necessary, uses the options of difficulty and intensity of exercises, adjusting to the well-being and abilities of the postpartum client;</p> <p>4.3.5. Corrects incorrectly performed exercises, explaining to the client the importance of changing the technique for the prevention or elimination of postpartum ailments;</p> <p>4.3.6. Evaluates the exercise programme and adjusts it as necessary, taking into account the postpartum clients goals, capabilities, preferences, exercise progression, the course of puerperium and indications from other professionals (e.g., obstetric care provider, nutritionist, physiotherapist).</p>
<p>4.4. Is able to implement exercises performed by postpartum clients with their infants</p>	<p>4.4.1. Describes the basics of the child's motor and psychosocial development in the first year of life;</p> <p>4.4.2. Describes the rules for how to safely position, hold or carry the baby while the mother is doing the exercises;</p> <p>4.4.3. Conducts and monitors exercises sessions providing mothers and their infants with a comfortable environment (including proper temperature, avoiding loud noise, bright light, etc.);</p>



	4.4.4. Lists warning signs for immediate termination of an exercise session related to infant discomforts.
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Table 10. Learning outcomes and verification criteria for the unit 5: Promotion of physical activity and healthy lifestyle during postpartum period

Unit 5: Promotion of physical activity and healthy lifestyle during postpartum period	
Learning outcomes – the learner:	Assessment criteria – the learner:
5.1. Is able to provide postpartum clients with proper information on physical activity before, during and after exercise sessions	<p>5.1.1. Provides postpartum clients with information on the rules of daily physical activity and exercising after childbirth (including safety, methods to assess intensity, symptoms requiring immediate discontinuation of exercise, recommended outfit, bra, hygienic materials, shoes and equipment);</p> <p>5.1.2. Provides postpartum clients with information about the benefits of the individual exercises for health and well-being (e.g., indicates exercises to prevent back pain, urinary incontinence);</p> <p>5.1.3. Uses appropriate motivational tools to keep the postpartum client's adherence to the exercise programme and to promote daily physical activity and limit sedentary time.</p>
5.2. Is ready to promote physical activity and healthy lifestyle among postpartum clients, other exercise professionals and representatives from other sectors, including the health sector	<p>5.2.1. Justifies the need for physical activity during postpartum, explaining the positive impact of physical activity and the negative impact of inactivity on the health of mother and child;</p> <p>5.2.2. Provides general advice about healthy lifestyle, such as nutrition, sleep, rest and stress management;</p> <p>5.2.3. Dispels common myths about exercise during postpartum (e.g., making breast milk sour through exercise; having to wait up to several months after giving birth before any exercise);</p> <p>5.2.4. Signposts the postpartum clients to reliable sources of information on physical activity and exercise in the postnatal period.</p>



The learning outcomes defined for the 'Online tools' and 'Polish culture' Modules:

As modules 3 and 4 were treated as complementary to the NEPPE training, the learning outcomes defined for these modules were not verified. They did not refer to basic professional competencies for an exercise professional working with pregnant and postpartum clients. However, they provided participants with additional knowledge and skills, thus potentially increasing the effectiveness and attractiveness of their professional tasks implementation. Therefore, we have defined criteria for evaluating individual learning outcomes in the context of their possible use in future editions of the NEPPE training.

Table 11. Learning outcomes and verification criteria for the 'Online tools' Module

The 'Online tools' Module	
Learning outcomes – the learner:	Assessment criteria – the learner:
1. Understands fundamental rules and tools in the online provision of fitness services for pregnant and postpartum clients	<p>1.1. Defines what the online provision of fitness services is;</p> <p>1.2. Describes the potential of online fitness services to promote healthy lifestyle among current and future clients during pregnancy and postpartum;</p> <p>1.3. Describes the digital tools useful for own professional tasks within the scope of practice as an exercise professional working with pregnant and postpartum clients</p> <p>1.4. Describes how to use a specific online platform or other digital tools to design individualised training programmes for pregnant and postpartum clients and track their progress and achievements;</p> <p>1.5. Conducts live training sessions and prepares pre-recorded training sessions using generally available online platforms (e.g. Facebook, Instagram, Zoom, Google Meet, YouTube, etc.), in accordance with the appropriate methodology and meeting the relevant technical standards (including good lighting, appropriate environment and background, good sound quality);</p> <p>1.6. Describes online communication tools (e.g. video or audio calls, emails, messaging services, autoresponders, online check-ins, booking confirmation, social media community groups etc.).</p>



2. Understands the limitations and safety considerations related to the online provision of fitness services for pregnant and postpartum clients	<p>2.1. Describes risks for pregnant and postpartum clients, particularly in special populations, related to the online provision of fitness services (e.g. related to incorrect exercise technique or intensity, inappropriate exercise environment);</p> <p>2.2. Explains the guidelines on how to ensure and monitor safety and effectiveness of fitness services delivered online (e.g. how the client should arrange a safe space to exercise at home, how to educate clients to correctly perform exercises and self-monitor their well-being);</p> <p>2.3. Describes how to overcome the limitations of being not physically present with the client, utilises effective communication (e.g. adjusting teaching methods);</p> <p>2.4. Describes exemplary disclaimer forms which should be obtained from pregnant and postpartum clients prior to the provision of online fitness services and explains their importance and the rules for using them;</p>
3. Understands the basics of online marketing	<p>3.1. Defines the term online marketing and describes its advantages as compared to traditional marketing;</p> <p>3.2. Describes popular options for online advertising (e.g. text, display, banner, native, in-app, video, email, ads, affiliate links) and explains which of them are the most appropriate for the promotion of own fitness services;</p> <p>3.3. Describes basic principles of online brand presence (e.g. how to create a clear description of the fitness services, define a clear and detailed product offering, how to match the business marketing with the correct online channels, prepare consistent content for all chosen online channels, how to create an effective strategy for consistent branding or co-branding of his/her fitness services);</p> <p>3.4. Describes how to analyse online market (using e.g. SWOT/PEST analysis), differentiates the target market and determines the specific online business niche;</p> <p>3.5. Describes how to create online products to meet the needs of a specific niche, to clearly provide unique selling points (USP's) and develops a suitable pricing strategy;</p> <p>3.6. Describes the fundamental guidelines for managing an active professional website.</p>



Table 12. Learning outcomes and verification criteria for the ‘Polish culture’ Module

The ‘Polish culture’ Module	
Learning outcomes – the learner:	Assessment criteria – the learner:
1. Is ready to use basics of classical and Polish folk dances in the provision of exercise programmes for pregnant and postpartum clients	<p>1.1. distinguishes the directions of the dance (I, II) and the directions of rotation in the dance (right, left);</p> <p>1.2. knows the basic positions of the hands and settings of the feet in accordance with the standards of classical and Polish folk dance;</p> <p>1.3. identifies the musical rhythm (even, odd) and is able to match it with exercises;</p> <p>1.4. indicates the beginning and end of a musical phrase and adjust the exercise to the length of the phrase;</p> <p>1.5. performs the basic and characteristic steps: waltz, polka, kujawiak, polonaise, krakowiak;</p> <p>1.6. arranges a simple arrangement of exercises from the known steps and dance figures.</p>
2. Understands Polish and European Qualification Systems, and in particular educational professional pathway for exercise professionals	<p>2.1. Describes Polish Qualification Framework and the Polish Integrated Qualification System in relation to the European Qualification Framework;</p> <p>2.2. Describes Polish professional qualifications related to conducting sports activities during pregnancy and after childbirth;</p> <p>2.3. Describes educational services offered by EuropeActive (EA) and the EA Occupational Framework in Fitness;</p> <p>2.4. Describes the main assumptions and rules of the European Register of Exercise Professionals (EREPS) and the registration process.</p>



Experts involved in the development and implantation of the NEPPE project

One of the greatest advantages of the NEPPE project was the inclusion of world-class practitioners, specialists and scientists in its implementation - a total of 32 experts from 18 countries: Austria, Belgium, Canada, China, Croatia, Denmark, Ethiopia, Iran, Lithuania, Netherlands, Norway, Poland, Portugal, South Africa, Spain, Ukraine, United Kingdom, USA.

The first group consisted of experts in the area of planning and implementing exercises for pregnant and postpartum participants and promoting a healthy lifestyle, with both practical experience and extensive scientific achievements. Therefore, the NEPPE training programme is based not only on widely available recommendations, but also on many years of research and implementation work of opinion leaders in this field.

The team's work was supported by experts in the field of online marketing and digital tools used in the implementation of exercise programmes. Their expertise has enabled the implementation of content that responds to the market need related to the digitalization of physical activity services.

The coherence of the educational process and the awarding of qualifications has been ensured by specialists from the European and Polish qualifications systems, with particular emphasis on the systems of awarding qualifications to exercise professionals.

In addition, we also invited experts of Polish culture and in the field of work with people with disabilities. The topics of respect for cultural differences and equal treatment have strengthened the timeliness and universality of the NEPPE project in terms of responding to the needs of society around the world.

The NEPPE experts are listed at the beginning of this report (p. 2) and their short biographies are presented in the second part in the subchapter 'The NEPPE project experts and teachers'.



The recruitment process to the NEPPE training

One of the successes of the NEPPE project was the wide interest in our training among exercise professionals from different countries. 332 candidates from 41 countries applied for three editions of the NEPPE training (see Table 13). 223 successfully passed the recruitment process.

Table 13. List of countries from which candidates applying for the NEPPE training came

The applicants to the NEPPE training have represented following countries:			
Austria	Ethiopia	Lithuania	Spain
Bahrain	Finland	Luxembourg	Sweden
Belgium	Germany	Malaysia	Switzerland
Bosnia and Herzegovina	Greece	Netherlands	Turkey
Bulgaria	Hungary	Norway	Ukraine
Burkina Faso	Iceland	Philippines	United Arab Emirates
Canada	Iran	Poland	United Kingdom
China	Italy	Portugal	USA
Croatia	Ivory Coast	Romania	
Czech Republic	Kenya	Slovenia	
Denmark	Lebanon	South Africa	

At the beginning of the project, we developed the recruitment regulations and published it on the project website (see the Appendix 1). In accordance with the requirements of the financing institution, the NEPPE training was addressed to students of foreign universities. Nevertheless, it was allowed to participate in the training of people who did not meet this condition and did not have the student status, on the basis of the so-called 'free listeners' or 'free auditors'. They could participate in the entire training and proceed to the verification of



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learning outcomes, but they did not receive financial support. Nevertheless, they were valuable people for the development of the NEPPE training, giving a broader view of the proposed educational programme from the perspective of different countries and cultures, and people of different ages and professional backgrounds. As a rule, these people were practicing exercise professionals. Therefore compared to students, they had much more professional experience and knowledge in the field of exercise during pregnancy and after childbirth. In consequence, their opinions on the planning and implementation of the NEPPE training were often more substantive. These people willingly shared their experience, which allowed for a better verification of the developed processes and educational tools.

Another key recruitment criterion was professional competence in planning and conducting pro-health exercise classes (e.g.: group fitness instructor, fitness instructor, Pilates instructor/teacher, yoga instructor, personal trainer, exercise specialist, exercise physiologist; a graduate of studies related to physical activity and exercise). The above-mentioned professional competences had to be confirmed by a document issued in accordance with national requirements (e.g. in the countries where these professions are regulated) or a document issued by reliable institutions of the health-promoting physical activity sector (such as entities accredited by EA, ACSM, ACE, UK Active, UKSport, AUSfitness). The applicants who did not have the confirmation of qualifications of an exercise professional had the option to prepare a short video material how they conduct a 30-minute pro-health exercise session. Details of the video materials were set out in ‘The Assessment Form for Conducting Pro-health Exercise Session’ (see Appendix 2).

Recruitment was completely remote, in English. The recruitment process included the stage of submitting an application, submitting documents confirming the student's status and qualifications in the field of conducting pro-health classes, as well as an interview (via the MS Teams application). The interview lasted between 10 to 15 minutes and the following issues were assessed:

- presentation of the applicant's motivation for joining the training;
- applicant's communication skills;
- experience in conducting pro-health classes;
- experience in conducting exercise classes for clients in pregnancy and postpartum.



For each of the issues the assessor assigned points on a 0-3 scale. The sum of the points obtained determined the applicants' ranking. To structure the interview, we have prepared an applicant assessment form (Appendix 3).

In the regulations, we have indicated the deadlines for individual stages. We planned a period of about 3 months for promotion, recruitment and organizational tasks before the start of each edition of the NEPPE training.

The project was managed in accordance with the 'Guidelines for the implementation of the principle of equal opportunities and non-discrimination, including accessibility for people with disabilities and principles of equal opportunities for women and men under EU funds for 2014-2020'. Based on the analysis of gender proportions, in 2016-2020 men constituted 10% of participants in GUPES programmes preparing to conduct classes for clients in the perinatal period. Therefore, in the NEPPE project we assumed a 15% proportion of men.

We paid special attention to this issue in the recruitment process. 263 people identifying as females, 70 as males and 1 person as other gender registered for the three editions of the training. We recruited 178 people identifying as women and 45 as men, which constituted 80 and 20% of the recruited people, respectively.

In the recruitment regulations, we specified that people with disabilities may join the training. Candidates with disabilities were asked to report in advance their individual needs regarding the necessary support to enable recruitment. The issue of the involvement of people with disabilities was presented in the second part of this report in the 'Implementation of the NEPPE project and people with disabilities' subchapter. The characteristics of the NEPPE training candidates are presented in the Table 14.



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Table 14. The characteristics of the NEPPE candidates

The characteristics of the NEPPE candidates (n = 334)	
Age, y	Me = 28; min-max: 18 – 65
Years of practice in conducting pro-health classes in any population	Me = 2; min-max: 0 – 30
Years of practice in conducting pro-health classes for pregnant and postpartum populations	Me = 0; min-max: 0 – 24
Gender:	
Female	n = 263; 78.7%
Male	n = 70; 21%
Other	n = 1; 0.3%
Type of exercise professional qualification (More than one answer could be marked: n = 579):	
personal trainer	n = 107; 18%
fitness instructor	n = 72; 12%
exercise specialist (other populations)	n = 65; 11%
group fitness instructor	n = 57; 10%
physiotherapist	n = 54; 9%
Pilates instructor/teacher	n = 34; 6%
exercise physiologist	n = 31; 5%
pre- and postnatal exercise specialist	n = 28; 5%
yoga instructor	n = 13; 2%
other	n = 80; 14%
I'm not a qualified exercise professional	n = 38; 7%
Person with disabilities	
No	n = 324; 97%
Yes	n = 8; 2.4%
I refuse to respond	n = 2; 0.6%



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The NEPPE Webinars

As part of the NEPPE project, three webinars were held to promote individual editions of the training. In the first part of each webinar, 4-5 experts discussed issues related to physical activity during pregnancy and after childbirth. The second part of the webinars presented the assumptions of the NEPPE training, recruitment conditions, educational programme and forms of final assignments. The webinars were very popular among exercise professionals in many countries. Between 300 and 500 participants registered for each edition.



Figure 1. Promotional materials for the NEPPE webinar 1



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Webinars are available on YouTube:

- Webinar 1: 'Scientific evidence vs. myths about physical activity in pregnancy and postpartum. Why do exercise professionals need to update their competency?', which took place on March 29, 2022.

Link: [NEPPE Pregnancy Webinar - YouTube](#)

- Webinar 2: 'Why and how should we break down barriers to physical activity during pregnancy and postpartum?', which took place on September 15, 2022.

Link: [The NEPPE webinar 2: Why should we break down barriers to exercise in pregnancy - YouTube](#)

- Webinar 3: 'Physical activity in pregnancy and postpartum on different continents... How do we differ and which taboo topics are common?', which took place on January 11, 2023.

Link: [The NEPPE webinar 3: Physical activity in pregnancy and postpartum on different continents - YouTube](#)

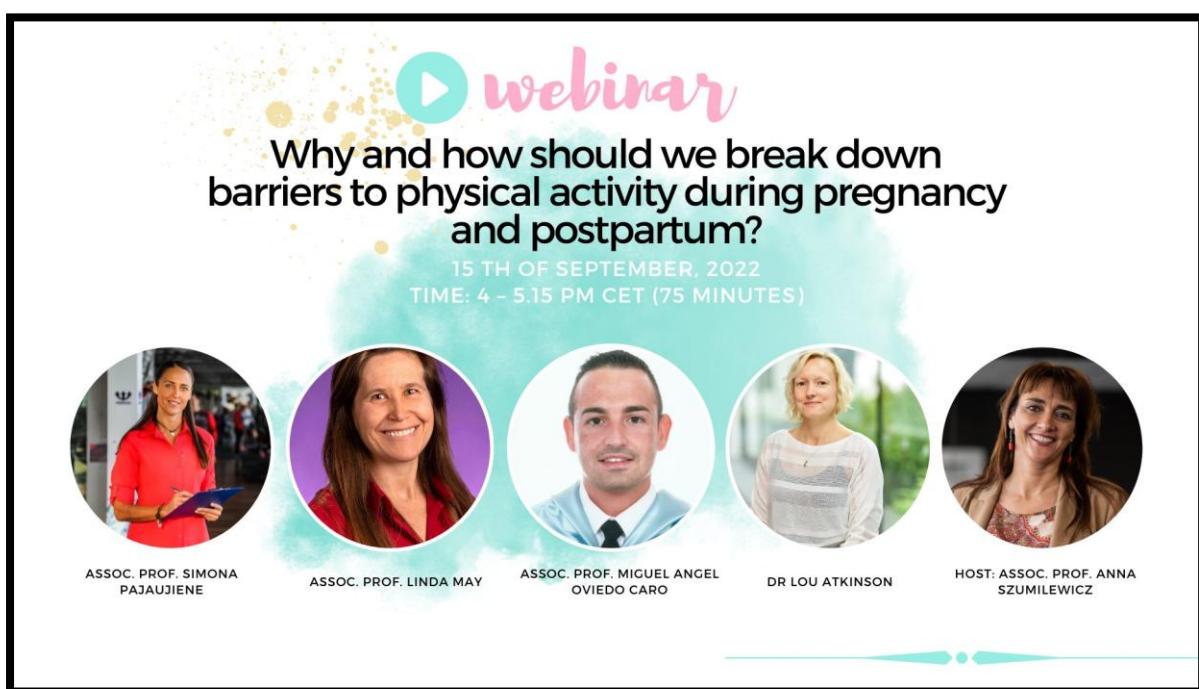


Figure 2. Promotional materials for the NEPPE webinar 2



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NEPPE

HOST: ASSOC. PROF. ANNA SZUMILEWICZ

Physical activity in pregnancy and postpartum on different continents. How do we differ and which taboo topics are common?



ASSOC. PROF. SARAH J. MOSS, NORTH-WEST UNIVERSITY, SOUTH AFRICAN REPUBLIC

PROF. LENE HAAKSTADT, NORWEGIAN SCHOOL OF SPORT SCIENCE, NORWAY

PROF. MIREILLE VAN POPPEL, UNIVERSITY OF GRAZ, AUSTRIA

ASSOC. PROF. XIAN GUO, BEIJING SPORT UNIVERSITY, CHINA

ASSIST. PROF. NAJMEH SHOAEIAN, ISLAMIC AZAD UNIVERSITY, IRAN

HOST: ASSOC. PROF. ANNA SZUMILEWICZ

LIVE webinar

11 TH OF JANUARY, 2023
TIME: 4 - 5.20 PM CET (80 MINUTES)

Figure 3. Promotional materials for the NEPPE webinar 3

The implementation of webinars effectively influenced the promotion of NEPPE training. After each webinar, the number of people registering for the recruitment process increased significantly.



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The implementation of the NEPPE training

During the NEPPE project, three editions of the NEPPE training were carried out in May and November 2022 and in March 2023. 172 people completed three editions of the training, including 74 foreign students. 120 participants passed both the theoretical and practical exam (Table 15).

