



Center for Kinanthropology Research
Faculty of Physical Culture

Palacky University
in Olomouc



EUNAAPA – Work Package 5

**Surveys on Physical Activity programme and Physical Activity
Promotion Strategy in Older People:
National Report Czech Republic**

Jana Pelclová, Ph.D.
Julie Wittmannová, Ph.D.
Mgr. Zuzana Vašíčková

Palacky University
Faculty of Physical Culture
Center for Kinanthropology Research



1 Introduction

The EUNAAPA project work package No. 5 (Identifying of existing programmes for physical activity and physical activity promotion for older people) is supposed to identify and evaluate existing programmes and strategies on enhancing physical activity in the elderly that are known and used in their nation.

2 Methods

2.1 Expert Selection

The selection of the sample of experts was based on the guidelines of the work package leader (Edinburgh University). The aim was to cover as many of the fields in the provided sampling matrix as possible. In order to form the sample, experts from various areas (academic, health care, etc.) were contacted. They were either experts known to the authors or experts recommended by others. Furthermore, institutions dealing with senior citizens, aging in society etc. were contacted so that their experts would fill in the questionnaire. In particular, the Government Council for Seniors and Ageing in Population and the Association of Providers of Social Services in the Czech Republic were addressed to represent the governmental and social care sectors. These experts were expected to recommend both physical activity programme and physical activity strategy for promotion of PA in the elderly. Altogether, 9 experts were addressed who were to cover the specific fields of the matrix. The table below shows which fields of matrix could have been covered by the experts addressed.

Table 1. Sampling matrix for selection of PA experts in the Czech Republic

	Sport sector		Health sector and/or social services sector		Education sector (including training and professional development)	
	Government x	Other	Government x	Other A	Government	other x, B, C
National or Regional	Ministry of Sport (or equivalent)	NGO specializing in the delivery of recreational or competitive physical activity for older people	Ministry of Health	NGO specializing in the delivery of health-related exercise for older people or sickness funds or health insurance or NGO addressing age-related issues	Department specializing in the training of those who deliver recreational, competitive or health-related physical activity for older people	NGO specializing in the training of those who deliver recreational, competitive or health-related physical activity for older people
			or Ministry (or department) with particular responsibility for older people			Professional association for those specializing in old age healthcare or social care
	Government	other	Government x, x	Other D		
City or local neighbourhood	Municipal department for sport, recreation and leisure services	Sport or dance organization with special interest in older people or Other organization providing physical activity opportunities for older people	Municipal department responsible for healthcare services for older people or Municipal department responsible for social care services for older people	Local branch of a sickness fund or health insurance or Commercial provider of health-related exercise or Local branch of an NGO addressing age-related issues/providing social care for older people		

X denotes experts that were contacted but have not sent the questionnaires back

2.2 Data collection – Expert questionnaire

The selected experts were contacted and sent the invitation letter via e-mail and post and unless they responded they were also contacted via phone in case we received their phone contact. Based on the introductory communication, we sent them the questionnaires afterwards. Respondents were sent a package with a cover letter, a hard copy of the questionnaire and pre-paid return envelope.

For the convenience and especially with the aim to increase number of returned questionnaires, we have translated the invitation letter and the questionnaire into Czech.

Out of the total of 9 addressed experts, we received 4 filled-in questionnaires. The institutions we contacted responded. However, none of the experts from the Government Council for Seniors and Ageing in Population could fill in the questionnaire and therefore did not meet the required methodology. They provided us with some contacts on organizers or directors of PA programmes from health care and academic sectors. However, they did not specify if these were programmes or strategies, and if they regarded them as successful or merely whether they were simply the only ones known to them. We have enclosed these contacts in supplement 1.

Finally, in the period aimed at data collection, we received 4 completed questionnaires. Table 1 shows the fields addressed. Those fields marked with “x” represent fields in which an expert was addressed, however no questionnaire was sent back to us. They were prompted several times, but we did not receive any response. Those fields marked with letters A, B, C, D represent fields from which the experts sent the completed questionnaires. Those experts who completed the questionnaires rated themselves as representing the fields of: Medicine (1), Exercise/Sport Science (3), and one of them stated moreover “Other” (teaching, pedagogy area).

Areas, in which they considered themselves to be experts are shown in table 2.

Table 2. Areas of expertise as stated by the experts

Field	Organizational level	Client group	Sector	Professional Expertise
PA programmes 4	National 2	Community dwelling 4	Government 0	Health Care 1
				Health Promotion 2
	Sport/recreation/PA instruction/supervision 1			
	Health-related exercise instruction 3			
PA Promotion 2	Regional 1	Institution dwelling 2	NGO 3	Education 3
	City, town, neighborhood 2			Research 3
				Social services, social care, welfare 2

Due to the specific cultural characteristics of the Czech Republic and upon the communication with the experts, we had to divert from the official guidelines. We were supposed to the sent the PA Programmes and PA promotion strategies questionnaires along with the PA Expert questionnaires to each of the addressed expert. Yet, due to the fact that

such an approach would have burdened the experts as well as created some costs for them (phone calls, etc.), we decided to ask the experts to fill in their respective questionnaires and provide merely the details on PA Programmes and PA Promotion strategies. Hence, we distributed these questionnaires on PA programmes and strategies ourselves. We were not able to obtain all questionnaires on PA programmes and strategies recommended by the experts. Moreover in some cases, we have received PA Programmes and PA Promotion strategies questionnaires without having obtained the primary Expert questionnaire.

2.3. Data collection – PA Programmes and PA Promotion strategies questionnaires

Both the questionnaires on PA programmes and PA Promotion strategies were translated into Czech language and were distributed directly from our center to the directors of the programmes and strategies whose details we were provided with by the experts. In total we have received 3 PA Programmes and 1 PA Promotion strategies questionnaires. The number was low despite all our effort and re-addressing the directors. Although some of them promised to send in the completed questionnaires after we contacted them via phone or e-mail, repeatedly, we have not received them. Details on PA programmes and PA strategy directors are provided in supplement 3.

3 Results

3.1. Data results – Expert questionnaire

The part of the questionnaire on National Qualification Requirements was to assess whether there are any national standardized requirements concerning supervising or guiding physical activity for older people. Three of four experts have stated there was a basic level qualification required to supervise/guide physical activity. Two titles of the qualification were stated: *Instructor-specialization in seniors* and *III. class Instructor of Sport for All*. The experts also agreed that this requirement is implemented properly in the country. However, they either did not state or they did not know whether any such requirement exists of higher-level qualification for supervising/guiding older people physical activity. All three of them also believed a higher qualification for supervising/guiding older people physical activity should be implemented properly and one of the experts stated that such a higher level qualification is externally verified. According to the experts, the assessment of the qualification includes: a) summative assessment of knowledge (2), b) practical teaching competence assessed with participants of any age (1). Yet, two experts stated that the assessment is not applicable. The experts ticked that retaining of the higher qualification depends on an evidence of continuing professional development (2), a test of knowledge (1) and a practical test of teaching competence (1). Two experts stated that they did not know what proportion of instructors guiding older participants have the entry level qualification and what proportion had the higher qualification. In case of the former, one expert ticked that 100% and in case of the later one expert ticked that 25%.

That the country has a professional register of qualified instructors was denoted by two experts. Yet each of them stated different organizations running this type of a register: *Czech Association of Sports for All* and the *Czech Association of Physical Education (ČSTV)* and *Czech Association of Yoga in Daily Life (ČS JDŽ)*. They both agreed that an entry level qualification is required for a membership in these.

All experts' personal details are included in supplement 2.

3.2. Date results – PA Programmes and PA Promotion Strategies

3.2.1. PA Programmes

This section of the report is going to look at the PA Programmes for the elderly that were recommended by the experts as successful. For clearly understanding and easier orientation in the text, the specific programmes are denoted with numbers. The *Intervention programme for people with health impairment and population groups with internal civilization disorders* is number 1, *Programme Yoga and Health* is number 2 and *Dance classes for seniors* is number 3. Key details of each programme are shown in table 3.