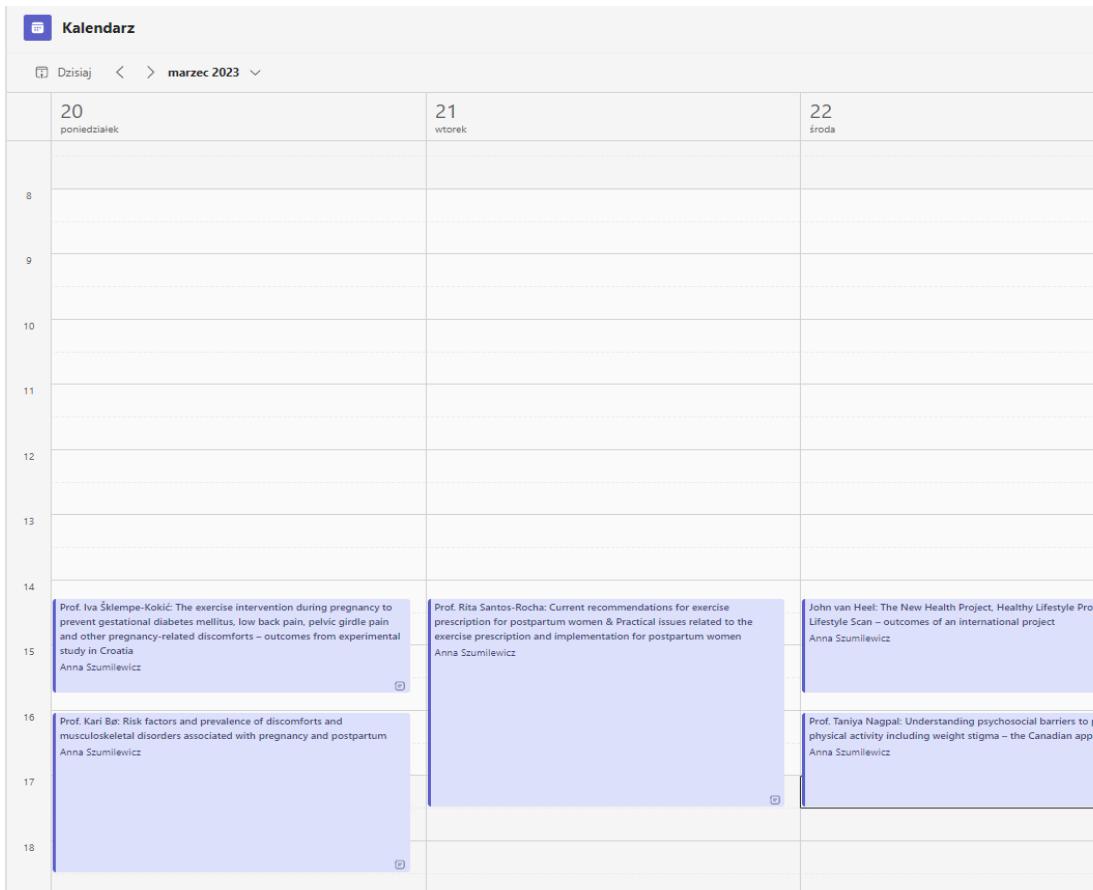
Table 15. Number of participants in three editions of the NEPPE training

Number of participants in three editions of the NEPPE training				
Numbers of participants	I edition May 2022	II edition November 2022	III edition March 2023	In total
Applied	68	74	192	334
Recruited	54	56	113	223
Completed the theoretical part	40	47	85	172
Completed the theoretical and practical part	28	33	59	120

Each edition of the NEPPE training included 150 teaching hours (including theoretical and practical classes). One teaching hour was 45 minutes. As part of the 150 teaching hours, classes were planned during which participants had the opportunity, under the supervision of tutors, to individually improve their competences, mainly practical skills in planning and implementing health-promoting physical activity programmes for pregnant and postpartum clients. During these classes, they could present individually designed exercise programmes and the outlines of exercise sessions, prepared for the final practical assignments. Requirements for final practical tasks, assessment tools and the participants' results are presented in the subchapter: 'Assessment of practical skills in planning and implementing physical activity programmes for pregnant and postpartum clients'.



Figure 4. Access to the calendar and schedule of NEPPE classes through the MS Teams application



Classes were conducted in English, remotely via the MS Teams application. After the recruitment stage, the participants were set up with a university MS office account according to the scheme (name.surname.NEPPE@awf.gda.pl), thanks to which they had access to all functions of the MS Teams application, including the calendar, teaching materials and recordings (see Figure 4 and Figure 5). Through the MS Teams application, participants could also contact lecturers outside the planned classes.

University MS Office accounts have also been set up for all experts to give them access to the full functionality of MS Teams. In order to conduct classes, they could also connect using external links. However, this option prevented the use of the chat. During each classes conducted by experts from outside the university, at least one GUPES employee was present to ensure efficient administrative service and to support communication between the teacher and participants, if necessary.



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Figure 5. Access to organizational information, recordings of classes and teaching materials of the NEPPE training through the MS Teams application

Classes based on the teacher-centred method (e.g. lectures and presentations of exercises by experts) were recorded, so in the event of absence, the participants had the opportunity to catch up for the material at a time convenient for them. Classes based on the learner-centred or content-centred methods, during which participants presented their exercises and physical activity programmes, were not recorded. In this way, we wanted to avoid the discomfort of the participants, for whom it was not only stressful to confront their knowledge and specialist skills with the teacher, but also the need to use English in the group (most of the NEPPE participants were not native speakers). Nevertheless, the final versions of the practical assignments (physical activity programmes and video sessions) have been archived and constitute the didactic material for subsequent editions of the NEPPE training. Participants agreed to make the final versions of their practical assignments available to the public, including for use by pregnant and postpartum clients.

In accordance with the requirements of the financing institution, the three editions of the NEPPE training were implemented for a month continuously: 4-5 teaching hours on weekdays in the afternoon (14:00 – 19:00 CET) and 7-8 teaching hours on weekends (10:00 – 19:00 CET). An exemplary NEPPE training schedule is presented in the Appendix 9. The



training schedule was made available on the NEPPE project website, enabling participants to take part in classes using external links (e.g. in case of problems with logging in to the university's MS Office account). Teaching materials used during the NEPPE training were presented in the second part of this report.

The training participants had two options to complete it. Participants who pass only the theoretical exam received a certificate of completion of the training (Appendix 10). Although these participants achieved learning outcomes in perinatal exercise expertise, their practical skills in planning and implementing exercise programmes have not been validated. We emphasized this information on the certificate, because it should be taken into account by potential employers or future clients. Nevertheless, we believe that disseminating expert knowledge about exercise during pregnancy and postpartum can make a significant contribution to its promotion among exercise professionals and other stakeholders in fitness services. Therefore, this option of completing the NEPPE training seems to be justified and valuable.

If the participants also passed the practical part, they received a certificate of LLL 'Exercise in Pregnancy and Postpartum' qualification (EQF level 4) (Appendix 11). On this document we certified that this qualification was obtained in accordance with the EA Standard (2022). The justification for assigning EQF level 4 to this qualification is presented separately (Table 27). In the final stage of the NEPPE project, we applied to EA for the NEPPE training accreditation. Therefore, graduates who have completed both the theoretical and practical parts will be eligible to apply for recognition of this certificate in EREPS.

After each edition of the training, the participants were asked to evaluate it in the form of an anonymous online survey. Both the results of the surveys and the feedback obtained in conversations with participants and teachers, were used to improve the training programme. Detailed results of the surveys are be presented in the subchapter 'Evaluation of the NEPPE training'.

The first edition of the NEEPE training

The first edition of the NEPPE training was carried out from 4 to 31 May 2022. The classes were conducted by 21 experts from 11 countries. The training was completed by 43 people from 11 countries (Austria, Canada, China, Ethiopia, Greece, Iran, Lithuania, Poland, Portugal, South Africa, Spain), including 22 students from foreign universities from 6 countries.



The beginning of the training was preceded by an intensive preparatory period, e.g. associated with the selection of educational content. We analysed the available materials on physical activity in the perinatal period, including official recommendations of credible institutions from the gynaecology and obstetrics and sports medicine sectors, as well as the latest scientific papers on this subject. We have included a list of these materials in the second part of this report.

We treated the first edition of the training as a pilot to verify the proposed learning content, methods and tools for validation of learning outcomes and organizational procedures related to the implementation of the training. Both in the course of the training and in the final evaluation, we received very good feedback from the participants, which encouraged us to continue the NEPPE training formula proposed in the first edition, with some modifications and improvements. The video report from first edition of the training was posted on the GUPES YouTube channel (Figure 6). Link: [The NEPPE project: international training for pregnancy and postpartum exercise professionals - YouTube](https://www.youtube.com/watch?v=JyfJyfJyfJy)

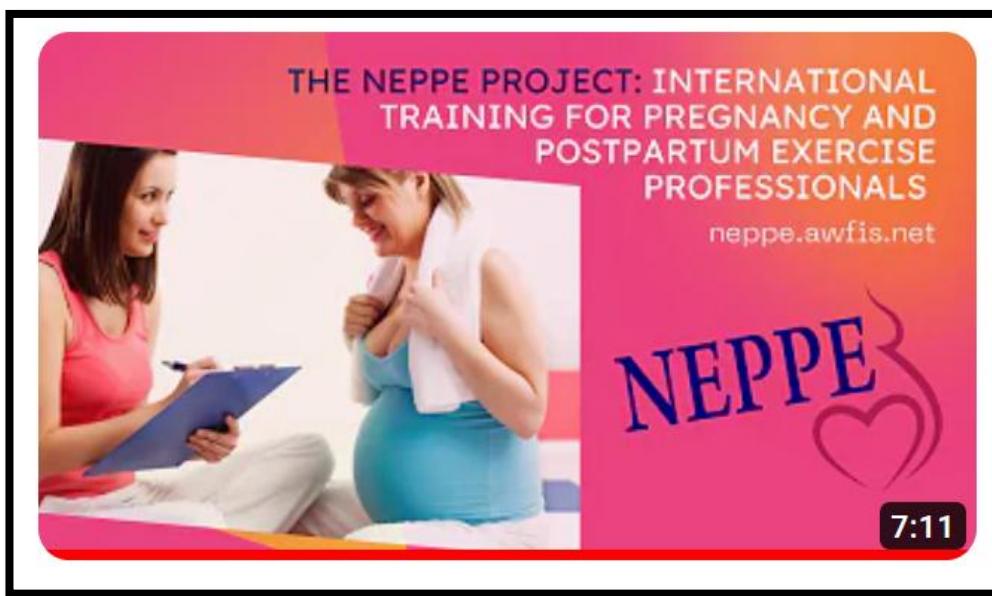


Figure 6. Promotional video material from the first edition of the NEPPE training

The second edition of the NEPPE training

The second edition of the NEPPE training was carried out from November 7 to December 4, 2022. The classes were conducted by 26 experts from 15 countries. The training was completed by 48 participants from 12 countries: Austria, Bulgaria, China, Croatia,



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Ethiopia, Greece, Spain, Lithuania, Poland, South Africa, Portugal and the USA, including 20 foreign students from 6 countries.

In the evaluation survey, the participants of the first NEEPE edition indicated the need to increase the content on online tools in planning and implementing exercise programmes for clients in the perinatal period. Therefore, e.g. we conducted a systematic qualitative analysis of available mobile applications targeted at pregnant and postpartum users. As a result of this analysis, we were able to reliably recommend tools for implementing online programmes for clients in the perinatal period (20). The results of our analyses have been prepared for presentation in the form of a scientific publication, which is an additional didactic material for NEPPE training participants. Additionally, in the second edition, more classes were introduced on platforms supporting the implementation of exercise programmes remotely (e.g. based on the Lenus platform). Content on the effectiveness of various types of exercise on the course of pregnancy and child development, as well as in the prevention of gestational diabetes and other disorders in the course of pregnancy, has also been supplemented. The issue of physical activity during pregnancy and after childbirth in less developed countries on the example of Ethiopia was also taken up. According to the participants' suggestions, we have also planned more practical classes, including classes with young children. In connection with the above-mentioned new topics, we invited five new lecturers from Croatia (prof. Iva Sklempe Kokic), Denmark (Mikael Vincent), Ethiopia (Moges Gashaw), Lithuania (Laura Dabasinskiene) and the USA (prof. Linda May) to the second edition of the NEPPE training.

The third edition of the NEEPE training

The third edition of the NEPPE training was carried out from March 3-31, 2023. The classes were conducted by 28 experts from 17 countries. 85 participants completed the training, including 34 foreign students from 11 countries (China, Croatia, Denmark, Finland, Greece, Lithuania, South Africa, Romania, Slovenia, Ukraine and Italy).

The third edition included more classes on platforms supporting the implementation of exercise programmes remotely (including more detailed information about the functioning of the Lenus platform) and online marketing. For this purpose, cooperation was established with prof. Oksana Mozarenko (Ukraine) to improve the quality of education and expand content related to online tools. In addition, the participants of the third edition were offered a lecture on the European project 'New Health 2022' and on the electronic educational materials developed



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there, supporting a healthy lifestyle in various populations. The lectures were conducted by the 'New Health' project coordinator John van Heel (the Netherlands).

Due to the much greater number of representatives of different countries, the topic of cultural differences related to physical activity in the perinatal period was discussed to a greater extent during the classes. Expert opinions on this topic are presented in the second part of this report.



International Competency Questionnaire for Exercise in Pregnancy and Postpartum

One of the important deliverables of the NEPPE project is the development of 'The International Competency Questionnaire for Exercise in Pregnancy and Postpartum' (Appendix 4). The questionnaire aims to determine the level of knowledge and attitudes in the field of pregnancy and postpartum exercise in different countries. The collected data is intended to support the development of training programmes, both for the NEPPE project and other following educational initiatives. This questionnaire is directed to exercise professionals (instructors, trainers, exercise specialists, exercise physiologists, coaches of various forms of physical activity or competitive sports) and physiotherapists, who plan and conduct health-enhancing exercise for pregnant and postpartum clients. In the future, we plan to develop a similar questionnaire addressed to obstetric care providers and pregnant and postpartum participants.

Based on pilot studies (on a group of 100 Polish exercise specialists), group expert discussions and individual consultations, the first version of the questionnaire was created in 2021. It consists of the following parts: the first contains questions about the level of knowledge on physical activity during pregnancy and after childbirth, including relative and absolute contraindications to perinatal exercises. This section is automatically graded by the online system, giving respondents immediate feedback on their level of knowledge. The second part concerns self-assessment of professional competences in conducting exercises during pregnancy and after childbirth and opinions on the implementation of professional training in this topic. The third part includes self-assessment of professional competences for remote implementation of exercises/physical activity programmes for pregnant and postpartum clients. Part four concerns the participation of people with disabilities in the area of exercise during pregnancy and after childbirth. The fifth part is the details of the respondents, as well as questions about legal regulations and barriers to the implementation of perinatal exercises in their countries.

So far, the English version of the questionnaire has been piloted online among 199 exercise specialists from 38 countries. The questionnaire was translated into Amharic, Chinese, Croatian, Greek, Lithuanian, Polish, Portuguese, Spanish. The Chinese version was conducted on a group of 312 people, the Lithuanian version on a group of 70 respondents. Further language versions are planned.



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In the next step, we assessed the validity and reliability of the questionnaire by performing appropriate statistical analyses. 88 respondents completed the test-retest procedure. The reliability results indicate that the questionnaire has a good reliability. The majority of the items showed a good intraclass correlation coefficient value and a Kappa coefficient with a substantial to almost perfect value, which highlight the ability of the questionnaire to be properly implemented.

In scientific publications, we plan to present a description of the verification of the questionnaire validity and reliability, as well as an analysis of the results from various countries.



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Learning outcomes assessment

Assessment of the level of knowledge about physical activity during pregnancy and postpartum

To assess the theoretical competences of NEPPE participants, we used the first part of the 'International Competency Questionnaire for Exercise in Pregnancy and Postpartum' (see above). The initial NEPPE competency test was carried out during the first class, using an online form. The test contained 30 closed questions, covering issues corresponding to the learning outcomes, i.e. planning and carrying out classes for clients in the perinatal period.

We asked the participants to determine the truth of individual statements using the following answer options: 'True', 'False' or 'I do not know' (without the use of any sources of information). They received 1 point for a correct answer; for an incorrect answer and for using the answer option 'I don't know' - 0 points. They immediately received feedback, indicating incorrect answers. The total result referred to four categories: high (26-30 points), average (21-25 points) or low (16-20) level of knowledge and 'incompetent' (15 points and below) (Table 16).

Table 16. Point ranges of the NEPPE test results determining the categories of knowledge about physical activity during pregnancy and postpartum

Number of points	%	Category of knowledge
26 to 30	87-100	high
21 to 25	70-83	average
16 to 20	53-67	low
15 and below	50 and below	incompetent

The test results did not affect the further educational process. They were only information about the initial level of knowledge of the training participants. The outcomes of the initial NEPPE test are presented in the Table 17 and Table 18.



Table 17. The participants' responses on popular claims about participation in physical activity during pregnancy and postpartum before the NEPPE training

The participants' responses on popular claims about participation in physical activity during pregnancy and postpartum before the NEPPE training (n = 199)				
	Popular claims	True	False	I don't know
1.	Physical effort during pregnancy, exceeding the intensity above 140 HR, may lead to miscarriage or hypoxia of the child.	n = 42; 21%	n = 133; 67%	n = 24; 12%
2.	Regular, moderate to high intensity exercise during pregnancy reduces the risk of metabolic diseases, as well as overweight and obesity in infants.	n = 174; 87%	n = 10; 5%	n = 15; 8%
3.	Regular exercise should only be started after the end of the first trimester of pregnancy.	n = 25; 13%	n = 168; 84%	n = 6; 3%
4.	Pregnant participants with no contraindications should perform at least 150 minutes of moderate physical activity (i.e. the same as a non-pregnant adult).	n = 168; 84%	n = 25; 13%	n = 6; 3%
5.	A participant who was inactive before pregnancy should not start any exercising during the first 8 weeks of pregnancy, and after this period only activities that ensure a low intensity should be performed.	n = 60; 30%	n = 130; 65%	n = 9; 5%
6.	During pregnancy one should not perform any abdominal exercises.	n = 15; 8%	n = 175; 88%	n = 9; 5%
7.	Regular physical activity during pregnancy reduces the risk of prenatal depression.	n = 188; 94%	n = 2; 1%	n = 9; 5%
8.	Owing to the secretion of relaxin during pregnancy, a pregnant participant should not perform any stretching exercises so as not to damage the joints.	n = 13; 7%	n = 171; 86%	n = 15; 8%
9.	A participant who regularly jogged / ran before pregnancy may continue this physical activity as long as the course of pregnancy is normal.	n = 183; 92%	n = 9; 5%	n = 7; 4%
10.	During pregnancy, one should not perform activities with arms raised (e.g. hanging curtains, removing items from the top shelves, swinging arms), because it may result in a miscarriage.	n = 13; 7%	n = 175; 88%	n = 11; 6%
11.	During pregnancy, one should not exercise with a load greater than 5 kg (11 lb) because it may result in miscarriage or premature birth.	n = 28; 14%	n = 152; 76%	n = 19; 10%
12.	Pregnant participants who regularly practised cycling before pregnancy may continue cycling, taking appropriate precautions (e.g. avoid riding off the bicycle lanes).	n = 167; 84%	n = 21; 11%	n = 11; 6%



13.	Competitive cross-country skiers may continue their training plan throughout their pregnancy, if their pregnancy development is monitored by obstetricians and their health and well-being are good.	n = 116; 58%	n = 57; 29%	n = 26; 13%
14.	Regular exercise during pregnancy may reduce the risk of pre-eclampsia.	n = 174; 87%	n = 2; 1%	n = 23; 12%
15.	Pelvic floor exercises should be started as early as possible, after giving birth (even within a few days after childbirth).	n = 158; 79%	n = 21; 11%	n = 20; 10%
16.	After childbirth, moderate-intensity exercise should not be started until the postpartum bleeding is over, due to the risk of haemorrhage.	n = 120; 60%	n = 41; 21%	n = 38; 19%
17.	After childbirth, one should not return to competitive sports earlier than after one year.	n = 29; 15%	n = 143; 72%	n = 27; 14%
18.	High intensity physical activity during lactation may cause the milk to taste sour.	n = 40; 20%	n = 112; 56%	n = 47; 24%
19.	Pelvic floor muscle training should not be performed in the third trimester of pregnancy as it makes delivery more painful and difficult.	n = 15; 8%	n = 161; 81%	n = 23; 12%
20.	If the diastasis recti of abdominis occurs during pregnancy, any exercises to strengthen the abdominal muscles should be avoided until delivery.	n = 50; 25%	n = 101; 51%	n = 48; 24%
The correct answers are highlighted in green.				