Table 3. PA programmes details

Name of the programme	Intervention programme for people with health impairment and population groups with internal civilization disorders	Yoga and Health	Dance classes for seniors
Organization	Kardio Klub Motol	Yoga in Daily Life System, Vienna, Austria and Yoga in Daily Life System, Střílky, CZ	the statutory town of Olomouc
Classification of programme	Limited to city	National	Limited to city
Existence	More than 10 years	1 – 5 years	1 – 5 years
Types of included programmes	Community based senior fitness, GP referral, medical specific - cardiac rehabilitation	Medical specific – cardiac rehabilitation, pulmonary rehabilitation, arthritis programmes, and other (diabetes mellitus, hypercholesterolemie, back pain)	Other (dance classes for seniors)
Description	Group activity, indoors, outdoors, water-based	Individual activity, indoors	Group activity
Facilities	Other (gyms in hospitals, gyms in physiotherapy departments or centers, etc.)	Community centre	Participants' private dwelling, sheltered housing, assisted living, etc.

Participants' ages, the programmes are aimed at vary among categories 50 -90 (programme 1), 40 -70 (programme 2), and 60 and more (programme 3). The average ages in each programme are 70, 55, and 65 respectively. Programmes are intended for community-dwelling older adults (programmes 1 and 2), and both community and institution-dwelling older adults (programme 3).

Other details on the participants of the respective programmes are described in Table 4.

Table 4. Details on the participants of the programmes

Name of the programme	Intervention programme for people with health impairment and population groups with internal civilization disorders	Yoga and Health	Dance classes for seniors
Level of functional mobility in participants	Frequently walks vigorously or runs, walks outdoors with no walking aids and assistance, walks outdoors with an aid without assistance	walks outdoors with no walking aids and assistance,	walks outdoors with no walking aids and assistance, walks outdoors with an aid without assistance, walks outdoors with assistance
Proportion of women	100%	75%	75%

Group size (no. of participants)	6-10, 11-15, 16-20, 21-25, 26-50	16-20	51 +
Ratio instructor vs. participants	1:11-25	1:11-25	1:2-10
Possibility to participate per week	3-4	1	1
Usual participation per week	1	1	1
Participants attending for more than one year	100%	50%	25%

The aims and objectives of the programmes are included in table 5.

Table 5. Aims and objectives of the programmes

Name of the programme	Intervention programme for people with health impairment and population groups with internal civilization disorders	Yoga and Health	Dance classes for seniors
Overall aims	Health promotion, improved physical function	Health promotion, disease prevention	improved physical function, improved mood
Measurement of participants' satisfaction	1-2	More than 6	1-2
Objective outcome measures	Yes	Yes	No
Measures	Maximal oxygen uptake, A sub maximal test of aerobic fitness, joint range of motion	joint range of motion, other (blood pressure, blood sugar, spirometry, cholesterol level, kinesiology)	

To enter the programmes, the participants are requested to have a medical check-up in case of two programmes (programme 1 and 2). Programme 1 asks for an assessment by a doctor who is a sports medicine specialist or the programme doctor. Programme 2 asks generally for an assessment by a doctor.

The designs of particular programmes are described more in detail in table 6.

Table 6. Programme design

Name of the programme	Intervention programme for people with health impairment and population groups with internal civilization disorders	Yoga and Health	Dance classes for seniors
Components of physical fitness	Endurance, strength, coordination-balance, flexibility-mobility	Other (depending on the specific illness in focus)	Endurance, , coordination-balance, flexibility-mobility
Modalities of PA offered	Aqua exercises, yoga, outdoor walking groups, resistance balls/bands, back pain prevention, osteoporosis prevention, fall prevention, pelvic floor exercise, cardio rehabilitation	Yoga, back pain prevention, cardio rehabilitation, pulmonary rehabilitation	Dance
Fitness aspects targeted	Strength, balance, joint range of motion, body composition, other (focus is more	Other (general health and	balance, joint range of motion

	on functional endurance than oxygen uptake)	body strengthening and inner balance)	
Length of warm-up	6-10 minutes	11-15 minutes	1-5 minutes
Length of cool down	6-10 minutes	11-15 minutes	6-10 minutes
Length of workout	40 minutes	More than one hour	More than one hour
Catering for participants with chronic medical conditions	Adapted exercise in disease related groups	Adapted exercise in the mainstream group	Adapted exercise in the mainstream group

The minimal level of instructors' qualification and training required for the specific programmes were stated for programmes 1 and 2 and were specified in the comments section. They were respectively: 1) physiotherapist MA/Bc. or Adapted physical education teacher or instructor, or university education with physical education and 2) a qualified yoga instructor educated on yoga health indications.