In the first 20 questions, participants were asked to rate the truthfulness of popular claims about participation in physical activity during pregnancy and postpartum. The questions concern pregnancy and childbirth with a normal course with no health contraindications to physical exertion, both related to and not related to pregnancy or puerperium (Table 17). The next ten questions were on contraindications to exercise during pregnancy and after childbirth (Table 18).

In the section on popular claims, the participants gave the most incorrect answers to the questions 'After childbirth, moderate exercise should not be started until the postpartum bleeding is over, due to the risk of haemorrhage' (only 21% correct answers). In the contraindications section, the questions with the fewest correct answers (50%) were: 'A shortened cervix (less than 2.5 cm) is an indication for 'bed rest'; 'Participants with the placenta abruption in previous pregnancy should be encouraged to undertake moderate



exercise' and 'Participants with recurrent pregnancy loss (the loss of three or more consecutive pregnancies) should avoid exercise'.

Table 18. The participants' responses on contraindications to exercise during pregnancy and after childbirth before the NEPPE training

The participants' responses on contraindications to exercise during pregnancy and after childbirth before the NEPPE training (n = 199)				
	Contraindications	True	False	I don't know
1.	Pregnant participants with well-controlled type 1 diabetes can exercise according to current recommendations, but additional measures to mitigate risk of hypoglycaemia should be used.	n = 186; 93%	n = 11; 6%	n = 12; 1%
2.	A shortened cervix (less than 2.5 cm) is an indication for 'bed rest'.	n = 50; 25%	n = 60; 30%	n = 89; 45%
3.	Chronic, controlled arterial hypertension (diagnosed before pregnancy) is not a contraindication to exercise during pregnancy.	n = 135; 68%	n = 23; 12%	n = 41; 21%
4.	Pregnant participants who experience regular and painful uterine contractions should cease exercise and seek advice from a healthcare provider.	n = 170; 85%	n = 8; 4%	n = 21; 11%
5.	Participants with the placenta abruption in previous pregnancy should be encouraged to undertake moderate exercise.	n = 99; 50%	n = 62; 31%	n = 38; 19%
6.	Participants with recurrent pregnancy loss (the loss of three or more consecutive pregnancies) should avoid exercise.	n = 45; 23%	n = 100; 50%	n = 54; 27%
7.	Participants with cervical dilation should maintain activities of daily living, but avoid moderate to vigorous physical activity.	n = 136; 68%	n = 17; 9%	n = 46; 23%
8.	Participants diagnosed with placenta previa after 28 weeks' gestation should maintain their activities of daily living and low-intensity activity (e.g., walking).	n = 123; 62%	n = 50; 25%	n = 26; 13%
9.	Participants who have been diagnosed with cardiac arrhythmia before pregnancy should refrain from exercising during pregnancy (even if the arrhythmia is treated and well controlled).	n = 36; 18%	n = 129; 65%	n = 34; 17%
10.	Postpartum participants with stress urinary incontinence should give up exercise completely until the symptoms of this dysfunction are resolved.	n = 18; 9%	n = 161; 81%	n = 20; 10%
The correct answers are highlighted in green.				



The post-test was carried out in the last class, after the end of the NEPPE training. It included 50 questions of the same difficulty as the initial test. To pass the test, it was required to obtain 60% correct answers.

In the initial test, the participants of the three editions obtained an average of $72\% \pm 16$, in the post-test $86\% \pm 8$ correct answers. The results in the post test were statistically significantly better $p < 0.000$. We observed a similar tendency in the increase of theoretical competences in all editions. It is interesting that in the initial test the participants of each edition differed significantly from each other, with the participants of the third edition getting the worst result. However, in the results of the post-test, the groups did not differ statistically (Table 19). The effectiveness of the NEPPE training has been confirmed.

Table 19. The theoretical test score before and after the NEPPE training

The theoretical test score before and after the NEPPE training (n = 199)				
	Pre score (%), including participants who didn't take the post test	Pre score (%), only participants who took the post test	Post score (%)	p value*
Three editions combined	72 ± 16 n = 199	73 ± 16 n = 172	86 ± 8 n = 172	$p < 0.001$
Edition I	74 ± 14 n = 45	73 ± 14 n = 40	86 ± 9 n = 40	$p < 0.001$
Edition II	78 ± 14 n = 52	79 ± 14 n = 47	85 ± 9 n = 47	$p < 0.006$
Edition III	68 ± 17 n = 102	70 ± 16 n = 85	86 ± 9 n = 85	$p < 0.001$
P value**	$p = 0.004$	$p = 0.006$	$p = 0.65$	

The outcomes of the NEPPE theoretical test are expressed as % of maximal score; p was set as statistically significant at the level of 0.05; *results of the Wicoxon signed-rank test to compare the changes in the test score before and after NEPPE training; **results of the Kruskal-Wallisa ANOVA rank Test to compare the score between three NEPPE training editions



Assessment of practical skills in planning and implementing physical activity programmes for pregnant and postpartum clients

To complete the practical part of the NEPPE training the participants had to perform two practical tasks. The first task was to prepare a written, 6-8 week exercise programme, the second one was to record a video of an exercise session. One task was to be performed for a pregnant client, the other - for a client after childbirth, e.g. an 8 week exercise programme was prepared for the pregnant client, and a one-time exercise session for the postpartum client. It could be the other way around. Two different characteristics of clients were required. Participants could retake the exam, if they did not receive a passing grade on the first attempt. 123 participants took the practical exam, of which 116 received a positive grade.

The exercise programme for a pregnant or postpartum client

In the first part of this task, participants were asked to characterize their pregnant or postpartum client, including the following information:

- Physical activity level
- Age
- Which stage of pregnancy or postpartum?
- Which pregnancy is it/was?
- Any miscarriages (how many)?
- Self-perception of health (any discomforts, which)
- Occupation
- What are the main motivations for exercising?
- Which are the client's preferences regarding exercise?
- What can be the main barriers and facilitators?
- Other (important for the programme design)

In the second part, they had to select at least three tools for health screening and fitness assessment, briefly describe them and justify their choice. In the third part, taking into account the client's characteristics presented above, they were to appropriately plan exercises, intensity, duration, frequency and progression for 6-8 weeks. The aerobic, resistance, flexibility, neuromotor and pelvic floor muscle exercises were to be described separately. The participants'



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scores on practical skills demonstrated in an exercise programme for pregnant or postpartum client are presented in Table 20.

Table 20. The participants' scores on practical skills demonstrated in an exercise programme for pregnant or postpartum client

The participants' scores on practical skills demonstrated in an exercise programme for pregnant or postpartum client (n = 123)						
The exercise programme components:			Scores			
			0	1	2	3
1.	Aerobic	Type	n = 1; 1%	n = 14; 11%	n = 11; 9%	n = 97; 79%
		Intensity	n = 2; 2%	n = 15; 12%	n = 20; 16%	n = 86; 70%
		Duration	n = 0	n = 6; 5%	n = 4; 3%	n = 113; 92%
		Frequency	n = 3; 2%	n = 2; 2%	n = 2; 2%	n = 116; 94%
		Progression / Adaptation/ Comments*	n = 3; 2%	n = 120; 98%	n = 0	n = 0
2.	Resistance	Type	n = 2; 2%	n = 22; 18%	n = 13 11%	n = 86; 70%
		Intensity	n = 22; 18%	n = 18; 15%	n = 21; 17%	n = 86; 50%
		Duration	n = 0	n = 13; 11%	n = 5; 4%	n = 105; 85%
		Frequency	n = 4; 3%	n = 2; 2%	n = 1; 1%	n = 116; 94%
		Progression / Adaptation/ Comments*	n = 3; 2%	n = 120; 98%	n = 0	n = 0
3.	Flexibility	Type	n = 1; 1%	n = 24; 20%	n = 18 15%	n = 80; 65%



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		Intensity	n = 16; 13%	n = 11; 9%	n = 14; 11%	n = 82; 67%
		Duration	n = 1; 1%	n = 11; 9%	n = 16; 13%	n = 95; 77%
		Frequency	n = 4; 3%	n = 1; 1%	n = 2; 2%	n = 116; 94%
		Progression / Adaptation/ Comments*	n = 8; 7%	n = 115; 93%	n = 0	n = 0
4.	Neuromotor	Type	n = 7; 6%	n = 28; 23%	n = 14; 11%	n = 74; 60%
		Intensity	n = 29; 24%	n = 23; 19%	n = 25; 20%	n = 46; 37%
		Duration	n = 3; 2%	n = 29; 24%	n = 18; 15%	n = 73; 59%
		Frequency	n = 3; 2%	n = 3; 2%	n = 1; 1%	n = 116; 94%
		Progression / Adaptation/ Comments*	n = 8; 7%	n = 115; 93%	n = 0	n = 0
5.	Pelvic floor training	Type	n = 3; 2%	n = 20; 16%	n = 10; 8%	n = 90; 73%
		Intensity	n = 41; 33%	n = 27; 22%	n = 16; 13%	n = 39; 32%
		Duration	n = 2; 2%	n = 20; 16%	n = 13; 11%	n = 88; 72%
		Frequency	n = 1; 1%	n = 3; 2%	n = 3; 2%	n = 116; 94%
		Progression / Adaptation/ Comments*	n = 6; 5%	n = 117; 95%	n = 0	n = 0
0 – incompetent, 1 – sufficient, 2- good, 3 – very good						



All exercises had to be described according to the following outline: 1. starting position, 2. the movement, 3. which muscles are mainly involved, 4. when you exhale and inhale 5. when you activate the pelvic floor muscles 6. potential precautions and options of difficulty (e.g. in terms of the posture, client's well-being).

We assessed the description of each training component for particular types of exercises using a scale of 0-3, where 0 meant 'incompetent', 1 – 'sufficient', 2 – 'good', 3 – 'very good'. To structure the verification process of practical learning outcomes we have developed a template for the exercise programme design (Appendix 5) and an assessment form (Appendix 6). The weakest skill of participant was planning the progression of exercise.

The video of an exercise session for pregnant and postpartum client

The video material was intended to confirm the training participant's ability to plan and conduct a pro-health exercise session for a pregnant or postpartum client. The participants received both the content and technical requirements that had to be met in the preparation of the recording (Appendix 7). The exercise session had to be conducted with at least one pregnant or postpartum client. The client could simulate pregnancy or postpartum. The session should have lasted at least 30 minutes, maximum 90 minutes. The duration, intensity and type of exercise should have been properly planned taking into account the characteristics of the client. The pregnant or postpartum client description should have been presented at the beginning of the recording and included information as listed for the practical task 1.

Based on the video material, we assessed 15 practical skills related to planning and implementing exercise sessions for pregnant and postpartum clients. We used 0-3 scale, where 0 meant 'incompetent', 1 – 'sufficient', 2 – 'good', 3 – 'very good'. All skills had to attain at least the score of 1. To structure the assessment process, we have developed the 'Assessment Form for the exercise session with pregnant or postpartum client' (Appendix 8). 120 participants provided the video session. The assessment score of practical skills in conducting exercise classes are presented in the Table 21. Participants received the least points for their ability to inform participants about the purpose of individual exercises and health benefits, as well as to motivate the client to the physical effort during the session and encourages to participate in future classes.



Table 21. The participants' scores on practical skills demonstrated in a single exercise session for pregnant or postpartum client

The participants' scores on practical skills demonstrated in a single exercise session for pregnant or postpartum client (n = 120)					
Demonstrated skills		Scores			
The exercise professional:		0	1	2	3
6.	plans the correct structure of the exercise session (warm-up, main part, cool down):	n = 0	n = 0	n = 2; 2%	n = 118; 98%
	A. Aerobic exercises***	n = 1; 1%	n = 9; 8%	n = 17; 14%	n = 93; 78%
	B. Resistance exercises for major muscle groups (including abdominal muscle exercises)	n = 1; 1%	n = 3; 3%	n = 4; 3%	n = 112; 93%
	C. Flexibility exercises	n = 0	n = 2; 2%	n = 6; 5%	n = 112; 93%
	D. Neuromotor exercises	n = 1; 1%	n = 0	n = 9; 8%	n = 110; 92%
	E. Pelvic floor training	n = 3; 3%	n = 4; 3%	n = 6; 5%	n = 107; 89%
	F. Breathing exercises, relaxation, visualisation and/or birth preparation exercises.	n = 3; 3%	n = 1; 1%	n = 11; 9%	n = 105; 88%
7.	correctly selects exercises, their difficulty and intensity appropriate to the needs, abilities, stage of pregnancy/postpartum, potential discomforts of the client (based on the provided characteristics of the pregnant or postpartum client);	n = 0	n = 0	n = 3; 3%	n = 117; 98%
8.	safely organizes the exercise session, e.g. in terms of proper use of exercise equipment, removing dangerous objects from the exercise site, checking the client's preparation and readiness to participate in the session;	n = 0	n = 0	n = 0	n = 120; 100%
9.	demonstrates the exercises correctly;	n = 0	n = 1; 1%	n = 3; 3%	n = 116; 97%



10.	monitors the intensity, e.g. observing the client, asking questions, with the Borg's RPE scale, pulsometer;	n = 2; 2%	n = 2; 2%	n = 7; 6%	n = 109; 91%
11.	depending on the client's performance, modifies the intensity and difficulty of the exercises, e.g. using breaks, breathing exercises, changing the tempo of exercise or adapting exercises;	n = 1; 1%	n = 1; 1%	n = 4; 3%	n = 114; 95%
12.	clearly instructs the client about the correct technique of the exercise, e.g. about the starting position, breathing pattern, technical tips;	n = 2; 2%	n = 3; 3%	n = 11; 9%	n = 104; 87%
13.	informs participants about the purpose of individual exercises and health benefits, e.g. 'in these exercises we stimulate the cardiovascular system, strengthen the abdominal muscles', 'thanks to these exercises you will prevent backache', etc.	n = 3; 3%	n = 19; 16%	n = 44; 37%	n = 54; 45%
14.	notices the technical mistakes of the client and reacts to them, (e.g. by changing the exercise, modifying, instructing, commenting), and enforces the correct exercise technique from the client;	n = 3; 3%	n = 1; 1%	n = 18; 15%	n = 98; 82%
15.	greets and says goodbye to the client and makes eye contact;	n = 4; 3%	n = 8; 7%	n = 8; 7%	n = 100; 83%
16.	asks the client about the well-being at the beginning, during and at the end of the session;	n = 5; 4%	n = 7; 6%	n = 11; 9%	n = 97; 81%
17.	motivates the client to the physical effort during the session and encourages to participate in future classes;	n = 4; 3%	n = 7; 6%	n = 15; 13%	n = 94; 78%
18.	uses professional language in contact with the client;	n = 4; 3%	n = 2; 2%	n = 8; 7%	n = 106; 88%
19.	presents an appropriate level of motor preparation, which enables proper technique demonstration and proper course of the exercise session;	n = 0	n = 0	n = 0	n = 120; 100%
20.	wears sports clothes and shoes, appropriate to the environment of the exercise session.	n = 0	n = 0	n = 0	n = 120; 100%
0 – incompetent, 1 – sufficient, 2- good, 3 – very good					



The exercise session could be conducted anywhere (in the gym, at home, outdoors). Any sports equipment could be used in the session, but it was not compulsory (only exercises with own body resistance could be used).

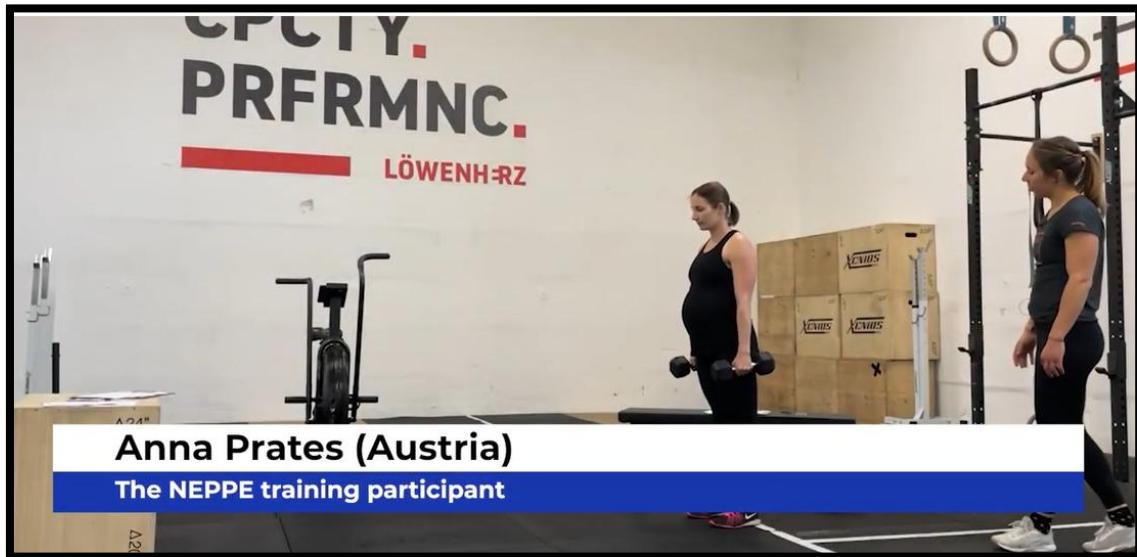


Figure 7. An example recording of an exercise session in the gym conducted by a NEPPE training participant for a pregnant client

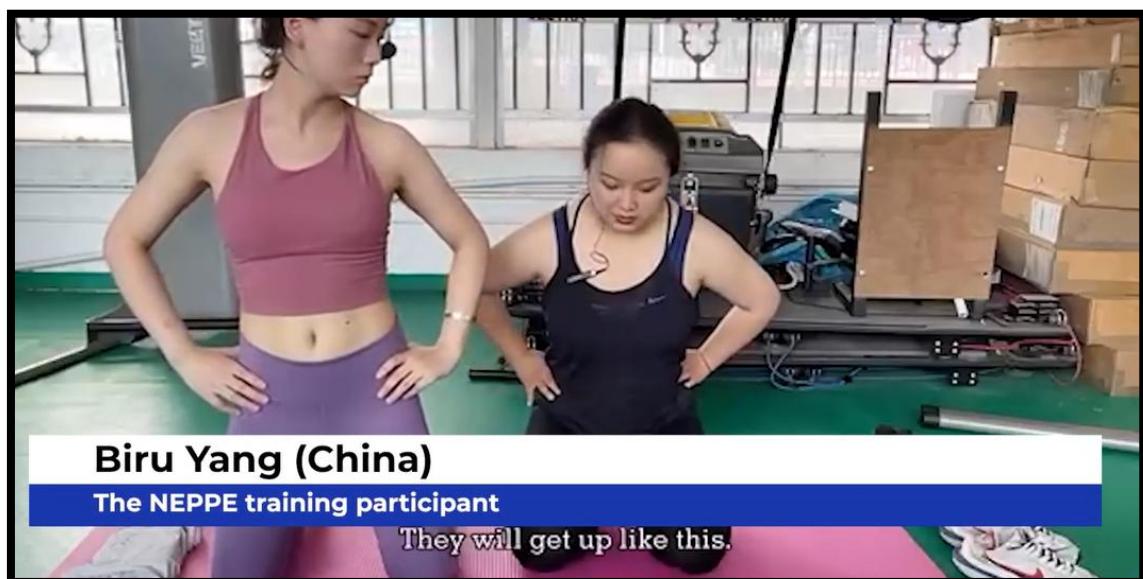


Figure 8. An example recording of pelvic floor muscle training conducted by a NEPPE training participant



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Figure 9. An example recording of an outdoor exercise session conducted by a NEPPE training participant for a pregnant client



Figure 10. An example recording of an outdoor exercise session conducted by a NEPPE training participant for a postpartum client

In the final assessment, the participants demonstrated good level of practical skills in planning and implementing exercises for pregnant and postpartum clients. They obtained an average of 83% of the maximum score in preparing the exercise programme, and 94% of the maximum score in conducting the exercise sessions. The results for practical final assignments did not differ significantly between editions (Table 22).