3.2.2. Comparison of the PA programmes to the PA guidelines

We will comment on each of these programmes independently and compare them to specific guidelines:

- American College of Sports Medicine (ACSM). Physical activity programmes and behaviour counselling in older adult populations. *Med Sci Sports Exerc.* 2004;36:1997-2003;
- Nelson ME, Rejeski WJ, Blair SN, Duncan PW, Judge JO, King AC et al. Physical activity and public health in older adults: Recommendation from the American College of Sports Medicine and the American Heart Association. *Med Sci Sports Exerc.* 2007;39:1435–1445.

We have decided for these two guidelines since the former one presents some general requirements and expectations from a PA programme and the later one provides topical overview of physical activity recommendations for older adults.

All the presented PA programmes and strategies enhance promotion and maintenance of physically active lifestyle in older adults. Two of the programmes claim to have as the overall aim the health improvement and two claim the improvement of physical function which corresponds with the facets reviewed by ACSM (2004). According to ACSM (2004), a multidimensional activity programme should include endurance, strength, balance and flexibility training so that optimal health and physical functioning is secured. Frequency, volume, and intensity of particular fitness components are named also in the Recommendation from the American College of Sports Medicine and the American Heart Association (Nelson et al., 2007). Regarding these fitness components the programmes should enforce, our commentary follows.

Endurance: to meet the guidelines (Nelson et al., 2007) the participant needs to perform moderate-intensity aerobic (endurance) physical activity for a minimum of 30 minutes on five days each week or vigorous-intensity aerobic activity for a minimum of 20 minutes on three days each week. Two out the three programmes (1, 3) include endurance among fitness components, but the frequency of 3-4 PA lessons a week is provided only by one programme (1). The other ones offer only 1 lesson per week. For all programmes, however, the most typical frequency per week for an individual is once a week. All programmes involve 40 and more minutes of activity during the workout which is sufficient for endurance physical

activity. It is obvious that participation in such programmes can be only an addition to the necessary PA for meeting endurance guidelines.

Strength: programmes 1 and 2 emphasize this factor among their targets and physical fitness components they are aiming at. In order to increase muscular strength and endurance, the required frequency of participation in the programme should be on at least two days per week. This requirement could be met only by programme 1. Presented questionnaires do not provide us with the information on number of exercises, sets and repetitions.

Flexibility and mobility: all three programmes involve these among the fitness components. As for the targeted fitness aspects they state the joint range of motion. The times aimed for cool down periods in the session last minimally 6-10 minutes which creates a prerequisite for performing the necessary minimum of stretching activities, regardless of what is involved in the workout. To maintain the flexibility necessary for regular physical activity and daily life, older adults should perform activities that maintain or increase flexibility on at least two days each week for at least 10 min each day. Again, only programme 1 can meet this requirement.

Coordination-balance: all programmes involve it as a target fitness aspect. In relation to the assumptions from previous research, to perform exercises improving balance is required to reduce risk of injury from falls, not only in community-dwelling older adults.

As the recommendation from the American College of Sports Medicine and the American Heart Association (Nelson et al., 2007) stated, older adults with one or more medical conditions for which physical activity is therapeutic should perform physical activity in a manner that effectively and safely treats the condition(s). Moreover, older adults should have a plan for obtaining sufficient physical activity that addresses each recommended type of activity.

One of the programmes (1) is aimed in particular for people with health impairment and population groups with internal civilization disorders. Next one (2), although it is not considered primarily to be therapeutical programme, includes cardiac rehabilitation, pulmonary rehabilitation, arthritis programs, and other (diabetes mellitus, hypercholesterolemia, back pain). Both the programmes require an assessment by a doctor who is a sports medicine specialist or the program doctor or generally an assessment by a doctor. The named characteristics of the programmes along with the fact they are led by qualified instructors (programme 1 - physiotherapist MA/Bc. or Adapted physical education teacher or instructor, or university education with physical education; program 2 - a qualified yoga instructor educated on yoga health indications) seem to secure a sufficient base for meeting the recommendations (Nelson et al., 2007).

Next to enhancement of physical fitness components, PA programmes for older adults should also include principles of behavior change, including: social support, self-efficacy, active choices, health contracts, assurances of safety, and positive reinforcement. All these components are supposed to enhance adherence to PA (ACSM, 2004). One or more of these behavioral strategies should be used to facilitate the adoption of physical activity as a lifetime habit.

The questionnaire on PA programmes does not examine the principles of behaviour change directly, however, some of the aspects related to behavioural change can be also found there.

Regarding the facet of active choices that a PA programme should address, there is tailoring the exercise program to the needs and interest of participants which would motivate them to initiate and maintain a routine of regular physical activity. All of the programmes (1, 2, 3) formally measure participant satisfaction, which could be in a sense understood as an attempt to tailor the programmes based on participants' expectations. However, only two programmes (2, 3) survey what participants' aims of being involved in overall program are, and adjust the programme according to these aims.

As for the other aspects of key principles of behavioural change, the questionnaire does cover these: perceived safety, positive reinforcement, regular performance feedback, social support a self-efficacy.

As for the aspect of management of risk, beginning at low intensity but gradually increasing to moderate physical activity, and avoiding high-intensity vigorous exercise should be the goal for older adults (ACSM, 2004). According to the questionnaire on PA programmes, it is not obvious what the physical load of participants in each programme is. However, all programmes meet the recommendation that physical activity bouts should include a warm-up and cool-down component (ACSM, 2004). Other strategies include active stretching during the warm-up and cool-down portions of aerobic exercise programs, participating in a variety of activities (ACSM, 2004).

Preparation for an emergency situation is another part of risk management. ACSM (2004) suggests that written emergency procedures should be developed and posted in a readily accessible location. Out of the programmes described, only programme 2 has specific protocols to be followed in emergency situation and all staff trained in emergency protocols. Programme 3 has merely specific protocols and/or procedures to be followed in respect of equipment use, storage or maintenance and then staff trained in it.

Participating in physical activity is also an excellent way for older adults with disabilities to maintain their physical function, and improve their overall health. In their case, prescription of PA plan should be thoroughly consulted and agreed on with their health care provider.

All three programmes are open to older people with chronic medical conditions. Programme 1 offers adapted exercise with participants in disease-related groups, programmes 2 and 3 provide adapted exercise, with participants included in the mainstream older person's group. The fact that the programmes (1, 2) require their participants to have a medical report approving of their involvement in the programme, and that the programmes are supervised and guided by qualified instructors support carrying out effective risk management.

3.2.3. PA Strategies

Out of the experts (4) who completed the questionnaires only 3 recommended a PA strategy. The directors of the PA strategies were contacted and asked to fill in the PA Promotion Strategy questionnaires. However, neither of the directors ever responded despite repeated prompts and requests to return the questionnaires. In one case, the director directly refused to participate due to lack of time.

The questionnaire on PA strategy we received was a result of our communication with local authorities. They did not provide us with an Expert questionnaire and sent in directly the PA Strategy questionnaire. Due to these circumstances, we have very limited information on strategies and can only hardly develop any generalizations.

The strategy "Sustainability and development of services in clubs for seniors in the town of Olomouc" is a strategy limited only to the particular town and financed from the town budget – the social care sector. The director of the strategy stated that there is no law or any regulation for promotion of PA and especially for older people. She also stated there are no PA recommendations for older adults on the national level.

4 Conclusions

The report provides an analysis of the data obtained from the experts and directors of programmes on PA for older adults that we have been able to collect. However, the number of questionnaires received does not cover the required guidelines for collecting the data. The PA

programmes were assessed in comparison to some of the guidelines of physical activity for older adults. The low number of data does not allow to draw any generalizations. However, despite this, the presented PA programmes cover a wider range of goals and objectives a physical activity programme should aim at.

Supplements

Supplement 1. Contacts provided by the Government Council for Seniors and Ageing in Population