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Table 22. NEPPE training participants' score for practical tests

NEPPE training participants' total score for practical tests					
	Three editions combined	Edition I M ± SD	Edition II M ± SD	Edition III M ± SD	p value*
Total score for an exercise programme design (max =106)	83 ± 11 78 (40;91)% n=123	80 ± 12 75 (46;90)% n = 28	81 ± 7 81 (69;91)% n = 33	83 ± 12 78 (40;91)% n = 62	p = 0.14
Total score for a video session (max = 63)	59 ± 5 94 (44;100)% n=120	58 ± 6 93 (52;100)% n = 28	60 ± 4 95 (75;100)% n = 33	60 ± 6 95 (44;100)% n = 59	p = 0.76
The outcomes of the NEPPE practical tasks are expressed as mean (M) and standard deviations (SD) of raw maximal score and as mean % of maximal score (min; max); p was set as statistically significant at the level of 0.05; *results of the Kruskal-Wallis ANOVA rank Test to compare the score between three NEEPE training editions					



Evaluation of the NEPPE training

We have prepared an online questionnaire to evaluate the NEPPE training. We relied on the tool and the experiences of three NEEPE experts from the implementation of a similar training, presented in the publication by Santos-Rocha et al. (36). We sent the link to the survey to the participants to fill in anonymously around 2 months after the verification of the learning outcomes. The survey was completed by a total of 77 participants of three editions of the training. Their opinions were used to modify the individual editions of the NEPPE training and the final educational programme.

The evaluation questionnaire contained 9 closed and 5 open questions related to the quality of the training. In closed questions, we asked respondents to evaluate the following training components: the content of the classes, the knowledge gained, the practical skills obtained, effectiveness of online provision of the training, expertise and experience of the teachers; time management in individual sessions; time management in the entire training, e.g. proportions of theoretical and practical classes; length of training; teaching materials. We used the 1-5 rating scale, where 5 meant 'excellent/I totally agree', 4 – 'very good/I agree'; 3 – 'good/neither agree nor disagree', 2 – 'poor/I disagree' and 1 – 'very poor/I completely disagree'.

The respondents rated the NEPPE training very highly - the total average score of three editions was 4.5. Expertise and experience of the teachers (4.8 score) was rated the highest; time management and the length of training were rated the lowest, but still it was a very good score (4.2 score). Detailed survey results are presented in Table 23. It is positive that we have observed an upward trend in the evaluation of the NEPPE training from the first to the third edition (Table 24).



Table 23. The results of the evaluation of the NEPPE training by the participants

The results of the evaluation of the NEPPE training by the participants (n = 77) (three editions in total)						
Variables (n, %)	1	2	3	4	5	M
The contents of the classes were useful for the exercise professional's practice	0	0	4; 5%	18; 25%	55; 71%	4.7
I have gained adequate knowledge on how to work with pregnant or postpartum clients	0	0	6; 8%	14; 18%	57; 74%	4.7
I have gained practical skills related to planning and implementing exercise programmes for pregnant and postpartum clients	0	0	9; 12%	18; 23%	50; 65%	4.5
The online provision of the training was effective	0	0	7; 9%	21; 27%	49; 64%	4.5
Expertise and experience of the teachers	0	0	7; 9%	21; 27%	49; 64%	4.8
Time management of each session (e.g. the length of the sessions, time planned for questions)	0	0	2; 3%	12; 16%	63; 82%	4.2
Time management of the training (e.g. the proportion of the time for the supervised classes and the self-learning, number of classes during the day)	2; 3%	3; 4%	8; 10%	25; 32%	39; 51%	4.2
Length of the NEPPE training	2; 3%	3; 4%	12; 16%	19; 25%	41; 53%	4.2
Educational resources supporting the NEPPE training (YouTube channels, books, presentations, other materials provided by the teachers)	0	0	4; 5%	19; 25%	54; 70%	4.6
Total average of ratings from three editions						4.5
The 1-5 scale: 5 - excellent/I totally agree; 4 - very good/I agree; 3 - good/neither agree nor disagree; 2 - poor/I disagree 1 - very poor/I completely disagree; M: the mean score for an individual variable						



Table 24. Comparison of evaluation results by participants of individual editions of the NEPPE training

Comparison of evaluation results by participants (n = 77) of individual editions of the NEPPE training			
Variables	Edition I	Edition II	Edition III
The contents of the classes were useful for the exercise professional's practice.	4.7	4.7	4.6
I have gained adequate knowledge on how to work with pregnant or postpartum clients.	4.5	4.7	4.8
I have gained practical skills related to planning and implementing exercise programmes for pregnant and postpartum clients.	4.4	4.6	4.7
The online provision of the training was effective.	4.4	4.6	4.7
Expertise and experience of the teachers.	4.8	4.7	4.9
Time management of each session (e.g. the length of the sessions, time planned for questions and answers)	4.1	4.1	4.6
Time management of the training (e.g. the proportion of the time for the supervised classes and the self-learning, number of classes during the day)	4.2	4.1	4.5
Length of the NEPPE training	4.2	4.2	4.2
Educational resources supporting the NEPPE training (YouTube channels, books, presentations, other materials provided by the teachers)	4.4	4.8	4.8
Total average of ratings for individual training edition	4.4	4.5	4.6
The 1-5 scale: 5 = excellent/I totally agree, 4 = very good/I agree; 3 = good/neither agree nor disagree, 2 = poor/I disagree 1 = very poor/I completely disagree; M: the mean score for an individual variable			



We included the following open questions in the evaluation questionnaire:

- Which classes or topics would you like to have more? If you liked all classes, please write N/A.
- Which activities or topics do you consider unnecessary or that there were too many of them? If you liked all classes, please write N/A.
- What do you consider to be the strengths of the NEPPE training? / What were you most satisfied with during the training?
- What do you consider to be the weaknesses of the training? / What was the reason for your dissatisfaction?
- Would you like to share any opinion about the NEPPE training?

As the greatest advantages of the training, the participants indicated the teachers, their expertise, experience and enthusiasm and the fact, that they were coming from many countries and fields. The participants also highly appreciated the content of the classes based on the latest scientific achievements, combining theory with practice and the quality of educational materials. They also liked the good organization of the training, especially the option of recording classes, which allowed them to listen to them at any time.

In the questions concerning weaknesses, the participants indicated the following issues and suggestions for improving the training:

- increasing the number of practical classes related to: the exercise programme design; pre-exercise assessment; examples of exercises, especially breathing techniques and core exercises; strength training; practical classes in other environment, e.g. water exercises; Pilates or Yoga classes;
- increasing content in the fields of: physiological, musculoskeletal and psychological change during pregnancy and after childbirth; anatomy of reproductive organs; gait and biomechanics; common injuries of the pelvic floor; pregnancy complications; nutrition;
- increasing classes on online marketing and tools supporting planning and delivery of exercise programmes for pregnant and postpartum clients;
- drawing attention to avoiding the repetition of certain content by various experts;
- reducing the intensity of training (respondents pointed to the lack of time between classes to reading the educational materials provided);



- reducing of training hours - some suggested shorter workshops, spread over time, giving the opportunity to accumulate knowledge and skills;
- dividing the content of the training into thematic modules - with the option of choosing by participants (e.g. some participants considered topics related to the characteristics of exercises during pregnancy and after childbirth in different countries to be a great asset of the training, while others assessed these classes as unnecessary).

Based on the collected opinions of participants, we modified individual editions of the NEPPE training and the final educational programme. The most important changes are presented in the subchapter ‘



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The implementation of the NEPPE training'. We found some suggestions for changes impossible to implement. Nevertheless, they are an inspiration to create further training, e.g. related to the planning and implementation of exercise programmes for high-risk pregnant clients. In addition to the above-mentioned substantive issues regarding the implementation of the training, we received many general, positive feedback from the participants, encouraging us to continue the NEPPE project (see Table 25).

Table 25. Selected positive opinions of participants about the NEPPE training

Selected positive opinions of participants about the NEPPE training:
<i>'It was an amazing experience and a lot of knowledge!'</i>
<i>'I am very grateful for this training and hope that I can use this knowledge to help more people.'</i>
<i>'I was amazed to see all the research, articles and exercise classes that most of the presenters were part of! It made me feel very privileged to be part of the project.'</i>
<i>'I loved it :) Congratulations for the great work. I would definitely recommend it.'</i>
<i>'Well organized, good support, good knowledge.'</i>
<i>'The training was very attractive and fruitful. I hope all the participants who participated in this training got basic knowledge and skills about pre and postnatal exercise. Fingers crossed you continue with your good job.'</i>
<i>'Very informative, research based, practical course! Gave me the best confidence to work with pregnant and postnatal females.'</i>
<i>'Excellent job, amazing organization, enthusiasm from the presenters.'</i>
<i>'You are great! Thank you for breaking myths and spreading the knowledge!'</i>
<i>'It was really great pleasure to get knowledge from such experienced teachers. I've got very useful and valuable information.'</i>
<i>'Very high level of organization and knowledge and skills that have been acquired. Thank you.'</i>
<i>'This training was by far one of the best training courses I have taken.'</i>



'Great project and fantastic organisation. Knowledgeable speakers from all over the world and a lot of practical knowledge by experienced presenters.'

'Amazing team with tremendous knowledge and experience and various lectures experts.'

'I enjoyed listening to the researchers presenting the most up-to-date research from all over the world. It was also great to see the diversity in attendees - both from a background and global perspective.'



Survey on the fate of NEPPE training graduates

One of the key tasks of vocational training is to increase the competences of participants, contributing to their better prosperity on the labour market or satisfaction with professional development. Therefore, an important stage of the NEPPE project was to conduct a survey of the fate of NEPPE training graduates.

For this purpose, we have constructed an online survey and sent the link to the NEPPE training graduates. The survey was completed anonymously by a total of 31 graduates of three training editions from 13 countries: Bosnia and Herzegovina, Canada, China, Croatia, Greece, Italy, Lebanon, Lithuania, Luxembourg, Poland, Portugal, South Africa, United Kingdom.

We asked respondents to assess the impact of NEPPE training in the context of their professional work, occupational roles and professional development. We used the 1-5 rating scale, where 5 meant that the training impacted identified issues ‘very significantly’; 4 – significantly; 3 – moderately, 2 – slightly; 1 – not at all. The question concerned the impact of the training in the period from 5 to 12 months from the end of the training (giving the opportunity to the graduates of the third edition, which ended in March 2023). On the other hand, the time since the completion of the training should have been long enough for the graduates to observe its long-term impact.

Respondents found the NEPPE training to have had a significant impact on their professional development (3.8 total score). They rated the highest impact of the training on the increase in their competences to work with pregnant and postpartum clients (4.3 score) and in their confidence in their professional tasks (4.3 score). Interestingly, the participation in the NEPPE training inspired them significantly to further professional development in the subject of exercises during pregnancy and after childbirth (4.2). The lowest rated issue was the impact of NEPPE training on improving the financial situation of respondents (2.7 score). Detailed survey results are presented in Table 26.



Table 26. The results of the survey on the fate of NEPPE training graduates

The results of the survey on the fate of NEPPE training graduates (n = 31)						
Variables (n, %)	1	2	3	4	5	M
Rate how much the NEPPE training over the past 5-12 months has affected the following issues:						
It increased my competence to work with pregnant and postpartum clients	0	1; 3%	5; 16%	8; 26%	17; 55%	4.3
It increased my competence to remotely implement exercise programmes	0	2; 6%	6; 19%	10; 32%	13; 42%	4.1
It gave me more confidence in my professional tasks	0	2; 6%	4; 13%	9; 29%	16; 52%	4.3
It increased my credibility on the labour market (e.g. for the employer, clients)	0	4; 13%	9; 29%	8; 26%	10; 32%	3.8
It allowed me to establish attractive professional contacts (with teachers, other participants of the training)	3; 10%	3; 10%	5; 16%	12; 39%	8; 26%	3.6
It gave me more confidence in dealing with obstetric care providers	0	3; 10%	7; 23%	18; 18%	10; 10%	3.9
It increased the chance of employment in line with my needs and expectations	1; 3%	3; 10%	9; 29%	9; 29%	9; 29%	3.7
It improved my financial situation on the labour market	8; 26%	6; 19%	8; 26%	5; 16%	4; 13%	2.7
It inspired me to further professional development in the subject of exercises during pregnancy and after childbirth	2; 6%	2; 6%	3; 10%	5; 16%	19; 61%	4.2
Total average of ratings						3.8
The 1-5 scale: (1 – not at all; 2 – slightly; 3 – moderately; 4 – significantly; 5 – very significantly)						



Summary

The NEPPE project confirmed the possibilities of using technology in the implementation of international training for exercise professionals, both within the activities of universities and vocational training providers. In this report we presented a selection of tools supporting the online education process at all its stages: recruitment, implementation of training, and verification of learning outcomes. We improved our solutions after each edition of the NEPPE training.

The analysis of the initial competences of the training participants, the results of their final assessments, and the opinions provided in the evaluation surveys were of key importance for the project deliverables. Graduates confirmed the high quality of online training: implementation of classes, staff competences, and the teaching materials used. We also received positive feedback when analysing the fate of graduates, in particular their belief that the NEPPE training inspired them to further develop towards conducting exercises for pregnant and postpartum clients. The results obtained encourage us to continue the actions taken and permanently implement the NEPPE training into the educational offer of GUPES, as well as promoting its implementation by other educational institutions.



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Appendices



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Appendix 1. Recruitment regulations for the NEPPE training

**Recruitment regulations for
the 'New era of pregnancy and postpartum exercise (NEPPE)' training - training for
instructors and trainers in the field of online provision of exercise for pregnant and
postpartum clients**

(updated version 13.02.2022)

1. General information:

- 1.1. The training is aimed at people who conduct or plan to conduct exercises for clients in uncomplicated pregnancy and in the puerperium;
- 1.2. Training dates: from 3 to 31 March, 2023 (the third edition);
- 1.3. Framework programme: the training covers 150 teaching hours (theoretical and practical);
- 1.4. The recruitment process and training will take place online (via MS Teams application);
- 1.5. Training will be conducted in English;
- 1.6. Participation is free;
- 1.7. By joining the training, the participants declare their participation in questionnaire surveys related to the subject and course of the training;
- 1.8. Participants who confirm that all learning outcomes have been achieved will receive a certificate 'Exercise in pregnancy and postpartum'. The training is conducted in accordance with the standards of the international organisation EuropeActive.

2. Date schedule:

- 2.1. Applications for training: February 20, 2023 (extended deadline);
- 2.2. Online interview: between January 16 and February 20, 2023;
- 2.3. Publication of recruitment results: by February 20, 2023 (for candidates applied before February 13); for other candidates: until February 24, 2023.

3. Selection criteria:

- 3.1. Being a student (Polish students are excluded); **In the case of vacancies, we also invite Polish students and all exercise professionals, who are not students, to apply for the training.**
- 3.2. Having professional competence in planning and conducting pro-health exercise classes (e.g.: group fitness instructor, fitness instructor, Pilates instructor/teacher, yoga instructor, personal trainer, exercise specialist, exercise physiologist; a graduate of studies related to physical activity and exercise):
 - a. confirmed by a document issued in accordance with national requirements, e.g. in the countries where these professions are regulated;



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or

- b. confirmed by a document issued by reliable institutions of the health-promoting physical activity sector, such as entities accredited by EuropeActive, ACSM, ACE, UK Active, UKSport, AUSfitness (former FitnessAustralia);

or

- c. confirmed by conducting a 30-minute pro-health exercise session documented on the video material. Details of the video materials are set out in point 5.2.

- 3.3. English language skills allowing easy communication with teachers (at least at the B1 level of the European Language Education System is recommended).

4. Required documents:

- 4.1. Online Application Form with a statement that there are no health contraindications to participate in the training, including physical activities;
- 4.2. Certificate from the home university confirming the status of a student.
- 4.3. Document confirming formal qualification of an exercise professional (in accordance with the requirements specified in point 3.2.);

5. Recruitment process:

- 5.1. **Stage 1.** – applies to all applicants. Formal assessment of submitted documents.
- 5.2. **Stage 2.** - in the case of students who do not have acceptable exercise professionals qualifications, the evaluation of the video material from the 30-minute pro-health exercise session:
 - a. The exercise session is conducted with at least one adult participant;
 - b. The material is supplied in the video file, not exceeding the size of 800 MB;
 - c. The video file or a link to download it must be sent via info.neppe@awf.gda.pl;
 - d. The material is assessed in accordance with the criteria indicated **in the Assessment Form for Conducting Pro-health Exercise Session.**

- 5.3. **Stage 3.** – applies to all applicants. Online interview.

- 5.3.1. The interview will take place via the MS Teams application. The applicant will receive an individual link to the meeting sent to the e-mail address provided;
- 5.3.2. The date of the interview will be individually agreed with the applicant and is planned for the period between January 16 and February 20, 2023;
- 5.3.3. Before the interview the applicant is obligated to send the scan of the document confirming the status of a student and the scan of the document confirming professional competence in planning and conducting pro-health exercise classes or the video material (see point 3.2) and the
- 5.3.3. The interview is expected to last between 10 – 15 minutes;
- 5.3.4. The following issues will be assessed during the interview:
 - a. presentation of the applicant's motivation for joining the training;



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- b. applicant's communication skills;
- c. experience in conducting pro-health classes;
- d. experience in conducting exercise classes for clients in pregnancy and postpartum.

5.3.5. The interview will be assessed by an assessor or a commission of assessors from the NEPPE experts team. For each of the issues listed in 3.4.a-d, the assessor assigns points on a 0-3 scale. The sum of the points obtained will determine the applicants' ranking.

6. People with disabilities:

- 6.1. People with physical disabilities may join the training;
- 6.2. Candidates with physical disabilities are asked to report in advance their individual needs for the necessary support enabling recruitment.

7. Recruitment results and starting the NEPPE training:

- 7.1. Recruitment results will be announced to applicants no later than 7 days from the date of the interview with the last applicant in a given edition.
- 7.2. Within three days of the announcement of the results, the applicant is obliged to send scans of documents required by the financing institution (Polish National Agency of Academic Exchange - NAWA):
 - a. Declaration of participation in the project
 - b. Participant personal data form
 - c. GDPR-PO-WER
 - d. GDPR – NAWA
 - e. Additional consent of the project participant to data processing
- 7.3. After receiving the complete set of documents, the training organizer will send the applicant the login and password to the MS Office account administered by GUPES, which will be used for the training.



Appendix 2. Assessment Form for Conducting Pro-health Exercise Session

Assessment Form for Conducting Pro-health Exercise Session

In the recruitment process for the NEPPE training, the applicants who do not have the confirmation of qualifications of an exercise professional prepare a short video material. The video material confirms the ability to plan and conduct pro-health exercise session and should meet the following requirements:

1. The exercise session is conducted with at least one adult participant;
2. The material is supplied in the video file, not exceeding the size of 800 MB;
3. The exercise session can be conducted anywhere (in the gym, at home, outdoors).
4. Any sports equipment can be used in the session, but it is not necessary (only exercises with own body resistance can be used);
5. A person participating in the exercise session as a client, before starting the recording, must give written consent to the recording and use of their image in the recruitment process. The applicant may be asked to send this consent to the NEPPE training organizer.

The material is assessed in accordance with the following criteria (all skills must attain at least the score of 1):

No	The applicant presents following skills:	Scores (0-3)*
1.	plans the correct structure of the exercise session (warm-up, main part, cool down);	
2.	correctly selects exercises, their difficulty and intensity appropriate to the abilities of the client;	
3.	safely organizes the exercise session, e.g. in terms of proper use of exercise equipment, removing dangerous objects from the exercise site, checking the client's preparation and readiness to participate in the session;	
4.	demonstrates the exercises correctly;	
5.	monitors the intensity, e.g. observing the client, asking questions, with the Borg's RPE scale, pulsometer;	
6.	depending on the client's performance, modifies the intensity and difficulty of the exercises, e.g. using breaks, breathing exercises, changing the tempo of exercise or adapting exercises;	



7.	clearly instructs the client about the correct technique of the exercise, e.g. about the starting position, breathing pattern, technical tips;	
8.	informs participants about the purpose of individual exercises and health benefits, e.g. 'in these exercises we stimulate the cardiovascular system, strengthen the abdominal muscles', 'thanks to these exercises you will prevent backache', etc.	
9.	notices the technical mistakes of the client and reacts to them, (e.g. by changing the exercise, modifying, instructing, commenting), and enforces the correct exercise technique from the client;	
10.	greets and says goodbye to the client and makes eye contact;	
11.	asks the client about the well-being at the beginning, during and at the end of the session;	
12.	motivates the client to the physical effort during the session and encourages to participate in future classes;	
13.	*presents communication and interpersonal skills (including making eye contact with the client, talking to the client in a friendly manner, smiling and treating the client with respect)	
14.	uses professional language in contact with the client;	
15.	presents an appropriate level of motor preparation, which enables proper technique demonstration and proper course of the exercise session;	
16.	wears sports clothes and shoes, appropriate to the environment of the exercise session.	
Total score:		
*0 – failed, 1 – sufficient, 2- good, 3 – very good		



Appendix 3. The interview assessment form in the recruitment process

The interview assessment form in the recruitment process

Name and surname of the applicant:.....

Date of the interview:.....

Individual needs for the necessary support enabling recruitment and participation in the training (e.g. related to any disabilities), if any:
.....
.....

Criteria	Scores*		
	Assessor 1	Assessor 2**	Assessor 3**
Presentation of the applicant's motivation for joining the training			
Applicant's communication skills (including communication in English)			
Experience in conducting pro-health classes			
Experience in conducting classes for clients in pregnancy and postpartum			
The sum of the scores from each assessor separately:			
Total score:			
Notes:			
<p>*For each of the above criteria, the assessor assigns scores on a 0-3 scale, where 0 means not sufficient, 1 – sufficient, 2 – good, 3 – very good. The sum of the points obtained will determine the applicants' ranking.</p> <p>** The interview may be conducted by one assessor or a committee of assessors.</p>			

Name and signature of the assessor (s):

.....



Appendix 4. International Competency Questionnaire for Exercise in Pregnancy and Postpartum

International Competency Questionnaire for Exercise in Pregnancy and Postpartum

Introduction

Dear responders,

This questionnaire is targeted at exercise professionals (instructors, trainers, exercise specialists, exercise physiologists, coaches of various forms of physical activity or competitive sports) and physiotherapists, who plan and conduct health-enhancing exercise for pregnant and postpartum clients.

We kindly invite you to complete the following questionnaire. Your answers will be used to define knowledge and attitudes in the field of pregnancy and postpartum exercise in different countries. They will also be used to develop training programmes for exercise professionals working with clients in the perinatal period. The survey is anonymous. It takes about 15-25 minutes to answer all questions. We appreciate your time and effort very much. We will be very grateful for honest answers.

Research risks

There are no known risks related to this survey. You need to answer all questions. You may terminate your questionnaire at any time if you wish.

Contact information

This competence survey is carried out as part of the international project NEPPE ('New Era of Pregnancy and Postpartum Exercise - training on the online provision of pre- and postnatal classes'), co-financed by the National Agency for Academic Exchange in Poland, supported by the European Union Funds (POWR.03.03.00-00-PN16/18). In case of queries, please contact the project coordinator: anna.szumilewicz@awf.gda.pl

Voluntary participation

You voluntarily participate in this survey. If you decide to participate in this study, you will be asked to confirm your informed consent. After confirming the informed consent, you can still withdraw at any time without reason.

Thank you very much,

NEPPE project team

Informed consent: 'I state that I read and understood the information provided and had the opportunity to ask questions. I participate in the survey voluntarily and I understand that I can withdraw at any time without giving any reason'. If you agree with the above content, please click the 'Agree' button below to start answering the questions. If you do not agree, please interrupt this survey.

Agree



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Part I - Assessment of the level of knowledge about physical activity during pregnancy and postpartum

Determine the truth of the following statements (without the use of any sources of information).

The meaning of the terms below:

'Physical activity' means any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level.

'Exercise' is a form of physical activity that is planned, structured, repetitive, and performed with the goal of improving health or fitness.

'Vigorous intensity of physical activity' refers to exertion causing strongly increased breathing, clearly impeding speech (and markedly increased heart rate), e.g. lifting heavy loads, digging the ground, fast cycling.

'Moderate intensity of physical activity' refers to physical effort with slightly increased breathing (and slightly increased heart rate), not causing significant difficulties in speaking, e.g. walking faster, carrying lighter loads, average cycling for transport.

'Light intensity of physical activity' refers to an activity in which a slight increase in breathing and heart rate go unnoticed (e.g., gentle walking and activities of daily living)

I.1. Popular claims about participation in physical activity during pregnancy and postpartum

The questions concern pregnancy and childbirth with a normal course with no health contraindications to physical exertion, both related to and not related to pregnancy or puerperium.

1. Physical effort during pregnancy, exceeding the intensity above 140 HR, may lead to miscarriage or hypoxia of the child.
2. Regular, moderate to high intensity exercise during pregnancy reduces the risk of metabolic diseases, as well as overweight and obesity in infants.
3. Regular exercise should only be started after the end of the first trimester of pregnancy.
4. Pregnant participants with no contraindications should perform at least 150 minutes of moderate physical activity (i.e. the same as a non-pregnant adult).
5. A participant who was inactive before pregnancy should not start any exercising during the first 8 weeks of pregnancy, and after this period only activities that ensure a low intensity should be performed.
6. During pregnancy one should not perform any abdominal exercises.
7. Regular physical activity during pregnancy reduces the risk of prenatal depression.
8. Owing to the secretion of relaxin during pregnancy, a pregnant participant should not perform any stretching exercises so as not to damage the joints.
9. A participant who regularly jogged / ran before pregnancy may continue this physical activity as long as the course of pregnancy is normal.
10. During pregnancy, one should not perform activities with arms raised (e.g. hanging curtains, removing items from the top shelves, swinging arms), because it may result in a miscarriage.



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11. During pregnancy, one should not exercise with a load greater than 5 kg (11 lb) because it may result in miscarriage or premature birth.
12. Pregnant participants who regularly practised cycling before pregnancy may continue cycling, taking appropriate precautions (e.g. avoid riding off the bicycle lanes).
13. Competitive cross-country skiers may continue their training plan throughout their pregnancy, if their pregnancy development is monitored by obstetricians and their health and well-being are good.
14. Regular exercise during pregnancy may reduce the risk of pre-eclampsia.
15. If the diastasis recti of abdominis occurs during pregnancy, any exercises to strengthen the abdominal muscles should be avoided until delivery.
16. Pelvic floor muscle training during pregnancy should not be performed as it makes delivery more difficult.
17. Pelvic floor exercises should be started as early as possible, after giving birth (even within a few days after childbirth).
18. After childbirth, moderate-intensity exercise should not be started until the postpartum bleeding is over, due to the risk of haemorrhage.
19. After childbirth, one should not return to competitive sports earlier than after one year.
20. High intensity physical activity during lactation may cause the milk to taste sour.

I.2. Contraindications to exercise during pregnancy and after childbirth

1. Pregnant participants with well-controlled type 1 diabetes can exercise according to current recommendations, but additional measures to mitigate risk of hypoglycaemia should be used.
2. A shortened cervix (less than 2.5 cm) is an indication for 'bed rest'.
3. Chronic, controlled arterial hypertension (diagnosed before pregnancy) is not a contraindication to exercise during pregnancy.
4. Pregnant participants who experience regular and painful uterine contractions should cease exercise and seek advice from a healthcare provider.
5. Participants with the placenta abruption in previous pregnancy should be encouraged to undertake moderate exercise.
6. Participants with recurrent pregnancy loss (the loss of three or more consecutive pregnancies) should avoid exercise.
7. Participants with cervical dilation should maintain activities of daily living, but avoid moderate to vigorous physical activity.
8. Participants diagnosed with placenta previa after 28 weeks' gestation should maintain their activities of daily living and low-intensity activity (e.g., walking).
9. Participants who have been diagnosed with cardiac arrhythmia before pregnancy should refrain from exercising during pregnancy (even if the arrhythmia is treated and well controlled).
10. Postpartum participants with stress urinary incontinence should give up exercise completely until the symptoms of this dysfunction are resolved.



Part II – self-assessment of professional competences to conduct exercise sessions/programmes during pregnancy and after childbirth and opinions on vocational training

The questions concern pregnancy and childbirth with a normal course with no health contraindications to physical exertion, both related to and unrelated to pregnancy or puerperium.

II.1. How would you describe your professional experience in conducting exercise or the training process for pregnant or postpartum clients?

- I have no experience (choose the option 'not applicable' in the questions of part II of the questionnaire)
- I have worked with pregnant or postpartum clients from time-to time (I conduct pre- or postnatal exercise session less than once a month)
- I regularly work with pregnant or postpartum clients, but this is not my specialisation (I conduct pre- or postnatal exercise session at least once a month).
- Conducting exercises or a training process for pregnant or postpartum clients is my specialty and it is the main part of my professional work

II.2. Please indicate how much you agree or disagree with the following statements:

1 - *Strongly disagree*; 2 – *Disagree*; 3 - *Neither agree or disagree*; 4 – *Agree*; 5 - *Strongly agree*; 6 – *not applicable*

[Social/professional identity]

- Training pregnant or postpartum clients is outside the boundaries of my role
- Within my role it is necessary/expected that I train healthy pregnant or postpartum clients
- As an exercise professional I encourage pregnant and postpartum clients to be active (even if I don't train them)
- In the provision of exercise sessions/programs I closely cooperate with obstetric care providers

[Beliefs about consequences]

- If I train a pregnant or postpartum individual and there are complications during pregnancy or the postpartum period, I will be held responsible
- If I refuse to train a pregnant or postpartum individual they will be upset or disappointed

[Environmental context & resources]

- My employer(s) or the organisations/centres where I work encourage me to train pregnant or postpartum clients
- Other instructors/trainers/exercise professionals I know and/or work with provide me with good support to train pregnant or postpartum clients
- I have good support and the opportunity to cooperate with representatives of other professional areas (e.g. obstetricians, midwives, physiotherapists) in conducting exercise session/programmes for pregnant and postpartum clients, e.g. when I want to consult on the health or well-being of the exercise participants



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- I have the resources (e.g. proper fitness equipment, safe environment, reliable resources of information) I need to train healthy pregnant or postpartum clients

[Social influences]

- I feel comfortable and competent to train pregnant or postpartum clients
- I am more confident to train pregnant or postpartum clients than other instructors/trainers/exercise specialists I know and/or work with
- I feel competent to cooperate with the obstetric care providers or other health specialists in the provision of exercise sessions/programmes for pregnant or postpartum clients
- I am trustworthy to pregnant and postpartum clients and inspire their confidence in exercising

[Emotions]

- When I train a pregnant or postpartum individual it is a positive experience
- Training pregnant or postpartum clients is stressful for me
- I am concerned about causing harm to pregnant clients and/or their babies during their training

II.3. How would you rate your ability to conduct exercises for pregnant or postpartum clients as related to:

1 – very low; 2 – low; 3 – average; 4 – high; 5 – very high; 6 – not applicable

- assessment and of the individual's exercise capacity and fitness level at any stage of pregnancy or postpartum,
- selection of forms of physical activity and exercise for pregnant or postpartum clients
- adaptation of forms of physical activity and exercise to their needs related to the development of pregnancy or pregnancy or puerperal symptoms (e.g. back pain, urinary incontinence)
- planning and monitoring exercise intensity for pregnant or postpartum clients
- planning the frequency and duration of exercise sessions for pregnant or postpartum clients
- conducting exercise sessions for pregnant or postpartum clients
- conducting exercises specific to the perinatal period (e.g. breathing exercises, relaxation exercises, birth positions)
- providing clients with information about exercise during pregnancy and after childbirth
- convincing clients and the environment of what is right and debunking common myths about exercise during pregnancy and after childbirth

II.4. Is there anything you would like to add regarding your self-assessment of professional competences to deliver exercise sessions/programmes for clients during pregnancy and after childbirth? (open question, optional)



II.5. Do you consult the obstetric care providers (e.g. obstetricians, midwives, nurses) when implementing exercise sessions/programmes for pregnant or postpartum clients?

- Never
- Occasionally, in individual cases
- Often, in most cases
- Always
- N/A (I have not been working with pregnant or postpartum clients yet).

II.6. Assess to what extent you agree or disagree with the following statements regarding professional qualifications to conduct exercise sessions/programmes for pregnant and postpartum clients:

1 - Strongly disagree; 2 – Disagree; 3 - Neither agree or disagree; 4 – Agree; 5 - Strongly agree

- In order to conduct exercise sessions/programme for pregnant and postpartum clients safely and effectively, exercise professionals require specialised training.
- Information in publicly available sources (i.e. the Internet, guidelines from governing organisations, guides on exercise in pregnancy and postpartum) is sufficient to self-train for pregnancy and postpartum exercise.
- There should be two separate professional qualifications on the market, 'Exercise in pregnancy' and 'Exercise in Postpartum', because pregnant clients and those after childbirth are populations with different needs and require different professional competences from the instructor.
- Instructors, trainers, exercise specialists conducting exercise sessions/programme for pregnant and postpartum clients should have professional qualifications registered (i.e. national registers of professional qualifications, European Register of Exercise Professionals and others).

Part III – opinions on professional competences for remote delivery of exercise sessions / physical activity programmes for pregnant and postpartum clients

Remote delivery of exercises / physical activity programmes are understood as the interaction of the instructor / trainer / exercise specialist with a pregnant or postpartum individual using the technological infrastructure enabling remote communication. Remote delivery of exercise includes all stages of cooperation with the participant, typical for the delivery of exercise session / physical activity programmes in the traditional form, i.e. initial interview, assessment of exercise capacity, planning and conducting classes as well as monitoring and evaluation of exercise effectiveness. Professional tasks related to the remote delivery of exercise sessions / physical activity programmes by far exceed the recording of video material with exercises or streaming of exercise sessions that are aimed at a wide audience (however, these activities can be used as part of the remote delivery of exercise programmes).

III.1. Have you ever conducted exercise sessions / physical activity programmes for pregnant or postpartum clients remotely?

- Yes, it is the main form of my work
- Often (at least once a month) but it is not the main form of my work
- From time to time (less than once a month)
- Never



III.2. Assess to what extent you agree or disagree with the following statements regarding remote training for pregnant and postpartum clients:

1 - I strongly disagree; 2 - I do not agree; 3 - I have no opinion; 4 - I agree; 5 - I strongly agree;

- Conducting exercise sessions / physical activity programmes for pregnant and postpartum clients completely remotely may be as effective as conducting exercise sessions / physical activity programmes in a face to face form.
- Remote exercise sessions / physical activity programmes for pregnant and postpartum clients can be very effective, but some tasks should be performed in physical face to face contact (e.g. conducting an initial interview, basic health screening and assessment of exercise capacity and fitness parameters).
- Basic content for remote provision of exercise sessions / physical activity programmes should be included in the general training of instructors, trainers or exercise specialists (regardless of qualification level and specialisation).
- The offer of remote exercise sessions / physical activity programmes for pregnant and postpartum clients will develop dynamically, due to their widespread availability.
- The offer of exercise sessions / physical activity programmes for pregnant and postpartum clients conducted remotely does not have a great chance for development, due to the fact that these groups of participants require constant direct supervision by the exercise professional during exercise.

III.3. How would you rate your skills in remote provision of exercise sessions / physical activity programmes for pregnant or postpartum clients as related to:

1 – very low; 2 – low; 3 – average; 4 – high; 5 – very high

- using the appropriate technological infrastructure (both electronic equipment and computer programmes and applications)
- remote initial interview and gathering necessary information about participants before starting the exercises
- remote carrying out of the basic assessment of exercise capacity and fitness levels of participants
- remote provision of 'live' exercise sessions (including ensuring the appropriate quality of data transfer, lighting, sound system, good visibility of the presented exercises, properly organising and arranging the place of exercises)
- remote communication, building rapport and motivating participants to exercise regularly (e.g. by phone or video calls, e-mails, text messages, social media)
- remote monitoring and control of training progress (including the use of specialised training applications)
- remote building interactions in a group of participants (including through social media, participant activation techniques during online meetings)
- remote taking care of the participants' safety
- taking care of the legal aspects related to the remote conduct of classes/exercise programmes, including the exclusion of liability for accidents



III. 4. Is there anything you would like to add regarding your self-assessment of professional competences to remote provision of exercise sessions / physical activity programmes? (open question, optional)

Part IV – participation of people with disabilities in the area of exercise during pregnancy and postpartum

As 'disability' we consider a physical, mental, cognitive, or developmental condition that impairs, interferes with, or limits a person's ability to engage in certain tasks or actions or participate in typical daily or professional activities and interactions.

IV.1. Do you have any physical disability?

- No (skip questions IV.2 and IV.3)
- Yes
- Prefer not to answer (skip questions IV.2 and IV.3)

IV.2. If applicable and you feel comfortable, indicate your physical disability (if applicable, descriptive, optional question):

IV.3. If applicable and you feel comfortable, list or briefly describe the technologies and tools that compensate your physical disability so that you can conduct exercises for pregnant and postpartum clients (if applicable, descriptive, optional question):

IV.4. Have you ever encountered a situation where exercise sessions / physical activity programmes for pregnant or postpartum clients were conducted by a person with a physical disability?

- No (skip questions IV.5 and IV.6)
- Yes
- Don't know/ difficult to say (skip questions IV.5 and IV.6)

IV.5. If applicable, briefly characterize this person's physical disability (descriptive, optional question):

IV.6. If applicable, list or briefly describe the technologies and tools that this person used to compensate for the physical disability in conducting exercise sessions / physical activity programmes for pregnant and postpartum clients (descriptive question, optional):

IV.7. Have you ever conducted exercise sessions / physical activity programmes for clients with disabilities (intellectual or physical), pregnant or postpartum?

- No
- I have worked with several clients with disabilities who were pregnant or postpartum
- I work regularly with pregnant or postpartum clients with disabilities

IV.8. Assess how much you agree or disagree with the following statements regarding the inclusion of people with disabilities in the area of exercise during pregnancy and postpartum:

1 - I strongly disagree; 2 - I do not agree; 3 - I have no opinion; 4 - I agree; 5 - I strongly agree

- People with physical disabilities (regardless of the level of disability), thanks to modern compensation technology, can conduct exercise sessions / physical activity programmes for pregnant and postpartum clients in an effective and safe way.



- People with physical disabilities (regardless of the level of disability), thanks to modern compensation technology, have similar opportunities for professional development in the area of conducting exercises for pregnant and postpartum clients as exercise professionals without disabilities.
- Clients may perceive exercise professionals with physical disabilities (regardless of their level of disability) as insufficiently competent to lead exercise sessions / physical activity programmes for clients during pregnancy and after childbirth.
- The implementation of exercise sessions / physical activity programmes for pregnant and postpartum clients with disabilities (physical or intellectual) is necessary for their health and the proper course of pregnancy, delivery and puerperium.
- I feel competent to conduct exercise sessions / physical activity programmes for pregnant and postpartum clients with disabilities (physical or intellectual).

IV.9. Is there anything you would like to add regarding the inclusion of people with disabilities in the area of exercise during pregnancy and postpartum? (open question, optional)

Part V – Responder's information:

5.1 The country where you work/live most of the time (in the last 5 years):

5.2. Your nationality

5.3. Age (in years)

5.4. Gender:

- Female
- Male
- Prefer not to answer
- Other

5.5. Name of the professional qualification confirming competence in planning and conducting pro-health exercise classes.

- Group fitness instructor
- Fitness instructor
- Pilates teacher/instructor
- Yoga teacher/instructor
- Personal trainer
- Pregnancy and postpartum exercise specialist
- Exercise specialist (other populations)
- Exercise physiologist
- Physiotherapist
- Strength and conditioning coach
- Competitive sport instructor / trainer / coach (any discipline)
- Others (which)
- I'm not a qualified exercise professional according to the NEPPE project requirements.



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5.6. Years of experience in conducting pro-health exercise classes, for any population (if applicable)

5.7. Years of experience in conducting pro-health exercise classes for pregnant or postpartum clients (if applicable)

5.8. Are there specific professional qualifications required by law to provide exercise sessions / physical activity programmes for pregnant or postpartum clients in your country:

- Yes (please, specify)
- No
- Don't know/Difficult to say

5.9. If applicable, please describe any specific professional qualifications required by law to provide exercise sessions / physical activity programmes for pregnant or postpartum clients in your country:

5.10. Does an individual need to show the exercise professional their doctor's approval to attend pregnancy or postpartum exercise sessions / physical activity programmes in your country?

- Yes, it is mandatory
- No, it is not mandatory but generally practiced
- No
- Don't know/Difficult to say

5.11. Your place/ type of employment:

- A facility that offers physical activities (e.g. a fitness club, health centre, sports club, sports and recreation centre)
- An entity offering education and services for future parents, e.g. childbirth schools / prenatal classes
- Hospital
- Exercise professional's own business
- Others

5.12. Have you ever used the following sources of information for training of pregnant and postpartum clients? Please, mark all relevant answers.

- Specialised training for conducting exercise sessions / physical activity programmes for pregnant and postpartum clients
- Official recommendations on physical activity during pregnancy and postpartum issued by reliable institutions in the field of sports medicine, physiotherapy, gynaecology and obstetrics (e.g. WHO, ACOG, RCOG, the joint SOCG/SCEP guidelines, etc.)
- Internet, e.g. internet blogs, social media posts
- Guides, books
- I have never used any form of professional development in this subject
- Another answer

If applicable, list or describe other sources of information which you use in the field of physical activity during pregnancy and postpartum.



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Appendix 5. The practical task 1 template: 6-8 week exercise programme for a pregnant or postpartum client

The practical task 1 template: 6-8 week exercise programme for a pregnant or postpartum client

Exercise programme for a pregnant or postpartum client (6-8 weeks)

Your name and surname:.....

Part 1: Description of the pregnant or postpartum client using following information (all fields must be filled in):

1.	Physical activity level	
2.	Age	
3.	Which stage of pregnancy or postpartum?	
4.	Which pregnancy is it/was?	
5.	Any miscarriages (how many)?	
6.	Self-perception of health (any discomforts, which)	
7.	Occupation	
8.	What are the main motivations for exercising?	
9.	Which are the client's preferences regarding exercise?	
10.	What can be the main barriers and facilitators?	
11.	Other	

Part 2: List the tools (at least three) which you will use to screen and/or monitor the client's health and fitness status (all fields must be filled in):

No	The name (or short description) of the tool	Parameters to be measured	Short justification why a particular parameter should be measured in your client
1.			
2.			
3.			

A summary of the client's data collected from the use of the assessment and/or monitoring tools identified above:

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.....
.....



Part 3: Description of the exercise programme for pregnant or postpartum client (all fields must be completed):

Type	Intensity	Duration	Frequency	Progression / Adaptation/ Comments (if applicable)
Aerobic				
Resistance*				
Flexibility*				



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NEPPE
NEPPE

Neuromotor*				
Pelvic floor training*				

*All exercises must be described: 1. starting position, 2. the movement, 3. which muscles are mainly involved, 4. when you exhale and inhale 5. when you activate the PFM 6. potential precautions and options of difficulty (e.g. in terms of the posture, client's well-being)

Additional comments:

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Appendix 6. Assessment form for the exercise programme design for pregnant and postpartum client

Assessment form for the exercise programme design for pregnant and postpartum client

To complete the NEPPE training, one task is performed for a pregnant client, the other - for a client after childbirth, (e.g. an 8-week exercise programme is prepared for the pregnant client, and a one-time exercise session for the postpartum client. It may be the other way around.) Two different characteristics of clients are required.

Name and surname of the NEPPE training participant:		
No	Parts of the exercise programme design	Scores
1.	Score of client description	
2.	Score of the tools list to screen and/or monitor the client's health and fitness status	
3.	Score of exercise description	
Total score:		

Part 1: For the description of a pregnant or postpartum client the participant receives scores:

- 0 – The participant did not provide this information about the client
- 1 – The participant provided this information about the client

	Scores (0-1)
1. PA level	
2. Age	
3. Which stage of pregnancy or postpartum?	
4. Which pregnancy is it/was?	
5. Any miscarriages (how many)?	
6. Self-perception of health (any discomforts, which)	
7. Occupation	
8. What are the main motivations for exercising?	
9. Which are the client's preferences regarding exercise?	
10. What can be the main barriers and facilitators?	
11. Other, if applicable	
Total score:	



Part 2: For the description of the tools to screen and/or monitor the client's health and fitness status the participant receives scores:

- 0 – the participant did not fill in the field or filled it in incorrectly,
- 1 – sufficient,
- 2 – good,
- *Extra 1 point for a summary of the client's data collected from the use of the assessment and/or monitoring tools identified above

No	Description	Score (0-2)
1.	First tool	The name (or short description) of the tool
		Parameters to be measured
		Short justification why a particular parameter should be measured in your client
2.	Second tool	The name (or short description) of the tool
		Parameters to be measured
		Short justification why a particular parameter should be measured in your client
3.	Third tool	The name (or short description) of the tool
		Parameters to be measured
		Short justification why a particular parameter should be measured in your client
4.	A summary of the client's data collected from the use of the assessment and/or monitoring tools identified above*	
Total score:		

Part 3: For the exercise description for pregnant and postpartum client the participant receives scores:

- 0 – the participant did not fill in the field or filled it in incorrectly,
- 1 – sufficient,
- 2 – good,
- 3 – very good,
- *Score 0-1 – for Progression / Adaptation/ Comments
- **Extra 1 point - for additional comments related to the exercise programme design

No	Description	Score (0-3)
1.	Aerobic	Type
		Intensity
		Duration
		Frequency
		Progression / Adaptation/ Comments*
2.	Resistance	Type
		Intensity
		Duration
		Frequency
		Progression / Adaptation/ Comments*



3.	Flexibility	Type	
		Intensity	
		Duration	
		Frequency	
		Progression / Adaptation/ Comments*	
4.	Neuromotor	Type	
		Intensity	
		Duration	
		Frequency	
		Progression / Adaptation/ Comments*	
5.	Pelvic floor training	Type	
		Intensity	
		Duration	
		Frequency	
		Progression / Adaptation/ Comments*	
6.	Additional comments**		
		Total score:	



Appendix 7. The description of the practical task 2: the video of an exercise session for pregnant and postpartum client

The description of the practical task 2: the video of an exercise session for pregnant and postpartum client

The video material confirms the ability to plan and conduct a pro-health exercise session for a pregnant or postpartum client and should meet the following requirements:

1. The exercise session is conducted with at least **one pregnant or postpartum participant** (The client can simulate pregnancy or postpartum).
2. In the video material, before starting the session, **the NEPPE training participant presents the pregnant or postpartum client**, according to the criteria set out in point 10);
3. The material is supplied in the video file, not exceeding the size of 800 MB;
4. The exercise session can be conducted anywhere (in the gym, at home, outdoors).
5. Any sports equipment can be used in the session, but it is not necessary (only exercises with own body resistance can be used);
6. The session should last at least 30 minutes, maximum 90 minutes (the duration and the intensity should be properly planned taking into account the characteristics of the client)
7. A person participating in the exercise session as a pregnant or postpartum client, before starting the recording, must give written consent to the recording and use of personal image in the activities related to the NEPPE project promotion and implementation. The NEPPE training participant may be asked to send this consent to the NEPPE training organizer.
8. At the beginning of the video file, the NEPPE training participant should display the information that the presented exercise session is carried out as a final practical exam in the international training of instructors and trainers working with pregnant and postpartum clients. If possible, include the NEPPE logo and the obligatory logo of the financing institution and EU.
9. The NEPPE training participant agrees that the provided video material will be used for educational and promotional purposes of the NEPPE project.
10. The pregnant or postpartum client description should include following information:

The characteristics of the pregnant or postpartum client		Tick, if presented in the recording
1.	PA level	
2.	Age	
3.	Which stage of pregnancy or postpartum?	



4.	Which pregnancy is it/was?	
5.	Any miscarriages (how many)?	
6.	Self-perception of health (any discomforts, which)	
7.	Occupation	
8.	What are the main motivations for exercising?	
9.	Which are the client's preferences regarding exercise?	
10	What can be the main barriers and facilitators?	
11	Other, if applicable	

To complete the NEPPE training, one task is performed for a pregnant client, the other - for a client after childbirth, (e.g. an 8-week exercise programme is prepared for the pregnant client, and a one-time exercise session for the postpartum client. It may be the other way around.) Two different characteristics of clients are required.



Appendix 8. Assessment form for the exercise session with pregnant or postpartum client (video material)

Assessment form for the exercise session with pregnant or postpartum client (video material)			
Name and surname of the NEPPE training participant:			
No	The NEPPE training participant presents following skills: All skills must attain <u>at least the score of 1.</u>	Indicate time in your session*	Scores (0-3)**
1.	plans the correct structure of the exercise session (warm-up, main part, cool down):		
	A) Aerobic exercises***		
	B) Resistance exercises for major muscle groups (including abdominal muscle exercises)		
	C) Flexibility exercises		
	D) Neuromotor exercises		
	E) Pelvic floor training		
	F) Breathing exercises, relaxation, visualisation and/or birth preparation exercises.		
2.	correctly selects exercises, their difficulty and intensity appropriate to the needs, abilities, stage of pregnancy/postpartum, potential discomforts of the client (based on the provided characteristics of the pregnant or postpartum client);		
3.	safely organizes the exercise session, e.g. in terms of proper use of exercise equipment, removing dangerous objects from the exercise site, checking the client's preparation and readiness to participate in the session;		
4.	demonstrates the exercises correctly;		
5.	monitors the intensity, e.g. observing the client, asking questions, with the Borg's RPE scale, pulsometer;		
6.	depending on the client's performance, modifies the intensity and difficulty of the exercises, e.g. using breaks, breathing exercises, changing the tempo of exercise or adapting exercises;		



7.	clearly instructs the client about the correct technique of the exercise, e.g. about the starting position, breathing pattern, technical tips;		
8.	informs participants about the purpose of individual exercises and health benefits, e.g. 'in these exercises we stimulate the cardiovascular system, strengthen the abdominal muscles', 'thanks to these exercises you will prevent backache', etc.		
9.	notices the technical mistakes of the client and reacts to them, (e.g. by changing the exercise, modifying, instructing, commenting), and enforces the correct exercise technique from the client;		
10.	greets and says goodbye to the client and makes eye contact;		
11.	asks the client about the well-being at the beginning, during and at the end of the session;		
12.	motivates the client to the physical effort during the session and encourages to participate in future classes;		
13.	uses professional language in contact with the client;		
14.	presents an appropriate level of motor preparation, which enables proper technique demonstration and proper course of the exercise session;		
15.	wears sports clothes and shoes, appropriate to the environment of the exercise session.		
Total score:			
*to be filled in by the participant ** to be filled in by the assessor: 0 – incompetent, 1 – sufficient, 2 – good, 3 – very good *** all types of exercise from the A-F points must be presented			



Appendix 9. An exemplary NEPPE training schedule - March 2023 edition

The Detailed Schedule of the NEPPE training (the third edition): March, 3-31, 2023

The training organizer reserves the right to change the programme due to the availability of experts. Participants will be informed about the changes in advance.

March, 3, 2023, Friday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	Introduction to the training	Prof. Anna Szumilewicz, Poland	Theoretical
2	15.00-15.45	Initial Competence Test		Test
3	16.00-16.45	The Effects of Maternal Exercise Mode on Maternal & Infant Health Outcomes (part I)	Prof. Linda May, USA	Theoretical
4	16.45-17.30			

March, 4, 2023, Saturday				
	Time (CET)	Topic	Teacher	Form of the class
1	10.00-10.45	Recommended forms of exercise during pregnancy and so-called risky sports	Prof. Anna Szumilewicz, Poland	Theoretical
2	10.45-11.30	Adaptation of exercise and sport activities to pregnancy		
3	11.45-12.30	Specific tools used in the pre-exercise and fitness assessment of pregnant clients. Practical examples of the use and interpretation of specific tools	Prof. Miguel Angel Oviedo Caro, Spain	Theoretical & practical
4	12.30-13.15			
Lunch break				
5	14.15-15.00	Structure of the exercise class for pregnant clients	Prof. Anna Szumilewicz, Poland	Theoretical



6	15.15-16.00	Current recommendations for physical activity during pregnancy	Prof. Michelle Mottola, Canada	Theoretical
7	16.00-16.45	Pregnancy-induced changes in various body systems that determine the planning and conduct of prenatal exercise programmes		

March, 5, 2023, Sunday				
	Time (CET)	Topic	Teacher	Form of the class
1	10.00-10.45	Potential benefits, rules and safety considerations of prenatal HIIT – based on a systematic review and HIIT Mama project	Prof. Anna Szumilewicz, Poland	Theoretical
2	10.45-11.30			
3	11.45-12.30	High Intensity Interval Training (HIIT) during pregnancy – a sample training session		Practical
4	12.30-13.15			
Lunch break				
5	14.15-15.00	Characteristics, main facilitators and barriers to participation in physical activity during pregnancy in Iran	Prof. Najmeh Shojaeian, Iran	Theoretical
6	15.00-15.45	The effects of maternal active lifestyle on the offspring's development (motor, cognitive and socio-emotional development in infancy)		Theoretical
7	16.00-16.45	The lifestyle of pregnant clients during COVID-19 and its side effects on maternal and neonatal consequences		Theoretical

March, 6, 2023, Monday			
	Time (CET)	Topic	Form of activity
1	14.15-15.00	Learner's self-activity: Current recommendations for physical activity during pregnancy	Individual activity of participants in the field of assigned practical tasks supervised by Prof. Anna Szumilewicz, Poland
2	15.00-15.45		
3	16.00-16.45		
4	16.45-17.30		



March, 7, 2023, Tuesday			
	Time (CET)	Topic	Form of activity
1	14.15-15.00	Learner's self-activity Specific tools used in the pre-exercise and fitness assessment of pregnant clients.	Individual activity of participants in the field of assigned practical tasks supervised by Aneta Worska, MSc, Poland
2	15.00-15.45		
3	16.00-16.45		
4	16.45-17.30		

March, 8, 2023, Wednesday				
	Time (CET)	Topic	Teacher	Form of the class
1	16.00-16.45	Characteristics of prenatal physical activity in Poland – barriers and problems that an exercise professional has to overcome working with pregnant clients	Aneta Worska, PT Poland	Theoretical
2	17.00-17.45	Absolute and relative contraindications for physical activity during pregnancy.	Prof. Margie Davenport Canada	Theoretical
3	17.45-18.30	Reasons for an urgent termination of a prenatal exercise session.		

March, 9, 2023, Thursday						
	Time (CET)	Topic	Teacher	Form of the class		
1	14.15-15.00	Potential benefits of prenatal physical activity for the mother, the course of pregnancy and foetal development and health, labour and delivery.	Prof. Rita Santos-Rocha, Portugal	Theoretical		
2	15.00-15.45					
3	16.00-16.45	Current recommendations for exercise prescription for pregnant clients				
4	16.45-17.30					
5	17.45-18.30	The structure of the female reproductive organs; the basics of the physiology of pregnancy in each trimester, main changes in body systems, pregnancy hormones.	Prof. Isabel Corrales Gutiérrez, Spain	Theoretical		



March, 10, 2023, Friday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	Practical issues related to the exercise prescription and implementation for pregnant clients	Prof. Rita Santos-Rocha, Portugal	Theoretical
2	15.00-15.45			
3	16.00-16.45			
4	16.45-17.30			

March, 11, 2023, Saturday					
	Time (CET)	Topic	Teacher	Form of the class	
1	10.00-10.45	Psychosocial changes related to pregnancy and main barriers to PA in pregnancy (a perspective from UK)	Prof. Lou Atkinson, United Kingdom	Theoretical	
2	10.45-11.30				
3	11.45-12.30				
4	12.30-13.15				
5	14.15-15.00	Stress management techniques during pregnancy and postpartum	Prof. Simona Pajaujiene, Lithuania	Theoretical	
6	15.15-16.00	Demonstration of relaxation exercises & breathing exercises		Theoretical & Practical	
7	16.00-16.45				
8	17.00-17.45	Motivational tools to keep the pregnant and postpartum participant's adherence to the exercise programme and to promote daily physical activity and limit sedentary time.		Theoretical	



March, 12, 2023, Sunday				
	Time (CET)	Topic	Teacher	Form of the class
1	10.00-10.45	The nutritional & weight gain recommendations for pregnant clients	Prof. Rui Jorge, Portugal	Theoretical
2	10.45-11.30			
3	11.45-12.30	How to incorporate the childbirth preparation exercises into the prenatal exercise sessions (breathing exercises, birth positions, visualization of childbirth)	Prof. Anna Szumilewicz, Poland	Practical – participants' activity
4	12.30-13.15			
Lunch break				
5	14.15-15.00	Main barriers to participation in postnatal physical activity and exercise (a perspective from Iran)	Prof. Najmeh Shojaeian, Iran	Theoretical
6	15.00-15.45	Potential benefits of PA in postpartum for mother's well-being and interaction with the baby;		
7	16.00-16.45	The effects of combined exercises on the sexual function and estradiol serum level among postpartum clients - outcomes of an experimental project).		
8	16.45-17.30			

March, 13, 2023, Monday			
	Time (CET)	Topic	Form of activity
1	14.15-15.00		
2	15.00-15.45		
3	16.00-16.45		
4	16.45-17.30		
5	17.45-18.30		

March, 14, 2023, Tuesday			
	Time (CET)	Topic	Form of activity
1	14.15-15.00		
2	15.00-15.45		
3	16.00-16.45		
4	16.45-17.30		
5	17.45-18.30		



March, 15, 2023, Wednesday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	Practical tips on how to conduct exercise sessions for pregnant and postpartum clients, including pelvic floor exercises, posture exercises, abdominal exercises	Prof. Anna Szumilewicz, Poland	Theoretical & practical
2	15.00-15.45			
3	16.00-16.45			
4	17.00-17.45	The preventive role of prenatal physical activity in relation to pregnancy-related disorders – the outcomes of the systematic reviews	Prof. Margie Davenport Canada	Theoretical
5	17.45-18.30			

March, 16, 2023, Thursday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	Psychosocial changes related to postpartum, main barriers to PA in postpartum (UK perspective); healthy lifestyle after childbirth, postpartum depression and anxiety	Prof. Lou Atkinson, United Kingdom	Theoretical
2	15.00-15.45			
3	15.45-16.30			
4	16.45-17.30	Physiology of birth	Prof. Isabel Corrales Gutiérrez, Spain	Theoretical
5	17.30-18.15	The basics of the physiology of each phase of postpartum period and lactation; the changes in the body systems, hormonal changes, common discomforts		

March, 17, 2023, Friday				
	Time (CET)	Topic	Teacher	Form of the class
1	16.00-16.45	Polish folk dance as an option for pregnant and postpartum clients	dr Dorota Dancewicz- Nosko Poland	Practical
2	16.45-17.30			
3	17.45-18.30			
4	18.30-19.15			



March, 18, 2023, Saturday			
	Time (CEST)	Topic	Form of the class
1	10.00-10.45	Self-practice: planning and conducting exercise programmes sessions for pregnant clients	Individual activity of participants in the field of assigned practical tasks supervised by Aneta Worska, MSc, Poland
2	10.45-11.30		
3	11.45-12.30		
4	12.30-13.15		
Lunch break			
5	14.15-15.00	Self-practice: planning and conducting exercise programmes sessions for pregnant clients	Individual activity of participants in the field of assigned practical tasks supervised by Aneta Worska, MSc, Poland
6	15.00-15.45		
7	16.00-16.45		
8	16.45-17.30		

March, 19, 2023, Sunday			
	Time (CEST)	Topic	Form of the class
1	10.00-10.45	Self-practice: planning and conducting exercise programmes sessions for pregnant clients	Individual activity of participants in the field of assigned practical tasks supervised by Prof. Anna Szumilewicz, Poland
2	10.45-11.30		
3	11.45-12.30		
4	12.30-13.15		
Lunch break			
5	14.15-15.00	Self-practice: planning and conducting exercise programmes sessions for pregnant clients	Individual activity of participants in the field of assigned practical tasks supervised by Prof. Anna Szumilewicz, Poland
6	15.00-15.45		
7	16.00-16.45		
8	16.45-17.30		

March, 20, 2023, Monday				
	Time (CET)	Topic	Teacher	Form of the class
1.	14.15-15.00	The exercise intervention during pregnancy to prevent gestational diabetes mellitus, low back pain, pelvic girdle pain and other pregnancy-related discomforts – outcomes from experimental study in Croatia	Prof. Iva Šklempe Kokić, Croatia	Theoretical
2.	15.00-15.45			
3.	16.00-16.45	Risk factors and prevalence of discomforts and musculoskeletal disorders associated with pregnancy and postpartum: The preventive role of prenatal physical activity in relation to abovementioned disorders.	Prof. Kari Bø, Norway	Theoretical
4.	16.45-17.30			



5.	17.45-18.30	Pelvic floor muscle exercises	Based on Prof. Kari Bø's video material Link the same as above	Practical
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March, 21, 2023, Tuesday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	Current recommendations for exercise prescription for postpartum clients	Prof. Rita Santos-Rocha, Portugal	Theoretical
2	15.00-15.45			
3	16.00-16.45			
4	16.45-17.30			

March, 22, 2023, Wednesday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	The New Health Project, Healthy Lifestyle Promoter and Lifestyle Scan – outcomes of an international project	John van Heel The Netherlands	Theoretical
2	15.00-15.45			
3	16.00-16.45	Understanding psychosocial barriers to prenatal physical activity including weight stigma – the Canadian approach	Prof. Tanya Nagpal Canada	Theoretical
4	16.45-17.30			

March, 23, 2023, Thursday						
	Time (CET)	Topic	Teacher	Form of the class		
1	14.15-15.00	Examples of exercise sessions for pregnant and postpartum clients	Prof. Rita Santos-Rocha, Portugal	Practical classes using video materials		
2	15.00-15.45	Demonstration of abdominal and posture exercises during pregnancy and postpartum clients				
3	15.45-16.30					
4	16.45-17.30	Potential benefits of postnatal physical activity for the mother's		Theoretical		



5	17.30-18.15	health and the course of puerperium (e.g., in terms of body composition, posture, sleep patterns, and quality of life).		
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March, 24, 2023, Friday				
	Time (CET)	Topic	Teacher	Form of the class
1	15.15-16.00	The Effects of Maternal Exercise Mode on Maternal & Infant Health Outcomes (part II)	Prof. Linda May, USA	Theoretical
2	16.00-16.45			
3	17.00-17.45	Promotion of physical activity and healthy eating in obese pregnant clients: The DALI Study	Prof. Mireille van Poppel, Austria	Theoretical
4	17.45-18.30			

March, 25, 2023, Saturday				
	Time (CEST)	Topic	Teacher	Form of the class
1	10.00-10.45	Online marketing	Prof. Oksana Mazorenko Ukraine	Theoretical
2	10.45-11.30			
3	11.45-12.30			
4	12.30-13.15			
5	13.30-14.15			
Lunch break				
5	15.15-16.00	The nutritional & weight loss recommendations for postpartum clients	Prof. Rui Jorge, Portugal	Theoretical
6	16.00-16.45			
7	17.00-17.45	Specific tools used in the pre-exercise and fitness assessment of postpartum clients. Practical examples of the use and interpretation of specific tools	Prof. Miguel Angel Oviedo Caro, Spain	Theoretical & Practical
8	17.45-18.30			



March, 26, 2023 Sunday				
	Time (CET)	Topic	Teacher	Form of the class
1	10.00-10.45	Exercise prescription for postpartum clients (Chinese perspective) /exercise intervention in the prevention of urinary incontinence	Prof. Xian Guo, China	Theoretical
2	10.45-11.30			
3	11.45-12.30	Chinese and US Mobile Apps for Pregnancy and Postnatal Care, including exercise planning	Hongli Yu China	Theoretical
4	12.30-13.15			
Lunch break				
5	14.15-15.00	Physical activity with infants – examples of exercise for postpartum clients and their babies	Laura Dabinskienė, Lithuania	Theoretical and practical
6	15.00-15.45			
7.	16.00-16.45	Exercise in pregnancy and postpartum in Ethiopia – current situation, barriers, facilitators	Moges Gashaw, Ethiopia	Theoretical

March, 27, 2023, Monday				
	Time (CET)	Topic	Teacher	Form of the class
1	15.00-15.45	Dispelling common myths about exercise during pregnancy and postpartum – preparation to the theoretical test	Prof. Anna Szumilewicz, Poland	Theoretical/ practical
2	15.45-16.30			
3	16.45-17.30	EuropeActive Educational Standards and European Register of Exercise professionals	Julian Berriman, Belgium	Theoretical
4	17.45-18.30	Educational systems, including exercise professionals' education, around the world	Maciej Tauber, Poland	Theoretical

March, 28, 2023, Tuesday				
	Time (CET)	Topic	Teacher	Form of the class
1	15.15-16.00	Preparation for the practical assessments – tips how to design the exercise programme for pregnant and postpartum clients	Anta Worska, Poland	Theoretical/ practical
2	16.00-16.45	Participants' presentations of the exercise programmes for pregnant and postpartum clients/Q & A		
3	17.00-17.45	Physical activity during pregnancy and postpartum in South Africa	Prof. Sarah J. Moss, South Africa	Theoretical
4	17.45-18.30			



March, 29, 2023, Wednesday				
	Time (CET)	Topic	Teacher	Form of the class
1	14.15-15.00	Online provision of exercise programmes	Mikael Vincent Denmark	Theoretical/practical
2	15.00-15.45			
3	16.00-16.45			
4	16.45-17.30			
5	17.30-18.15			

March, 30 2023, Thursday				
	Time (CET)	Topic	Form of activity	
1	14.15-15.00	Self-practice: planning and conducting exercise sessions for postpartum clients, preparation for the final test	Individual activity of participants in the field of assigned practical tasks supervised by Prof. Anna Szumilewicz, Poland	
2	15.00-15.45			
3	16.00-16.45			
4	16.45-17.30			

March, 31, 2023, Friday				
	Time (CET)	Topic	Teacher	Form of activity
1	14.15-15.00	Participants' presentations of the exercise programmes for pregnant and postpartum clients/Q & A	Prof. Anna Szumilewicz, Aneta Worska Poland	Theoretical/ practical
2	15.00-15.45			
3	16.00-16.45	Online final theoretical test & evaluation of the NEPPE training	Prof. Anna Szumilewicz, Poland	Discussion/Test
4	16.45-17.30			



Appendix 10. Certificate of the completion of the NEPPE training (theoretical part only)



CERTIFICATE

First name and surname

participated in

The NEPPE training:

The New Era of Pregnancy and Postpartum Exercise

from 4 May 2022 to 31 May 2022

provided by the Gdańsk University of Physical Education and Sport (GUPES) in Poland

Project coordinator:
Anna Szumilewicz, PhD,
assoc. prof. of GUPES

Rector of GUPES,
Prof. Paweł Cięszczyk

.....
date and signature
of the organiser



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Description of the learning outcomes¹:

Knowledge²:

The learner has achieved and confirmed the learning outcomes related to the theoretical basis of planning and conducting exercise programmes for pregnant and postpartum clients:

- Knows organisational and legal issues in terms of conducting prenatal exercise sessions or programmes;
- Understands morphological, physiological and biomechanical aspects of pregnancy and response to exercise;
- Understands psychosocial aspects of pregnancy and its impact on physical activity;
- Understands the preventive role of physical activity for the health of pregnant clients and their children;
- Knows the limitations and contraindications to physical activity and exercise during pregnancy;
- Understands the role of a healthy lifestyle for a healthy course of pregnancy;
- Knows the rules and tools for fitness screening and assessment of pregnant clients;
- Understands rules of planning, conducting and monitoring exercise programmes for pregnant clients.

Skills³ and social competences⁴ necessary to plan and conduct exercise programmes for pregnant and postpartum clients should be confirmed separately.

¹ The learning outcome is what the learner knows, understands and can do as a result of learning, expressed in terms of knowledge, skills and social competence.

² **Knowledge** – a collection of descriptions of objects and facts, principles, theories and practices acquired in the learning process and relating to the field of learning or professional activity.

³ **Skills** – the ability, assimilated in the learning process, to perform tasks and solve problems specific to the field of learning or professional activity.

⁴ **Social competence** – the ability to participate autonomously and responsibly in the professional and social life and to shape own development, taking into account the ethical context of own behaviour.

Appendix 11. 'Exercise in pregnancy and postpartum' (4 EQF) certificate (after the completion of theoretical and practical parts)



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Table 27. The justification for assigning EQF level 4 to the LLL 'Exercise in Pregnancy and Postpartum' EA standard and the NEPPE qualification

THE ASSIGNMENT OF EQF LEVEL TO THE 'EXERCISE IN PREGNANCY AND POSTPARTUM' LIFELONG LEARNING (LLL) STANDARDS					
No.	LEARNING OUTCOMES IN THE 'EXERCISE IN PREGNANCY AND POSTPARTUM' LLL STANDARDS	SQF AL DESCRIPTOR	SQF Level	EQF DESCRIPTOR AS A REFERENCE POINT	EQF LEVEL
Module 1: 'Exercise in Pregnancy'					
1.	Theoretical basis of planning and conducting exercise programmes for pregnant clients				
1.1.	Knows organisational and legal issues in terms of conducting prenatal exercise sessions or programmes	1.1.1. Defines the job purpose of an exercise professional holding the 'Exercise in Pregnancy and Postpartum' LLL Certificate, defines own professional roles and limitations, including the place in a multidisciplinary task team working with pregnant clients, if necessary (e.g., consisting of specialists like gynaecologist-obstetrician, midwife, nutritionist, exercise specialist, psychologist, physiotherapist, exercise physiologist);	<ul style="list-style-type: none"> Explains and justifies the roles and responsibilities of people working in the AL sector. Defines terms and phenomena in other, supporting fields of the professional activity, where required (e.g. physiotherapy, cardiology, dietetics). 	<ul style="list-style-type: none"> 4 5 	factual and theoretical knowledge in broad contexts within a field of work or study
		1.1.2. Discusses the health conditions of a pregnant client, which require referral to other specialists;	Explains and justifies the roles and responsibilities of people working in the AL sector.	4	factual and theoretical knowledge in broad contexts within a field of work or study

		1.1.3. Describes potential national legislation related to the provision of exercise to pregnant clients;	Describes the structure and tasks of the national and international organisations within the AL sector.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.1.4. Describes the range of responsibility and ethical issues regarding working with pregnant clients.	Discusses and defends the work ethics, professionalism and work efficiency in the AL sector.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
1.2.	Understands morphological, physiological and biomechanical aspects of pregnancy and response to exercise	1.2.1. Describes current recommendations for physical activity of the pre-pregnancy inactive, active, female athletes and obese pregnant clients (e.g., WHO, ACOG, SOCG/CSEP, SMA, IOC, UK Sport);	•Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.2.2. Describes the structure of the female reproductive organs;	N/A		knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.2.3. Describes the basics of the physiology of pregnancy in each trimester and the physiology of birth;	N/A		factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.2.4. Explains adaptive changes to pregnancy (including to the musculoskeletal, cardiovascular, respiratory, endocrine systems, body	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL	4	factual and theoretical knowledge in broad contexts within a field of work or study	4



		composition and biomechanics of clients), determining planning and conducting prenatal exercise programmes;	activities (e.g. in relation to the process of long-term exercise programme).			
		1.2.5. Explains the potential benefits of prenatal physical activity for the mother, the course of pregnancy and foetal development and health, labour and delivery (including in terms of cardiovascular parameters, muscular strength, flexibility, neuromotor parameters, body composition and weight gain, posture and quality of life).	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
1.3.	Understands psychosocial aspects of pregnancy and its impact on physical activity	1.3.1. Describes psychosocial changes related to pregnancy	N/A		factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.3.2. Lists the main barriers to participation in prenatal physical activity and exercise	Describes customers' common expectations, needs, motives and barriers related to the participation in particular AL activities.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.3.3. Describes signs of depression and anxiety in pregnant clients	N/A		factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.3.4. Describes stress management techniques (e.g., relaxation exercises, breathing	Explains the rules and procedures for planning, organising, conducting, monitoring,	4	factual and theoretical knowledge in broad	4



		exercise, meditation, visualisation, etc.)	animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme, outdoor example).		contexts within a field of work or study	
The summary of unit 1			4		4	
EQF level of unit 1			4			
2.	Health issues and safety considerations related to pregnancy					
2.1.	Understands the preventive role of physical activity for the health of pregnant clients and their children	2.1.1. Describes the risk factors and prevalence of discomforts and health conditions associated with pregnancy (including gestational diabetes, overweight, obesity, oedema, low back pain, pelvic pain, hypertension, pre-eclampsia, musculoskeletal disorders, diastasis recti abdominis, stress urinary and faecal incontinence and other pelvic-floor disorders, depression and anxiety, oral health, sleep disorders, headache, digestive disorders, foetal macrosomia, etc.);	<ul style="list-style-type: none"> • Recognizes and describes common hazards and risks in AL. 	3	factual and theoretical knowledge in broad contexts within a field of work or study	4



		2.1.2 Explains the preventive role of prenatal physical activity in relation to common potential pregnancy discomforts, complications and chronic disease in mothers and children.	Describes strategies to avoid common hazards and risks in AL activities.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
2.2.	Knows the limitations and contraindications to physical activity and exercise during pregnancy	2.2.1. Lists absolute and relative contraindications for physical activity during pregnancy;	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		2.2.2. Lists reasons for an urgent termination of a prenatal exercise session;	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		2.2.3. Describes the possible adaptations to physical activity and exercise in the presence of specific discomforts in the course of pregnancy and the mother's health (e.g., back pain, UI);	Describes strategies to avoid common hazards and risks in AL.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
		2.2.4. Lists sports and physical activities which should be performed with a special caution during pregnancy;	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		2.2.5. Lists sport activities to be avoided during pregnancy (e.g., high risk of fall and contact sports, diving, etc.).	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3



2.3.	Understands the role of a healthy lifestyle for a healthy course of pregnancy	2.3.1. Describes basic nutrition recommendations for pregnant clients;	N/A.		knowledge of facts, principles, processes and general concepts, in a field of work or study	3	
		2.3.2. Describes other aspects of healthy lifestyle related to pregnancy (e.g., use of tobacco, alcohol and caffeine, sleep and rest patterns, avoiding stress).	N/A		knowledge of facts, principles, processes and general concepts, in a field of work or study	3	
The summary of unit 2		3+		3			
EQF level of unit 2		3					
3.	Health screening and fitness assessment in pregnant clients						
3.1.	Knows the rules and tools for fitness screening and assessment of pregnant clients	3.1.1. Describes the rules and safety considerations in screening and exercise testing of pregnant clients;	Describes the rules and procedures for selected tasks within planning, organising, conducting, monitoring, animating and post processing of the delivery of AL activities and services.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3	
		3.1.2. Describes examples of specific tools used in the pre-exercise and fitness assessment of pregnant clients, based on questionnaires, e.g., Get Active Questionnaire for Pregnancy; the PARQ+; and based on functional tests e.g., for the	<ul style="list-style-type: none"> Describes the rules for the selection of equipment (including modern technologies) for the individual capabilities and needs of the AL customers. Explains the rules of using and adaptation of the available resources and/or environment 	<ul style="list-style-type: none"> 3 4 (key) 	factual and theoretical knowledge in broad contexts within a field of work or study	4 (key)	



		assessment of cardiopulmonary capacity, strength, balance, flexibility, etc., or wearables, e.g., pedometer, heart rate monitors.	for the multistage delivery of AL service to achieve customer's goals (such as reduction of body mass, improvement of physical fitness and/or technical skills)				
3.2.	Is able to perform basic health screening and fitness assessments in pregnant clients	3.2.1. Checks woman's medical clearance for exercise, based on clients' self-reported questionnaires, the obstetric care provider prescriptions and/or pregnancy documentation;	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities, outdoor) and while taking into account the needs, capabilities and interests of the customers.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3	
		3.2.2. Performs basic health screening and fitness assessments of pregnant clients, using available tools.	<ul style="list-style-type: none"> • Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment). 	4 (key)	factual and theoretical knowledge in broad contexts within a field of work or study	4 (key)	
The summary of unit 3			4	4			
EQF level of unit 3			4				



4.	Prescription, implementation, and adaptation of exercise for pregnant clients					
4.1.	Understands rules of planning, conducting and monitoring exercise programmes for pregnant clients	4.1.1. Describes current guidelines for exercise prescription for pregnant clients, i.e., according to Santos-Rocha R., ACSM, Mottola et al.;	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	3
		4.1.2. Describes the most recommended forms of exercise (e.g., walking, aerobics/step exercise, water exercise, swimming, indoor cycling, strength training, pelvic-floor training, stretching);	Describes different AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		4.1.3. Describes the recommended forms of exercise that require previous skill and adaptation (e.g., running and outdoor cycling);	Describes different AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		4.1.4. Describes the rules of adaptation of the so-called risky sports (e.g., skiing and skating, etc.);	Describes different AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3



		4.1.5. Describes the structure of the prenatal exercise session;	Describes different AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		4.1.6. Describes current recommendations on how to reduce sedentary time during pregnancy.	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
4.2.	Is able to properly design an exercise programme for pregnant clients	4.2.1. Designs an exercise programme according to the exercise prescription principles (i.e., type of exercise, intensity of exercise, duration of the sessions, weekly frequency of sessions, volume, and progression/periodisation) relevant to a pregnant woman, trimester of pregnancy, previous level of physical activity, her goals, preferences, medical history and exercise environment;	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).	4 (key)	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	4
		4.2.2. Selects exercises, starting positions and modifies their techniques with regard to clients' well-being, functional readiness and the course of	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post	4	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	4



		<p>pregnancy; in particular the appearance of pregnancy-related discomforts (e.g., back pain, urinary incontinence, dizziness);</p> <p>4.2.3. Selects the appropriate place and equipment to conduct exercise session, as well as their alternative options outside the fitness club or at home;</p> <p>4.2.4. Incorporates the exercise programme into the pregnant client's other daily activities, taking into account her preferences and exercise abilities.</p>	<p>processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).</p> <p>Uses and maintains equipment (also personal equipment) and settings /environment for AL service delivery, ensuring its efficiency, safety and attractiveness.</p> <p>Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).</p>		
4.3.	Is able to properly conduct, monitor and adapt an exercise programme for pregnant clients	4.3.1. Instructs the pregnant client how to perform exercises (including aerobic, resistance, stretching, neuromotor, body posture, and pelvic floor muscle exercises) in a way that is understandable to the client, using professional terminology;	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.	3	<p>a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information</p>



		<p>4.3.2. Demonstrates proper technique for performing exercises recommended for pregnant clients</p>	<p>Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.</p>	3	<p>a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information</p>	3
		<p>4.3.3. Monitors the exercise session, including the intensity and technique of exercise, taking into account the information available about the course of pregnancy and the health and fitness status of the pregnant client;</p>	<p>Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.</p>	3	<p>a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information</p>	3
		<p>4.3.4. If necessary, uses the options of difficulty and intensity of exercises, adjusting to the well-being and abilities of the pregnant client;</p>	<p>Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).</p>	4	<p>a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study</p>	4
		<p>4.3.5. Corrects incorrectly performed exercises, explaining to the client the importance of changing the technique for the prevention or elimination of pregnancy ailments;</p>	<p>Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into</p>	3		



			account the needs, capabilities and interests of the customers.			
		4.3.6. Evaluates the exercise programme and adjust it as necessary, taking into account the pregnant clients goals, capabilities, preferences, exercise progression, the course of pregnancy and indications from other professionals (e.g., obstetric care provider, diabetologist, physiotherapist).	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).	4 (key)	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	4 (key)
4.4.	Is able to incorporate the childbirth preparation exercises into the exercise programme	4.4.1. Describes physiological and psychosocial aspects of birth;	N/A		knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		4.4.2. Explains the role of various tools to decrease the level of anxiety or childbirth fear and implement appropriate exercises against these conditions into an exercise programme (e.g., pregnancy and childbirth visualisation, stress management techniques, exercises for pain relief);	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise program), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).	4	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	4
		4.4.3. Demonstrates relaxation, breathing and birth positions exercises and	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g.	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and	3



		incorporates them into exercise sessions;	instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.		applying basic methods, tools, materials and information	
		4.4.4. Describes, demonstrates and conducts pelvic floor muscles exercises and explains their role in the childbirth preparation and prevention of pelvic floor dysfunctions.	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	3
The summary of unit 4			3/4	3/4		
EQF level of unit 4			4			
5.	Promotion of physical activity and healthy lifestyle during pregnancy					
5.1.	Is able to provide pregnant clients with proper information before, during and after exercise sessions	5.1.1. Provides pregnant clients with information on the rules of exercising during pregnancy (including safety, methods to assess intensity, symptoms requiring immediate discontinuation of exercise, recommended outfit, bra, shoes and equipment);	Provides customers with specific information related to the various stages of participation in AL activities.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	4
		5.1.2. Provides pregnant clients with information about the benefits of the individual exercises for health and well-being (e.g., indicates exercises	Provides customers with specific information related to the various stages of participation in AL activities.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods,	4



		to prevent back pain, urinary incontinence);		tools, materials and information	
		5.1.3. Uses appropriate motivational tools to keep the pregnant client's adherence to the exercise programme and to promote daily physical activity and limit sedentary time.	Select and adjusts the communication and motivational tools to the changing needs of the customers and to the various stages of the delivery of AL services.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information
5.2.	Is ready to promote physical activity and healthy lifestyle among pregnant clients, other exercise professionals and representatives from other sectors, including the health sector	5.2.1. Justifies the need for physical activity during pregnancy, explaining the positive impact of physical activity and the negative impact of inactivity on the health of mother and child, pregnancy and childbirth;	Defines the role of AL activities within today's lifestyles. Explains how the needs of the customers (e.g. related with special conditions) influence their participation in AL activities and services.	3 5	factual and theoretical knowledge in broad contexts within a field of work or study
		5.2.2. Provides general advice about healthy lifestyle, such as nutrition, sleep, rest and stress management;	Provides customers with specific information related to the various stages of participation in AL activities.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information
		5.2.3. Dispels common myths about exercise during pregnancy (e.g., associating first-trimester exercise with miscarriage, associating exercise with adverse birth outcomes);	Describes strategies to overcome various barriers to participation in AL activities.	4	factual and theoretical knowledge in broad contexts within a field of work or study
		5.2.4. Signposts the pregnant clients to reliable sources of	Plans, organizes, conducts, monitors and animates selected tasks in common AL services,	3	a range of cognitive and practical skills required to accomplish tasks and solve



		information on physical activity and exercise during pregnancy.	demonstrating good practice and while taking into account the needs, capabilities and interests of the customers.		problems by selecting and applying basic methods, tools, materials and information						
The summary of unit 5		4		4							
EQF level of unit 5		4									
EQF level of the 'Exercise in pregnancy' module				4 EQF							
Module 1: 'Exercise in Postpartum'											
1.	Theoretical basis of planning and conducting exercise programmes for postpartum clients										
1.1.	Knows organisational and legal issues in terms of conducting prenatal exercise sessions or programmes	1.1.1 Defines the job purpose of an exercise professional holding the 'Exercise in Pregnancy and Postpartum' LLL Certificate, own professional roles and limitations, including the place in a multidisciplinary task team working with postpartum clients, if necessary (e.g., consisting of specialists like a general practitioner or obstetrician, midwife, physiotherapist, nutritionist, exercise physiologist or psychologist);	<ul style="list-style-type: none"> Explains and justifies the roles and responsibilities of people working in the AL sector. Defines terms and phenomena in other, supporting fields of the professional activity, where required (e.g. physiotherapy, cardiology, dietetics). 	<ul style="list-style-type: none"> 4 5 	factual and theoretical knowledge in broad contexts within a field of work or study	4					



		1.1.2. Discusses the health conditions of a postpartum client, which requires referral to other specialists;	Explains and justifies the roles and responsibilities of people working in the AL sector.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.1.3. Describes potential national legislation related to the provision of exercise to postnatal clients;	Describes the structure and tasks of the national and international organisations within the AL sector.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.1.4. Describes the range of responsibility and ethical issues regarding working with postnatal clients.	Discusses and defends the work ethics, professionalism and work efficiency in the AL sector.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
1.2.	Understands morphological, physiological, and biomechanical aspects of postpartum period and response to exercise	1.2.1. Describes current recommendations for physical activity during postpartum for pre-pregnancy inactive, active, female athletes and obese clients (e.g., WHO, ACOG, SOCG/CSEP, SMA, IOC, UK Sport);	•Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.2.2. Describes the basics of the physiology of each phase of postpartum period (acute, immediate, delayed postpartum) and physiology of lactation;	N/A		knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.2.3. Explains adaptive changes to postpartum (including to the musculoskeletal, cardiovascular,	N/A		factual and theoretical knowledge in broad contexts within a field of work or study	4



		respiratory, endocrine systems, body composition and weight loss, and biomechanics of clients), determining planning and conducting postnatal exercise programmes;				
		1.2.4. Explains the potential benefits of postnatal physical activity for the mother's health and the course of puerperium (e.g., in terms of body composition, posture, sleep patterns, and quality of life).	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
1.3.	Understands psychosocial aspects of postpartum period and impact of physical activity	1.3.1. Describes psychosocial changes related to postpartum period;	N/A		factual and theoretical knowledge in broad contexts within a field of work or study	4
		1.3.2. Describes the potential benefits of PA in postpartum for mother's well-being and interaction with the baby;	Describes customers' common expectations, needs, motives and barriers related to the participation in particular AL activities.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.3.3. Lists the main barriers to participation in postnatal physical activity and exercise;	Describes customers' common expectations, needs, motives and barriers related to the participation in particular AL activities.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		1.3.4. Describes signs of depression and anxiety in pregnant clients	N/A		factual and theoretical knowledge in broad contexts within a field of work or study	4



		1.3.5. Describes stress management techniques (e.g., relaxation exercises, breathing exercise, meditation, visualisation, etc.).	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4		
The summary of unit 1			4	4				
EQF level of unit 1			4					
2.	Health issues and safety considerations related to the postpartum period							
2.1.	Understands the preventive role of physical activity for the health of postpartum clients	2.1.1. Describes the risk factors and prevalence of discomforts and health conditions associated with postpartum (e.g., inflammation of stitches and vulva veins, perineal injury or caesarean section wound, painful breasts or inflammation of the breasts or mastitis, back pain, hip instability, urinary incontinence, pelvic organ prolapse, diastasis recti abdominis, fatigue, interrupted sleep; overweight; diabetes, hypertension);	<ul style="list-style-type: none"> • Recognizes and describes common hazards and risks in AL. 	3	factual and theoretical knowledge in broad contexts within a field of work or study	4		



		2.1.2 Explains the preventive role of postnatal physical activity in relation to common potential postpartum discomforts, complications, and chronic disease.	Describes strategies to avoid common hazards and risks in AL activities.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
2.2.	Knows the limitations and contraindications to physical activity and exercise during postpartum period	2.2.1. Lists contraindications for physical activity during postpartum period;	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		2.2.2. Lists reasons for an urgent termination of a postnatal exercise session;	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		2.2.3. Describes the possible adaptations to physical activity and exercise in the presence of specific complications in the course of puerperium and the mother's health;	Describes strategies to avoid common hazards and risks in AL.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
		2.2.4. Lists sport activities to be avoided or limited during at different stages of postpartum (e.g., exercise in water or high-impact activities).	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
2.3.	Understands the role of healthy lifestyle for proper course of puerperium	2.3.1. Describes basic nutrition recommendations for postpartum and lactating clients;	N/A.		knowledge of facts, principles, processes and general concepts, in a field of work or study	3



		2.3.2. Describes other aspects of healthy lifestyle related to postpartum and early motherhood (e.g., sleep and rest patterns, avoiding stress use of tobacco, alcohol and caffeine).	N/A		knowledge of facts, principles, processes and general concepts, in a field of work or study	3
The summary of unit 2			3+	3		
EQF level of unit 2			3			
3.	Health screening and fitness assessment in postpartum clients					
3.1.	Knows the rules and tools for fitness screening and assessment of postpartum clients	3.1.1. Describes the rules and safety considerations in screening and exercise testing of postpartum clients;	Describes the rules and procedures for selected tasks within planning, organising, conducting, monitoring, animating and post processing of the delivery of AL activities and services.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		3.1.2. Describes tools which can be used in the pre-exercise and fitness assessment of postpartum clients (e.g. the protocol developed by Goom et al. (32), International Physical Activity Questionnaire (33); SF-12 Health Survey (34);PARQ+ (35), or wearables, e.g., pedometer, heart rate monitors.	<ul style="list-style-type: none"> Describes the rules for the selection of equipment (including modern technologies) for the individual capabilities and needs of the AL customers. Explains the rules of using and adaptation of the available resources and/or environment for the multistage delivery of AL service to achieve customer's goals (such as reduction of body mass, improvement of physical fitness and/or technical skills) 	<ul style="list-style-type: none"> 3 4 (key) 	factual and theoretical knowledge in broad contexts within a field of work or study	4 (key)



3.2.	Is able to perform basic health screening and fitness assessments in pregnant clients	3.2.1. Checks woman's medical clearance for exercise, based on clients' self-reported questionnaires and/or the obstetric care provider or physiotherapist prescriptions;	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities, outdoor) and while taking into account the needs, capabilities and interests of the customers.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study	3	
		3.2.2. Performs basic health screening and fitness and functional assessments of a postpartum clients, using available tools.	<ul style="list-style-type: none"> • Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment). 	4 (key)	factual and theoretical knowledge in broad contexts within a field of work or study	4 (key)	
The summary of unit 3			4	4			
EQF level of unit 3			4				
4.	Prescription, implementation, and adaptation of exercise for postpartum clients, including exercising with an infant						
4.1.	Understands rules of planning, conducting, and monitoring exercise programmes for postpartum clients	4.1.1. Describes current recommendations for exercise prescription for postpartum clients	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL	4	factual and theoretical knowledge in broad contexts within a field of work or study	4	



			activities (e.g. in relation to the process of long-term exercise programme).			
	4.1.2. Describes the most recommended forms of exercise for each stage of postpartum period (e.g., walking, dancing, core training, posture correction, resistance and pelvic-floor training, stretching);		Describes different AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3
	4.1.3. Explains how the type of delivery may affect the planning and implementation of exercise for clients in immediate postpartum period, the so-called 'fourth trimester' (e.g., the need of proper selection of exercise positions and equipment);		Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
	4.1.4. Describes exercises which can be performed by a woman at hospital and at home in the immediate postpartum period;		Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
	4.1.5. Describes the structure of the postnatal exercise		Describes different AL activities.	2	knowledge of facts, principles, processes and	3



		session and justifies the need for planning shorter intervals of exercise;		general concepts, in a field of work or study	
		4.1.6. Explains how the breastfeeding can affect the exercise programme planning and implementation;	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study
		4.1.7. Describes alternative exercise equipment which can be used by a postpartum client at home (e.g., a chair, water bottles, barre);	Describes the rules for the selection of equipment (including modern technologies) for the individual capabilities and needs of the AL customers.	3	knowledge of facts, principles, processes and general concepts, in a field of work or study
		4.1.8. Describes potential activities which can reduce time spent sedentary by postpartum clients.	Explains the rules and procedures for planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing of the multistage delivery of AL activities (e.g. in relation to the process of long-term exercise programme).	4	factual and theoretical knowledge in broad contexts within a field of work or study
4.2.	Is able to properly design an exercise programme for postpartum clients	4.2.1. Designs an exercise programme according to the exercise prescription principles (i.e., type of exercise, intensity of exercise, duration of the sessions, weekly frequency of sessions, volume, and	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of	4 (key)	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study



		<p>progression/periodisation) relevant to a postpartum woman, stage of postpartum period, previous level of physical activity, her goals, preferences, medical history, exercise environment, and their duties and needs related to the childcare and social support;</p> <p>4.2.2. Selects exercises, starting positions and modifies their techniques with regard to clients' well-being, functional readiness, the type of delivery, and the course of puerperium; in particular the appearance of postpartum-related discomforts (e.g., perineal injury or caesarean section wound, back pain, urinary incontinence, pelvic organ prolapse, incorrect body posture, diastasis recti abdominis, fatigue, interrupted sleep);</p> <p>4.2.3. Selects the appropriate place and equipment to conduct exercise sessions, as well as their alternative options outside the fitness club or at home (planning a suitable place to care for your baby or breastfeed if needed);</p>	<p>long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).</p> <p>Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).</p> <p>Uses and maintains equipment (also personal equipment) and settings /environment for AL service delivery, ensuring its efficiency, safety and attractiveness.</p>		
			4	<p>a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study</p>	4
			3	<p>a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information</p>	3



		4.2.4. Incorporates the exercise programme into the postpartum clients's other daily activities, taking into account their preferences and exercise abilities, and also the infants' activity and breastfeeding or feeding practices.	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).	4	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	4
4.3.	Is able to properly conduct, monitor and adapt an exercise programme for postpartum clients	4.3.1. Instructs the postpartum client how to perform exercises (including aerobic, resistance, stretching, neuromotor, posture correction, pelvic floor muscle exercises)) in a way that is understandable to the client, using professional terminology;	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	3
		4.3.2. Demonstrates proper technique for performing exercises recommended for postpartum clients;	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	3
		4.3.3. Monitors the exercise sessions, including the intensity and technique of exercise, taking into account the	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods,	3



		<p>information available about the course of postpartum and the health and fitness status of the postpartum client;</p> <p>4.3.4. If necessary, uses the options of difficulty and intensity of exercises, adjusting to the well-being and abilities of the postpartum client;</p> <p>4.3.5. Corrects incorrectly performed exercises, explaining to the client the importance of changing the technique for the prevention or elimination of postpartum ailments;</p> <p>4.3.6. Evaluates the exercise programme and adjusts it as necessary, taking into account the postpartum clients goals, capabilities, preferences, exercise progression, the course of puerperium and indications from other professionals (e.g., obstetric care provider, nutritionist, physiotherapist).</p>	<p>activities) and while taking into account the needs, capabilities and interests of the customers.</p> <p>Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).</p> <p>Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.</p> <p>Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's</p>		<p>tools, materials and information</p> <p>a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study</p> <p>a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study</p>	
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			capabilities and needs and/or environment).			
4.4.	Is able to implement exercises performed by postpartum clients with their infants	4.4.1. Describes the basics of the child's motor and psychosocial development in the first year of life;	N/A		knowledge of facts, principles, processes and general concepts, in a field of work or study	3
		4.4.2. Describes the rules for how to safely position, hold or carry the baby while the mother is doing the exercises;	Performs multistage professional activities to implement AL services, including planning, organising, conducting, monitoring, animating, controlling, evaluating and post processing (e.g. in the process of long-term exercise programme), adjusting the process to the changing conditions (customer's capabilities and needs and/or environment).	4	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	4
		4.4.3. Conducts and monitors exercises sessions providing mothers and their infants with a comfortable environment (including proper temperature, avoiding loud noise, bright light, etc.);	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice (e.g. instructs common exercises and activities) and while taking into account the needs, capabilities and interests of the customers.	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	3
		4.4.4. Lists warning signs for immediate termination of an exercise session related to infant discomforts.	Lists hazard and risks related to the implementation of particular AL activities.	2	knowledge of facts, principles, processes and general concepts, in a field of work or study	3



The summary of unit 4		3/4	3/4			
EQF level of unit 4		4				
5.	Promotion of physical activity and healthy lifestyle during postpartum period					
5.1.	Is able to provide pregnant clients with proper information before, during and after exercise sessions	5.1.1. Provides postpartum clients with information on the rules of daily physical activity and exercising after childbirth (including safety, methods to assess intensity, symptoms requiring immediate discontinuation of exercise, recommended outfit, bra, hygienic materials, shoes and equipment);	Provides customers with specific information related to the various stages of participation in AL activities.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	4
		5.1.2. Provides postpartum clients with information about the benefits of the individual exercises for health and well-being (e.g., indicates exercises to prevent back pain, urinary incontinence);	Provides customers with specific information related to the various stages of participation in AL activities.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	4
		5.1.3. Uses appropriate motivational tools to keep the postpartum client's adherence to the exercise programme and to promote daily physical	Select and adjusts the communication and motivational tools to the changing needs of the customers and to the various stages of the delivery of AL services.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	4



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		activity and limit sedentary time.				
5.2.	Is ready to promote physical activity and healthy lifestyle among postpartum clients, other exercise professionals and representatives from other sectors, including the health sector	5.2.1. Justifies the need for physical activity during postpartum, explaining the positive impact of physical activity and the negative impact of inactivity on the health of mother and child;	Defines the role of AL activities within today's lifestyles. Explains how the needs of the customers (e.g. related with special conditions) influence their participation in AL activities and services.	3 5	factual and theoretical knowledge in broad contexts within a field of work or study	4
		5.2.2. Provides general advice about healthy lifestyle, such as nutrition, sleep, rest and stress management;	Provides customers with specific information related to the various stages of participation in AL activities.	4	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	4
		5.2.3. Dispels common myths about exercise during postpartum (e.g., making breast milk sour through exercise; having to wait up to several months after giving birth before any exercise);	Describes strategies to overcome various barriers to participation in AL activities.	4	factual and theoretical knowledge in broad contexts within a field of work or study	4
		5.2.4. Signposts the postpartum clients to reliable sources of information on physical activity and exercise in the postnatal period.	Plans, organizes, conducts, monitors and animates selected tasks in common AL services, demonstrating good practice and while taking into account the needs, capabilities and interests of the customers.	3	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	4
The summary of unit 5		4		4		



EQF level of unit 5	4
EQF level of the 'Exercise in postpartum' module	4 EQF
EQF level of the 'EXERCISE IN PREGNANCY AND POSTPARTUM' LIFELONG LEARNING (LLL) STANDARDS	4 EQF



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