Organization	Priority	Contact
Občanské sdružení Gema	<i>Radost z pohybu, Turistické kurzy</i>	Mgr. Petr Veleta (Lucie Forštová) Šimůnkov 1600, 180 00, Praha 8 tel: 286 883 676 e-mail: lucie.forstova@gerontocentrum.cz
Remedium Praha	<i>Rehabilitační cvičení</i>	Helena Kubů Křišťanova 1698/15, 130 00, Praha 3 tel: 272 739 833 e-mail: helena.kubu@remedium.cz
Občanské sdružení Opora	<i>Taneční terapie</i>	Vladimíra Chmelařová Velká Hradební 2, 400 01, Ústí nad Labem tel: 475 232 532 e-mail: opora.ul@centrum.cz
Sdružení pro RHB osob po cévních mozkových příhodách	<i>Rehabilitace pro RHB</i>	Ing. Dagmar Dimitrovová Květnového vítězství 55, 149 00, Praha 4 tel: 241 721 518 e-mail: scmp@volny.cz
Občanské sdružení sedm paprsků	<i>Turistický klub, Zdravotní TV pro seniory</i>	PhDr. Věra Doušová Spořická 328/26, 184 00, Praha 8 tel: 233 543 760 e-mail: veradous.praha@post.cz
Klub kardio Tábor	<i>Rekondiční cvičení a plavání pro zdravotně postižené seniory</i>	MUDr. Kristina Berková Kpt. Jaroše 2000, 390 03, Tábor tel: 381 262 163 e-mail: tabor.kardio@seznam.cz
Fakulta TV a sportu Praha	<i>Program aktivního stylu života pro seniory</i>	Dr. Miroslav Štílec Martino 31, 160 00, Praha 6 tel: 220 172 211

Supplemet 2. Expert details

Name: Doc. PaedDr. Jitka Kopřivová, PhD.

Country: Czech Republic

Department: Masaryk University

Post: Vice Dean for external relations

Contact: Fakulta sportovních studií,
Sladkého 13, 617 00, Brno
tel: +420 549 498 667
e-mail: koprivova@fsps.minu.cz

Program: *Optimalization of physical activity of seniors*

Strategy:

Name: MUDr. Iva Holmerová, PhD.

Country: Czech Republic

Department: Center of Gerontology

Post: director, head physician

Contact: Šimůnkova 1600, 182 00, Praha 8, Kobylisy
tel: +420 286 993 676
e-mail: Iva.Holmerova@gerontocentrum.cz

Program: *Dancing with seniors*

Strategy:

Name: Marie Havrlantová

Country: Czech Republic

Department: Nursery school Palováček s.r.o.

Post: Vice-chairman of Metodical Court ČASPV (promoter)

Contact: Jubilejní 6, 741 01, Nový Jičín
tel: +420 602 585 048
e-mail: palovacek@quick.cz

Program: *Week stay program with sport's externalization for seniors*

Strategy: *Education system of trainers*

Name: doc. PaedDr. Milada Krejčí, CSc.

Country: Czech Republic

Department: PF JU České Budějovice

Post: Director of Department of Education to Health

Contact: PF JU
Jeronýmova 10, 371 15, České Budějovice
tel: +420 307 773 159
e-mail: krejci@pf.jcu.cz

Program: *Yoga for seniors*

Strategy: „ *Is it normal, to be obese?*“

Supplement 3. Details on PA programmes and PA strategy directors

Name of PA programme: Intervention program for people with health impairment and population groups with internal civilization disorders

Name of PA programme director: PaedDr. Miluše Matoušová

Job title: Chair, instructor

Email address:

Postal address:

Klub Kardia,
V Úvalu 84,
150 18 Praha 5
Czech Republic

Homepage of organization:

Name of PA programme: Jóga a zdraví/ Yoga and Health

Name of PA programme director: MUDr. Vít Čajka

Job title: director, yoga instructor

Email address: joga.malin@seznam.cz

Postal address:

Nový Malín 43
788 03
Czech Republic

Homepage of organization:

Name of PA programme: Dance classes for seniors

Name of PA programme director: PhDr. Jana Tomášková

Job title: Local council, head of the department of services for seniors and handicapped people

Email address: jana.tomaskova@mmol.cz

Postal address:

OSSZ, oddělení služeb seniorům a obč. se zdravotním postižením,
Kosmonautů 10,
Olomouc 779 00,
Czech Republic

Homepage of organization:

Name of PA promotion strategy: Sustainability and development of services in clubs for seniors

Name of PA promotion strategy director: PhDr. Jana Tomášková

Job title: Local council, head of the department of services for seniors and handicapped people

Email address: jana.tomaskova@mmol.cz

Postal address:

OSSZ, oddělení služeb seniorům a obč. se zdravotním postižením,
Kosmonautů 10,
Olomouc 779 00,
Czech Republic

Homepage of organization: