



EUROPE

EUR/5084266/10

HEPA EUROPE

*European network for the promotion
of health-enhancing physical activity*

5th Annual meeting
11-12 November 2009
Bologna, Italy

Book of abstracts



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

 **Regione Emilia-Romagna**

Contents

NATIONAL PROJECTS AND APPROACHES TO HEPA PROMOTION	4
5 <i>The Physical Activity Network for Wales – a fully evaluated national initiative.....</i>	4
7 <i>The Physical Activity Network for Wales – promoting ‘good practice’.....</i>	5
21 <i>National strategies and campaigns to HEPA promotion in the Netherlands.....</i>	6
25 <i>National training programme for professional staff in the field of water aerobics.....</i>	7
33 <i>Top-down pilot HEPA projects in Hungary.....</i>	8
36 <i>Physical activity and Health Promotion Action Plan for Georgia.....</i>	9
37 <i>The strategy for prevention and control of noncommunicable diseases and injuries in the Russian Federation as a background for physical activity policy development</i>	10
REGIONAL AND COMMUNITY APPROACHES TO HEPA PROMOTION	11
11 <i>Perceived neighborhood environment and its association with physical activity behavior and self-rated health in an Austrian City</i>	11
15 <i>LIFE CYCLE project - chance for HEPA promotion in all age groups.....</i>	12
17 <i>Establishment of health sport oriented bicycle routes in the counties and cities of North Rhine-Westphalia in connection with target group specific health training recommendations.....</i>	13
26 <i>Exercise adherence based on primary care prescription: a supervised exercise intervention in Catalonia ...</i>	14
27 <i>Development of regional guidelines for HEPA and healthy eating.....</i>	15
29 <i>Walk and run from 6 to 8.....</i>	16
34 <i>Quebec en Forme: public and private alliance to support communities’ mobilization on active living and healthy eating environments.....</i>	17
MONITORING AND INTERVENTION RESEARCH	18
1 <i>Physical activity and other lifestyle behaviors in a Portuguese sample of Azorean adults.....</i>	18
6 <i>The evaluation of the Physical Activity Network for Wales – the future of networking in Wales</i>	19
8 <i>Changes of daily physical activity patterns within the intervention „additional 3000 steps per day”</i>	20
18 <i>Bicycle use in Germany, Netherlands and Denmark – comparison of individual motives and settings of utilization.....</i>	21
23 <i>Pilot-testing of a European environmental questionnaire (ALPHA-project) in Germany.....</i>	22
30 <i>Sports planning and health.....</i>	23
35 <i>Cost-utility of an exercise referral of children with obesity from paediatric primary care to local sport professional: Move with us - Exercise Looks After You program</i>	24

HEALTH EFFECTS OF PHYSICAL ACTIVITY..... 25

4	<i>“Cesenatico Cammina gli itinerari del benessere”- Cesenatico in walking: the journeys of well-being</i>	25
13	<i>Physical activity and physical function are related to well being in Spanish elderly</i>	26
22	<i>Physical activity in the prevention and treatment of disease</i>	27
24	<i>Relationship between physical activity in different domains and health-related quality of life in middle-age employees</i>	28

HEPA PROMOTION IN SPECIFIC TARGET GROUPS..... 29

2	<i>Physical activity levels during structured physical activity sessions in Flemish preschools</i>	29
9	<i>Dancing like John Sergeant? Physical activity in adults aged 60-69 in England</i>	30
12	<i>Mobility management for kindergartens: “There is nothing like starting young”</i>	31
14	<i>Utilization of fitwalking inside a health unit for the promotion of physical activities and exercise-therapy</i>	32
16	<i>Modifying long term exercise adherence and dietary behaviour within a referral scheme intervention in older adults</i>	33
19	<i>Are children’s cycling skills related to competence in real traffic?</i>	34
28	<i>Soft memory training gym</i>	35
31	<i>Studies to improve the campaign for more active and healthy lifestyle of sedentary middle-aged men in Finland</i>	36

National projects and approaches to HEPA promotion

5 The Physical Activity Network for Wales – a fully evaluated national initiative

Beresford-Webb, Anne-Marie

Countryside Council for Wales, United Kingdom

Introduction: The Physical Activity Network for Wales (PANW) was formed, in response to the Welsh Assembly Government's 2001 "Healthy and active lifestyles in Wales: a framework for action" paper¹. It is recognised that in order to achieve change, effective partnerships are needed. One of the key objectives for the Healthy and active lifestyles plan was to develop national and local partnerships and strategies to increase physical activity through active living. Many of these partnerships are already in place; it is the inclusion of physical activity in all health programmes developed by these partnerships that needs to be addressed. One of the recommendations of the plan therefore, was to establish an all-Wales physical activity liaison group in order to bring together national and local representatives to identify common objectives, to share best practice and to establish a Physical Activity Network for Wales.

Activities undertaken: The Physical Activity Network for Wales links with individuals and organisations across the whole spectrum² of physical activity in Wales, providing support and facilitating partnership working. The network also facilitates the sharing of information and good practice principles, with the aim of increasing the physical activity levels of the people of Wales. In 2005 the Welsh Assembly Government commissioned the Wales Centre for Health to develop and establish the PANW. The PANW was formally launched in October 2006. In 2007 the PANW and the Nutrition Network for Wales (NNW) formed an alliance to support the tackling of cross cutting issues (e.g. the obesity agenda).

Results: The PANW and the NNW have a joint website holding information on funding, research, policy and news, as well as databases for good practice, initiatives and resources. Workforce development opportunities are also facilitated and continuous input from network members ensures that the work of the network is continuously evolving.

Conclusions: A comprehensive external evaluation of the PANW has recently been completed involving a policy review, strategic-level interviews, random sample survey of network members and focus groups with network members³. It has analysed the effectiveness of the networks to date and provided direction to inform the development of the networks in the future. The learning experiences gained from the development and bringing together of the NNW and the PANW and the achievements to date will be delivered in a poster presentation.

¹ Welsh Assembly Government (2002). Healthy and Active Lifestyles in Wales Action Plan. Welsh Assembly Government: Cardiff.

² http://www.physicalactivityandnutritionwales.org.uk/Documents/740/New_Spectrum_600.gif

³ Wavehill Consulting (2009). Evaluation of the Public Health Networks for Wales. Final report due March 2009.

7 The Physical Activity Network for Wales – promoting ‘good practice’

Beresford-Webb, Anne-Marie

Countryside Council for Wales, United Kingdom

Introduction: There are four national public health networks currently hosted by the Wales Centre for Health (WCfH): The Physical Activity Network for Wales, the Nutrition Network for Wales, the All Wales Sexual Health Network and the All Wales Mental Health Promotion Network. Part of the remit of these networks is to provide an opportunity to identify quality, assure and promote good practice across these topic areas.

Following the completion of an external evaluation of the networks and research into successful methods of sharing good practice across Europe, a project is being undertaken to develop a national mark of good practice across the four national networks agendas. This will involve the development of specific criteria and scrutiny from a Panel of experts.

Activities undertaken: Lessons are being learned from European projects that identify good practice (Closing the Gap: strategies for action to tackle health inequalities, DETERMINE – the good practice approach). The project will produce evidence based national standards and criteria on good practice across the four network agendas, giving initiatives the opportunity to be nationally recognised as examples of good practice. The identified projects will be awarded the national mark and will be included on a searchable online database linked to all four networks. Each year there will be an awards ceremony for outstanding examples of good practice.

Work is underway on this project, criteria have been developed and the first projects identified.

Results: This project is in its early stages, but initial results will be available by the end of October 2009.

Conclusions: The Mark of Good Practice will be a nationally recognized kite mark, which will enable the identification of evidence based good practice and will provide a basis for projects to apply for further funding opportunities. The availability of this information will be crucial for those who are developing projects to learn from what has worked in similar situations and to help prevent duplication of initiatives where not necessary. The mark of good practice may also provide projects with a valuable reference when applying for additional funding to continue.

21 National strategies and campaigns to HEPA promotion in the Netherlands

Barendse, Peter; Vlasveld, Anita

The Netherlands Institute for Sport and Physical Activity (NISB)

Introduction: The Netherlands Institute for Sport and Physical Activity (NISB) is a national organisation promoting active lifestyles. Through campaigning, and connecting campaigning with support, development and implementation of interventions, NISB manages to reach large groups of the Dutch population, directly or through partners. NISB has a tradition in the design and set up of national campaigns with a local impact.

Activities undertaken: NISB focuses with her campaigns on the physical activity goal: 30 minutes per day (60 for children/youngsters). Through mass media campaigns and through involving partners becoming part of the campaign (municipalities, other organisations, schools) the core message is spread out through various target groups and networks. Through innovation and support of interventions on national, regional and local level, the campaign is followed up by longer term interventions by local actors. In this presentation NISB focuses on youth 12-16 years old at secondary schools. A travelling campaign at schools creates awareness on the importance of healthy lifestyle and 60 minutes of physical activity per day. Additional to the campaign, NISB is developing and implementing interventions to stimulate inactive youngsters in the school setting to become more active. All this connects well to the policy framework Sport, Physical Activity and Education (2009-2011) which aims to increase the number of youngsters that reach the 60 minute standard. In the presentation we will highlight the synergy between: 1) the national campaign dubbel 30 ("double 30") 2) the development and implementation of national and local interventions focussing on inactive youth 3) the co-operation between two ministries in targeting this group through a national policy framework, which is implemented by a platform of 15 national organisations. NISB works together with 5 of these national organisations to carry out and further develop the subaction that is focussed on this secondary school level.

Results/aims: *The campaign:* In 2003/2004 NISB reached 32 (out of 500 schools) with the campaign.

For 2009/2010 NISB will reach 80 schools (at this moment 50 are confirmed).

The interventions/ products: NISB (co-)developed a number of interventions. Amongst others:

- Alle Leerlingen actief (All pupils active) target group: inactive youngsters. The intervention has been proven effective and is implemented in 80 (out of 500) schools during 2009-2011.
- Movin' Cultures: a new and tested series of lessons making use of "untraditional" ways of physical activity in the school setting, such as dance.

More schools have an integrated sport and physical activity policy and offer structural activities in and outside school.

More pupils reach the 60-minute standard (aim is 50% 2012).

More people are conscious of the importance and advantages of physical activity.

Conclusions: Main conclusion that can be drawn from the results so far, is that national strategies work best when they are multi-level (campaigning; national and regional and local interventions), building and building on the capacities of professionals and make use of local networks.

25 National training programme for professional staff in the field of water aerobics

Petavs, Nataša

Slovene Swimming Association

Introduction: In 2008, the Slovene Swimming Association, in cooperation with OKS-OLIMP d.o.o., drew up a comprehensive training programme for professional staff in the field of water activities. The training for water aerobics instructors presents one of the elective modules in the course of studies leading to the titles Swimming Instructor, Swimming Coach and Water Activities Coordinator I and II. The programme has been approved for the period of four years by the Council of Experts of the Republic of Slovenia at the Ministry of Education and Sport. The objective of the programme is to train professional staff for the development and expansion of water aerobics to all larger Slovenian towns and to improve the quality of the existing training programmes.

Activities undertaken: In the framework of the programme participants are provided with the training necessary to obtain the title Water Aerobics Instructor. The central objective of the programme is to introduce the participants to the concept, organization and implementation of a quality water aerobics training programme. With the acquired knowledge, participants are trained to independently conduct, plan, monitor and evaluate the efficiency of the training process. The duration of the training is 40 hours and is credited with 4 ECTS credit points. It is organized at the Faculty of Sport of the University of Ljubljana twice a year, in spring and in autumn. The anticipated total number of participants per year is 50. The target group of participants are swimming instructors, teachers and coaches, tourist coordinators, aerobics and fitness instructors, teachers and coaches, students of the Faculty of Sport, physiotherapists and implementers of health-educational programmes. Eligibility for enrolment in the programme is granted to applicants who have graduated from the minimum of a three-year vocational secondary school, are at least 18 years of age and have obtained the title Swimming Trainer. In order to complete the training, participants must pass an exam consisting of a theoretical and a practical part. The precondition for taking the exam is attendance at lectures and practical work of at least 75 per cent. The textbook required for the study and exam is *Water Aerobics, Water Exercise for Pregnant Women and Water Exercise for Seniors* by N. Petavs, A. Backović Juričan and B. Štrumbelj (2008).

Results: From 2008 to the first half of 2009 two training courses were organized. 18 instructors were successfully professionally qualified – 15 women and 3 men. For the time being, regular training programmes are implemented in Ljubljana, Snovik, Logatec, Nova Gorica, Ankaran, Debeli rtič and Ruše. There are also adapted forms of training with elements of entertainment in the framework of tourist coordination that are increasingly gaining ground.

Conclusions: The establishment of a national training programme for professional staff has finally provided expert groundwork for the organization of water aerobics training programmes at the level of independent businesses, sport associations, sport centres, sport institutes, swimming clubs, wellness centres, spas and health resorts. In the future, an effective promotion of water aerobics as a health enhancing physical activity will have to be ensured and the conditions for a mass participation of people in the offered programmes created.

33 Top-down pilot HEPA projects in Hungary

Györfi, János¹; Farkas, Judit²

¹*Hungarian Association of Sport Federations (during the Pilot Project: State Secretariate of Sport, Hungarian Ministry of Local Governments)*

²*Semmelweis University, Faculty of Physical Education and Sport Sciences, Hungary*

Introduction: Despite the high-level school physical education and sport club system, the rich grass-root movement in health and fitness, the active participation of GOs, NGOs and for-profit businesses to promote and run programs for higher engagement in physical activity, statistics have not indicated significant improvement in Hungary until 2002.

Activities undertaken: The State Secretariat of Sport at the Hungarian Ministry of Local Government initiated, developed and coordinated a pilot program for local governments. The hypothesis was that the local governments possess all necessary assets and human resources for providing the citizens with a variety of physical activity (PA) programs in the most convenient schedule and as close as possible.

The idea was not new at all, but in Hungary there was no concentrated effort carried out before for the most obvious: using the sport halls, school gyms and other large indoor or outdoor areas beyond of their usual occupancy. Regular physical activity programs for health enhancement for 3 major target groups were designed and organized by harmonizing the administrative forces of local government offices, school management and PA/sport professionals. The major innovation in the Ministry's program was to improve the way how offices and officers can work together in joint effort for the same goal (local HEPA programs) instead of working in parallel, focusing on their own duties and without considering the HEPA interest of the people.

In the pilot programs the methodology was accompanied by financial funds to hire an officer to plan the way of cooperation between offices/officers. The results of HOW are also considered as an outcome of the pilot project, since the description can be used as a manual later on. The participating local governments submitted a simple proposal for the call issued by the Ministry of Local Government (tendering).

Results: The 3 target groups and the immediate results of an 18-month period were: Families (complex programs for all ages – since 2007 over a million citizens exercised), seniors (25.000 elderly joined the PA programs locally) and finally, for the summer period the youth (HEPA Summer Camps).

Conclusions: To summarize the result, from the beginning the key element was the methodology of harmonizing the functions and operations of the already employed officers working in different departments of the local government (cultural, educational, sport, etc). The pilot program has proven that with re-organization of workforces the triangle of „facility-sport professional-program” can be brought together.

36 Physical activity and Health Promotion Action Plan for Georgia

Beruchashvili, Manana; Baramidze, Levan

National Center for Disease Control and Public Health, Georgia

Introduction: The Non-Communicable Diseases Risk Factors Survey conducted in Tbilisi 2006-2007 by MoLHSA with WHO support revealed that health information doesn't reach majority of the target audience and less than 10% of individuals attend any health-related actions annually. Citizens are generally unaware of the principles of health promotion and to some extent don't believe they can make a contribution to their own personal health by staying healthy from a preventive perspective.

Furthermore, health professionals often fail to provide any healthy lifestyle advice on increasing PA and other health promotion issues. As a result, only a small portion of survey participants attempt to modify their lifestyle. A national approach to promote health of population is produced a comprehensive National Health Promotion Strategy along with a prioritized Health Promotion Action Plan for Georgia.

Activities undertaken: Raising awareness for the entire population including all age groups by information dissemination to the target audience; ensure healthcare professionals increase identification of inactive individuals and provision of advice to patients on lifestyle; extend further the use of education facilities as a community resource.

Results: Relying on data of Tbilisi municipality, in the last years the percentages of population (namely children and young people) who are following moderate physical activity have increased by 15%, for the most part as a consequence of Special Presidential program for population: all Georgian schools and yards were equipped with sport stadiums and sports inventory, lots of advertisements, activities, events and competitions between schools were dedicated to physical activity.

The aim is to maintain and double these results in the nearest decade particularly in children and young people by achieving a total of at least 60 minutes of at minimum moderate-intensity physical activity each day and at least twice a week activities to improve bone health, muscle strength and flexibility.

Conclusions: Implementation of the strategy offers the health sector an instrument with which to increase both system capacity and intersectoral cooperation while impacting on individual responsibility for health, increasing community involvement in all health matters within the catchments area and better functioning of service provision through state programmes.

The desire is to evolve key evidence-based policies, interventions, services, and actions mandatory to improve health. The strategy can contribute in the short term to awareness rising for the enhancement of healthy life-styles and disease prevention. Over the longer term, it can be a significant contributor to health status improvement of the population.

37 The strategy for prevention and control of noncommunicable diseases and injuries in the Russian Federation as a background for physical activity policy development

Potemkina, Rimma; Oganov, Rafael

State Research Centre for Preventive Medicine of the Ministry of Health of Russian Federation

Introduction: In Russia huge amount of socioeconomic losses are due to noncommunicable diseases (NCDs). The leading causes of NCD in Russia are: smoking, high blood pressure, high blood cholesterol, alcohol abuse, physical inactivity and unhealthy diet. More than 70% of men and women are not active enough in leisure time. Attributable risk of low physical activity to overall mortality is 9%.

Activities undertaken: In 2008 the document "Strategy for prevention and control of noncommunicable diseases and injuries in the Russian Federation" was developed by the Ministry of Health and Social Development of Russia. One of the purposes of the strategy was to attract attention to the creation of an inter-sectoral system aimed at NCD prevention by means of integrated measures for healthy lifestyle promotion including the enhancement of physical activity. The strategy includes the following directions: development of federal and regional policies; legislative and regulatory frameworks; the role of the public health system; training of professionals; education of the public; creation of a system for monitoring NCDs and their risk factors, which are very prevalent in the population. About half of men and 2/3 of women are overweight (body mass index ≥ 25) and about 1/10 of men and up to 1/4 women were obese (body mass index ≥ 30); one third of men and about half of women have mainly sedentary work, only 1/5-1/4 of Russians engage in leisure time physical activity.

Results: The document was widely discussed among professionals and political authorities at the national and international conferences. The State Research Centre for Preventive Medicine is a WHO collaborative centre on development and implementation of NCD prevention policy and programme. There is a successful experience in the development and implementation of the effective research and NCD prevention and health promotion programmes in Russia. The intersectoral approach launched in the document created an opportunity to sharpen a social policy and environment for healthy lifestyle, including enhancing physical activity of the Russian population.

Conclusions: Physical activity policy development is an essential part of the realization of the Strategy for the Prevention and Control of NCD and should be next step of the strategy development.

Regional and community approaches to HEPA promotion

11 Perceived neighborhood environment and its association with physical activity behavior and self-rated health in an Austrian City

Stronegger, Willibald J.¹; Titze, Sylvia²; Oja, Pekka³

¹Medical University of Graz, Institute of Social Medicine and Epidemiology, Austria

²Karl-Franzens University Graz, Institute of Sport Science, Austria

³UKK Institute, Finland

Introduction: Neighborhood characteristics have been shown to be associated with health and health-promoting behavior. The aim of our study was to identify perceptions of the residential environment and their association with physical activity for specific purposes and with self-rated general health.

Methods: A cross-sectional survey of inhabitants of Graz (a mid-sized Austrian city) aged 15–60 years was conducted in 2005. Self-reported data were obtained by means of computer-assisted telephone interviews. Participants (n=997) completed structured interviews including Likert-type scaled questions on neighborhood conditions, physical activity for specific purposes and self-rated general health. The questions concerning the neighborhood were factor-analyzed in order to generate primary measures of perceived neighborhood characteristics.

Results: We found that a perceived high socio-economic quality of the residential environment is associated with higher levels of self-rated health and leisure time physical activity. The better self-rated health among individuals who were more satisfied with their quarter is not due to increased levels of sport and exercise. Both sport and satisfaction with environmental quality are independently linked with self-rated health.

Conclusions: Our results suggest that a high level of satisfaction with the individual's local infrastructure may urge the residents to engage in higher levels of physical activity for transportation, whereas the preferred mode of transportation may be gender-specific: men tend to use the bicycle while women walk. We found no clear relationship between satisfaction with the individual's social cohesion in his quarter and his/her physical activity. The results of our study may serve as a basis for devising structural preventive measures in urban environments (urban planning and design).

Acknowledgement: Funding for this study was provided by the Austrian Health Promotion Foundation and by the city council of Graz (Traffic Planning and Culture).

15 LIFE CYCLE project - chance for HEPA promotion in all age groups

Janežič, Mojca¹; Djomba, Janet Klara^{1,2}; Backović Juričan, Andrea¹; Köllinger, Claus³

¹Center for prevention of chronic diseases (CINDI), Slovenia

²Faculty of Medicine Ljubljana, Slovenia

³Austrian Mobility Research (FGM-AMOR), Austria

Introduction: The Center for prevention of chronic diseases (CINDI Slovenia) participates in the EU project LIFE CYCLE. The aim of the project is to integrate cycling as the natural mean of transport in daily life. The project's activities are oriented to all stages of life from kindergarten until retirement.

Activities undertaken: We chose two samples for implementation of our activities, one urban and one rural, because in Slovenia we notice large differences in health related behaviour between urban and rural residents.

Our activities are focused on kindergarten children, pupils, working population and seniors.

With our activities in kindergartens we would like to influence children that cycling becomes a topic with a positive emotional feeling already in kindergarten. Cycling is promoted throughout play, by encouraging parents to bring their children to the kindergarten by bicycle, by learning to cycle with help of bicycles without pedals and organisation of cycling events associated with various games.

Within the school activities we collaborate with the existing project- the cycling exam. We also foster cycling through cycling events associated with various games and by encouraging pupils to participate in cycling competitions.

In working population we encourage employees and employers to cycle to work and/or in leisure time. They are invited to participate on various sport and health related events, eg. Bicycle marathon, 2 km walk test, fairs. We are developing a safety cycle training course for adults, which will be unique for the whole country. We also try to include cycling in the programmes of healthy lifestyle workshops, which are developed for adults with risk factors for cardiovascular diseases.

In seniors we promote outdoor cycling for those, who are able to cycle and indoor cycling under supervision of a physiotherapist or sport professional for those, who can not cycle on regular bikes.

We encourage all our target groups and their families to visit and participate in events regarding "European mobility week", "Car free day" and "Move for health day". To inform them about benefits of cycling on health, we made information letters adjusted to the target groups and we collaborate with media and many other institutions to spread information about our project activities as wide as possible.

Results and conclusions: All activities are running very well at this time. We aim to have effective tools for fostering and promoting cycling both as health enhancing physical activity and mean of transport at the end of the project, in May 2011.

17 Establishment of health sport oriented bicycle routes in the counties and cities of North Rhine-Westphalia in connection with target group specific health training recommendations

Matthäi, Felix; Steines, Dirk; Volkenrath, Michelé; Wietstock, Sven; Froböse, Ingo

German Sport University Cologne, Center for Sport and Health Research

Introduction: Within the “Nationaler Radverkehrsplan” (NRVP) of the Federal Ministry of Transport, Building and Urban Affairs the study was carried out in May 2009. The project’s goal is to increase the use of bicycles under health sport aspects by means of signposting cycle routes close to residential areas. The relation of cycle routes and health aspects displays the user’s individual profit and benefit while still promoting the basic aspects of bicycling. The project aims at pointing out the easy accessibility of the routes from residential areas, in order to make them useful for everyday routines and errands, e.g. on the way to the work or after end of workday.

Activities undertaken: In order to calculate the optimal velocity for every cycling route in subject to the user, a specific tool is set up on an internet platform (www.gesunde-radrouten.de). The user is classified in a specific scoring system including anthropometric and physiological factors. The difficulty of the route is defined by total and average load as the result of the average inclination, the maximal inclination, and inclination length. These parameters are calculated in conjunction with the specific anthropometric data of the user. The tool provides every user a recommendation for using certain bicycle routes with a specific velocity to reach an optimized health benefit.

In order to provide all day suitability the routes were locally examined by the county federations of the ADFC (German bicycle club).

The next step was the development of optical appearance including pictograms, leaflets, layout of the website and a PR-Film. Media relations work has been done by the “Center for sport and health research” including newsletters, articles in newspapers and magazines.

Results/Conclusions: The expected increased use of the bicycle traffic net within the leisure range will make an increase of the bicycle traffic portion in the everyday life, since all routes lie in live near environment, and are easy to reach by public transport. A permanent and lasting development and use of the wheel routes are to be expected by the availability in the Internet. Therefore in the first phase of the internet launch an administrator is in care to answer questions and comments from users. To come to a sustainable use of the site this administrator should be substantially implemented.

The knowledge and methods for an expansion of the concept, developed in this pilot project in North-Rhine/Westphalia, are particularly valuable on further federal states or on federal level. In this regard with the possible upload of own routes, the development of an extension was already initiated on federal level.

26 Exercise adherence based on primary care prescription: a supervised exercise intervention in Catalonia

Aranda, Silvia¹⁻²; Violán, Mariona³; Miñarro, C.³; Rubinat, M.³; García, J.³; González, A.⁴; Lloret, M.¹

¹Catalonian National Institute of Physical Education (INEFC-Barcelona), Spain

²Catalan Sports Council (CCE), Spain

³Secretary General for Sport, Government of Catalonia, Spain

⁴Department of Public Health, Government of Catalonia, Spain

Introduction: Sedentary behavior, little to no recreational, household, or occupational physical activity, is one of the strongest risk factors for many chronic diseases including cardiovascular disease, hypertension, diabetes, obesity/overweight, osteoporosis and dyslipidemia. Therefore, increasing physical activity is currently considered to be a primary and secondary prevention strategy for these diseases. However, to get adherence to exercise programs is often problematic, with rates around 70% of adherence and dropping out around 50% within 6 months of exercise initiation.

The purpose of this study was to examine the adherence rates and find predictors of adherence to the program during the pilot intervention of PAFES (Plan of Physical Activity, Sport and Health).

Methods: Participants were recruited from Primary Care Centres (PCC) within the framework of PAFES, an initiative funded by Health and Sports Departments of the Government of Catalonia to promote physical activity. Both genders ≥ 18 years with obesity, hypertension, diabetes mellitus type 2, dyslipidemia or sedentarism.

The intervention consisted in a 3-month exercise program (mainly aerobics) for 60 min·d⁻¹, 2 d·wk⁻¹.

At baseline, demographic data, information on chronic diseases and cardiovascular risk factors (CRF) were collected. During the intervention, adherence was assessed by objective attendance records.

Adherence rate to the exercise program was calculated dividing the number of exercise sessions the participant actually attended by the number of prescribed sessions, multiplied by 100.

Results: Professionals of PCC advised exercise on prescription to 291 patients. Of these patients, 196 participated in the supervised exercise program (148 women and 48 men). They had obesity (n=98), hypertension (n=93), diabetes mellitus type 2 (n=50), dyslipidemia (n=50) and sedentarism (n=98). There were 35 that dropped-out during the intervention (17.86%).

The final sample completing the 3-month study included 161 participants (82.14%) of 196 initial participants.

Average adherence rate was 85.01% (ds=17.02). No significant difference in adherence rate was found by and age, gender, type of CRF or number of CRF.

Conclusions: Excellent data of exercise adherence was found to the intervention in PAFES pilot program (averaged >85%) throughout the study. These findings suggest that it is positive to continue with the exercise prescription in primary care. The program could be a successful strategy to contribute to change behaviour and obtain the benefits of an active lifestyle.

In this study, no significant differences were observed between exercise adherence and the variables data collected at baseline. Further studies should analyze other variables that could predict adherence rates to the exercise programs.

27 Development of regional guidelines for HEPA and healthy eating

Wieseneder, Elisabeth; Grasser, Gerlinde

FH JOANNEUM, Department of Health Management in Tourism, Public Health Information Research Unit, Austria

Introduction: In 2007 the Styrian government adopted 12 health targets. One target is to increase physical activity and to improve dietary habits. As a first action to achieve this target the local government commissioned to develop guidelines for HEPA and healthy eating. The aim was to develop guidelines containing knowledge based recommendations for healthy behaviour, for effective interventions and policies and recommendations on indicators for monitoring of the development of the health target.

Methods: Research on (inter)national recommendations, (inter)national models of good practice, policy recommendations and on indicators for monitoring were conducted. As a framework for the analysis the Swiss Model for Outcome Classification in Health Promotion and Prevention (SMOC) was used. Furthermore results were analysed separately by different settings and target groups. The findings of the research were summarized in a report which was used for the preparation of two one day consensus building workshops with national and international experts, separately for HEPA and diet. The experts came from following institutions: WHO, University of Graz and Vienna, Fonds Gesundes Österreich, National Sports Organisations (Austria and Switzerland) and Swiss Society for Nutrition. On the following day the results of the research report and the workshops were discussed with regional experts and opinions leaders. Broad dissemination activities are planned. So far a report was written, which is published online and was distributed via online-newsletter. Furthermore different publications for the public, experts and practitioners are planned.

Results: The recommendations from ACSM and AHA¹ were adopted. Dietary recommendations were based on principles like regional, seasonal and organic food and were oriented mainly towards national recommendations; however, they were adapted to regional characteristics. Health interventions were described mainly for the general population. Additionally interventions for children and for the settings community, workplace and school were included in the guidelines. For each category of the SMOC, indicators have been proposed for discussion in the first consensus building workshop. The indicators concerning HEPA were discussed and agreed on in the expert meeting, however this did not work for healthy diet.

Conclusions: The development process of the guidelines for HEPA worked over all better than for healthy diet. This can be explained by a stronger evidence base, which experiences broad agreement. Our experience suggests that public health orientation is further developed in the field of HEPA than in the field of nutrition. That might contribute to the problem of little ownership among Styrian experts in healthy nutrition, for whom the additional value of the guidelines seems to remain unclear. For further guidelines development processes a broader consensus building process should be considered. Currently the local government is preparing the implementation. The usefulness of the guidelines for the process of implementation of the health target should be evaluated.

¹ American College of Sports Medicine and the American Heart Association

29 Walk and run from 6 to 8

Rizzi, Luciano

Italian Union Sport for everybody (UISP), Committee of the Province of Bologna

Introduction: The project is aimed to involve people who do not practice any physical activity regularly through a simple organization and a guided teaching approach. Participants can go for a walk or slow run (for people with low levels of physical activity) from 6 to 8 in the morning or in the evening (depending on personal inclinations and requirements) in order to start or end the day on the "right foot". Doing it with other people, making them feel stronger and safer.

Goals of the project:

Walking is a good habit without contraindications and can be practiced by everyone and it's very affordable. We can improve our athletic performances at any age: this means that motion practice is always salutary and not only in one's youth.

The project is aimed to:

- encourage people of all ages to walk for at least 30 minutes, several times per week
- make people more inclined towards physical activity and to make it a lifelong good habit
- create a cooperation network through the institutions in order to ensure the project's sustainability and success

Activities undertaken: The project takes place in a natural environment: green areas, parks, rivers, cycle paths, etc. At 6 o'clock several group leaders lead the participants on a short track (1,5- 2 km) at different speeds (1 km can be covered in 6 minutes or more).

People who want or have to take physically activity come at 6 o'clock (in the morning or in the evening) and begin the track. After having found one's pace, the participants join the group which goes at his/her speed. Obviously there is the possibility to increase the pace through training. When the runners cover one kilometer in five minutes, they are ready for taking part as amateurs in other sports.

Results:

- Attendance per day and per month for each participant
- Variation of running speed
- Clinical tests (in case of cooperation with Local Health Authority, Usl)
- Daily recording of attendance and continuity of participation
- Endurance and improvement of running speed.

Conclusions: At last a project not only for children or elderly but for everyone, that makes us feel the pleasure of our breath and heart beat.

34 Quebec en Forme: public and private alliance to support communities' mobilization on active living and healthy eating environments

Lapierre, Lucie

Québec en Forme, Canada

Introduction: Quebec en Forme (QEF) is a population based initiative stemming from a unique partnership between philanthropy and government since 2007. It aims to build healthy eating and active living (HEAL) environments for children and youth, through an extensive support of local communities' mobilization projects, including native communities.

Activities undertaken: From 2007 to present, the organization focussed on its deployment throughout the province. Except for its provincial office, the structure is decentralised and staffed with territory directors, nutrition and exercise specialists, technology assistants and office assistants. Each directorate supervises six or seven regions, each one being staffed with regional agents and development agents mostly trained in social development, social work or community development. Their function is to assist the projects stakeholders according to the terms of reference specific to HEAL and Community mobilization (both were written under the guidance of expert committees).

During this period, considerable efforts were granted to identify indicators most susceptible to monitor the progress. Efforts were also made to develop tools that would enable the stakeholders mobilized around local projects to make an accurate assessment of their community in light of HEAL environments and to develop a strategic plan and action plan.

To maximize the synergistic effect of QEF, alliances were officialised on the national level. First with the Ministry of Health, to avoid the work in silos in regard to the government fight against obesity and second, with the 2007-2017 400million Canadian dollars (CAD) Healthy Living Fund, to ensure that nationally funded projects serve as catalyst to the local projects aiming to build HEAL environments.

Annual meeting for local stakeholders, training seminars for QEF interventionists, research briefs and bulletins on internet are means by which KTA is thought of. A review is currently undertaken under the guidance of KTA experts.

Results: In 2008-2009, 100 communities under the subtle guidance of development agents have set clear objectives. Approximately 14million CAD are allocated locally annually. Preliminary analyses of the action plans show local communities' endeavours still being nested in familiar roles (activity programming, installation sharing and resources' training).

Conclusions: While community mobilization is recommended for many reasons, it challenges the common understanding of the environmental correlates of HEAL and the ability to identify the strategic levers susceptible to induce long lasting effects within the community. In light of this preliminary analysis, efforts in KTA will be reinforced and as regard to strategic planning, work is already undertaken based on the ANGELO¹ grid.

¹ Swinburn B, Egger G, Raza F. Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Preventive Medicine* 29, 563-570 (1999).

Monitoring and intervention research

1 Physical activity and other lifestyle behaviors in a Portuguese sample of Azorean adults

Santos, Rute; Vale, Susana; Miranda, Luisa ; Mota, Jorge

University of Porto, Faculty of Sport, Research Centre in Physical Activity, Health and Leisure, Portugal

Objectives: Regular surveillance is required in order to monitor, study trends over time and analyze the population subgroups that are most affected by the lack of physical activity (PA). The aims of this study were to describe PA prevalence and to investigate possible associations between PA and other lifestyle behaviors in Azorean adults.

Methods: 9991 adult participants (5723 women), aged 37.8 ± 9.5 years, took part in the 2004 Azorean Physical Activity and Health Study. The International Physical Activity Questionnaire was used to assess PA. All other lifestyle behaviors were also self-reported.

Results: 48.3% of all the participants met current PA recommendations (≥ 30 min/week x 5 times of at least moderate PA or ≥ 20 min/week of vigorous PA x 2 times). 32.2% were categorized as HEPA level (HEPA level = vigorous-intensity activity ≥ 3 days/week achieving at least 1500 MET-minutes/week; or ≥ 5 days/week of any combination of walking, moderate-intensity or vigorous-intensity activities achieving at least 3000 MET-minutes/week). 48.1% spent at least 3 h/day sitting. Women were less likely to achieve PA recommendations, as well as the HEPA level. In both genders, higher education level, employment status, higher income and sitting for more than 3h/day were negative predictors of HEPA level; and, having at least 5 meals/day was a positive predictor for the same PA level.

Conclusions: There is a significant proportion of Azoreans, particularly women, that does not do enough physical activity. Targeted programs for Azoreans aimed to increase PA levels should pay special attention to women, and consider a multi-factorial approach, as other lifestyle behaviors seem to interact with PA levels in this population.

6 The evaluation of the Physical Activity Network for Wales – the future of networking in Wales

Beresford-Webb, Anne-Marie

Countryside Council for Wales, United Kingdom

Introduction: The Physical Activity Network for Wales (PANW) underwent a comprehensive external evaluation in 2008. The findings of the evaluation were overall positive, and have formed the foundations to shape the future of the PANW.

Activities undertaken: A comprehensive external evaluation of the PANW has recently been completed involving a policy review, strategic-level interviews, random sample survey of network members and focus groups with network members¹. It has analysed the effectiveness of the networks to date, and provided direction to inform the development of the networks in the future.

Results: The evaluation found that the PANW had a focussed agenda and a structure that ensured that activities were also focussed. The evidence found that the PANW had avoided the risk identified by Abbott and Killoran in *Mapping Public Health Networks 2005* of becoming 'all process no action talking shops'.

The PANW website (shared with the Nutrition Network for Wales website), was described as an effective means of communicating policy to members, and that the PANW should have a future role as a forum for policy development and consultation.

The evaluation has shown that the PANW is good value for money and is appreciated by those who use the network.

Areas for development that were identified were the promotion of the network, further interactivity, further representation needed by the private sector. The results of this evaluation have informed the direction of the PANW work plan for this year and future years.

Conclusions: Reviews of existing network models show that many public health networks reach a stage in their development where their initial range of functions is fulfilled and there is no obvious way of extending their services. The PANW has been identified as being well placed to move beyond its current remit and identify new ways to develop and inform the workforce. The PANW has also been effective with regards to strategic added value, engaging with practitioners beyond the field of public health (e.g. town planning, teachers, youth workers).

The results of the evaluation have triggered the identification of further areas of work and improvements to an already well received network.

The learning experiences gained from the evaluation of the PANW and the future of the network will be delivered in a poster presentation.

¹Wavehill Consulting (2009). Evaluation of the Public Health Networks for Wales. Final report due March 2009.

8 Changes of daily physical activity patterns within the intervention „additional 3000 steps per day“

Wallmann, Birgit; Froboese, Ingo

German Sports University Cologne, Centre for Health

Introduction: Unstructured physical activity interventions focusing on lifestyle activities tend to be a helpful additional element of physical activity promotion for inactive subjects besides structured activity programs. In this context, all-day activity, especially walking, plays a decisive role and reduces individual barriers to increase physical activity sustainably. Within the help of the low-threshold intervention “additional 3000 steps per day”, previously inactive people can achieve the physical activity recommendations of 30 minutes moderate physical activity. Little is known about the voluntarily undertaken changes in physical activity patterns. This data would be helpful in providing concrete recommendations for a more active lifestyle.

Methods: The aim of this study was to describe voluntarily undertaken shifts in the weekly and daily physical activity patterns of previously inactive persons participating in the unstructured intervention “additional 3000 steps per day”. In this context, physical activity patterns were identified and a distinction between health enhancing physical activity (activity bouts > 10 minutes) and non-exercise activity (< 10 minutes) was made. Via individually adjusted and sealed pedometers (Omron HJ-720IT-E) the baseline activity of 33 participants (20 w / 13 m) was recorded hour by hour. Subsequently, the walking activity within the 15-week intervention was analyzed as well.

Results: On weekdays, the recorded walking activity was higher compared to the weekend (7293 ± 2834 steps vs. 6654 ± 3184 steps; p=0.1). During the week, an activity plateau was demonstrated between 11 am and 6 pm. During the intervention, the exceeding activity was carried out by means of health-enhancing physical activity during morning and early evening hours. The daily activity between 11 am and 6 pm remained unaltered compared to the baseline activity.

Conclusions: Within the daily structure, the willingness for changing activity behavior exists mainly in the morning and evening hours. During the main daytime the physical activity remains unaltered.

18 Bicycle use in Germany, Netherlands and Denmark – comparison of individual motives and settings of utilization

Matthäi, Felix; Akkerman, Gregor; Biallas, Bianca; Wallmann, Birgit; Froböse, Ingo

German Sport University Cologne, Center for Sport and Health research

Introduction: Individual motives and settings determine the daily choice of the means of transportation. To promote the bicycle transport in Germany and to increase bike use, these specific factors must be recognized and used. Furthermore, it can be useful to compare the motives for bicycle use in Germany to those of countries with a higher bicycle transport share.

Methods: The study of the Center for Sport and Health research is based on the result of an online questionnaire of 1.049 German, 550 Danes and 686 Dutch respondents in terms of bicycle use, mobility behaviour and settings of utilisation. The study was carried out in July 2008 in the framework of the “Nationaler Radverkehrsplan” (NRVP) of the Federal Ministry of Transport, Building and Urban Affairs. The results were statistically analysed and published.

Results: The results indicated that the Netherlands registered the most intensive bicycle use (63 % of the respondents regularly used their bicycle, i.e. at least three times per week). In Germany, 45 % of the population and in Denmark 46 % regularly used their bicycle.

In all three countries the most active cyclists were the inhabitants of cities (more than 100.000 inhabitants) and middle towns (20.000 till 100.000 inhabitants). Compared to the inhabitants of smaller towns and villages, they did not only use their bikes regularly, but also covered longer distances.

Environmental reasons were significantly more often quoted by the German respondents as a reason to use their bike than by the Dutch or Danish. Even Germans who used their bike not regularly indicated significantly more frequent (24.3%) environmental reasons than Danish (10.2%) and Dutch (9.6%). Likewise, in Germany significantly more frequently the motive “nature experience/fresh air” was indicated. This could be observed both in the group of the regular and the non-regular cyclists.

Conclusions: The results of this study point out important conclusions which can be drawn for the choice and development of future bicycle traffic campaigns, especially in Germany. For example the study indicates clear differences between urban and rural areas. Because of the different demands, future campaigns must take the local preferences and motives into consideration. To promote the bicycle transport in Germany the expansion of the bicycle traffic network is in the foreground to reach the conditions of the model Netherlands. This can be enhanced through arguments of climate friendliness and positive health effects.

23 Pilot-testing of a European environmental questionnaire (ALPHA-project) in Germany

Bucksch, Jens; Stahl, Christian

University of Stuttgart, Department of Sport & Exercise Science, Germany

Introduction: Research on the influence of the environment on physical activity (PA) is expanding. But most studies have been conducted outside of Europe. Consequently, the measures of environmental perceptions predominantly did not reflect the European environmental context, which might considerably differ from the American and Australian context. Within the framework of the EU-funded project ALPHA (Instruments for Assessing Levels of Physical Activity and Fitness) a standardized European questionnaire for the perceptions of the physical environment has been developed based on existing instruments. Some pilot-testing has been done for Belgium with encouraging results (Spittaels et al. 2009; ISBNPA). The objective of our study is to strengthen the validity of this questionnaire by collecting comparable data in German adults.

Methods: We conducted a cross-sectional study in the greater area of Stuttgart. The City of Stuttgart is located in the South-West of Germany. In total 119 participants completed an online-questionnaire containing the ALPHA-questionnaire of the physical environment (i.e. types of residences, distances to local facilities, walking or cycle infrastructure, maintenance of infrastructure, neighbourhood safety, how pleasant is your neighbourhood, cycling and walking network, home environment, workplace or study environment) and the IPAQ long version to assess PA. We used correlational analyses (Spearman) to detect significant associations between environmental variables and PA. In addition, a subsample of 42 participants completed the environmental questionnaire a second time within a time interval of one week. We calculated Intraclass-correlations (ICC) and Kappa-statistic (for dichotomous variables) to analyse test-retest-reliability.

Results: Our sample mainly consisted of students and employees of the University of Stuttgart (mean age 27.5 (SD=9.7)). More boys (68.1%) than girls participated. Most of the variables showed moderate to good test-retest reliability in terms of ICC (0.51-0.89) and Kappa (0.53-1). Four out of 50 variables have values between 0.38-0.45. We observed significant correlations between domain-specific PA measured by IPAQ and specific environmental variables (e.g. MET-min/week for walking was related to "sidewalks are well-maintained" $r_{sp}=0.22$; MET-min/week for cycling was related to "special lanes for cycling" $r_{sp}=0.21$).

Conclusions: Most of the scales showed an acceptable test-retest reliability. Only a few significant associations were found. However, the correlational coefficients were low but pointed in the expected direction. Our study was conducted in a highly selective sample - not representative of the general population of Germany - in terms of age, educational status and sex. More studies in diverse population groups are needed to confirm our results.

30 Sports planning and health

Rizzi, Luciano

Italian Union Sport for everybody (UISP), Committee of the Province of Bologna

Introduction: In our society the first cause of death are cardiovascular diseases. It is necessary to invest in prevention as a strategic element for the sustainment of the healthcare system. Scientific evidence is clear: To perform regularly moderate physical activity promotes a healthy lifestyle, with considerable benefits to the general health of the person.

The aim is a project based on a new idea in order to facilitate people's approach to exercise through practical activities linked to simple movement, carried out in a natural environment as far as possible, and through a different planning of the sports system.

Activities undertaken: We aim at creating an outline that would include the comprehensive representation and evaluation of the status of the territory and of the evolving processes that determine it. This would be accomplished through:

- Analysis of emerging behaviours and new tendencies in the sports activity
- Reconstructing of statistical data related to all sports facilities already existing, through the classification and cross-referencing of the existing databases
- Visual census and listing of all sports facilities already existing in the territory (public and publicly accessible private facilities)
- Comparing and processing in order to show the historical development of the facility system
- Direct census of the whole local sports movement

Results:

- Insight on the consistency of sports resources as far as facilities and participants
- Planning of interventions on the sports facilities to make them easily accessible for a wider number of users
- Planning of interventions aimed at creating newly conceived facilities for physical activity connected with health and wellness
- Interventions against teenagers' tendency to sedentary habits, through enjoyable offers that take into account their aversion to judgement and results
- Easy and accessible offers of basic activities for adults, in which everyone will be able to find their place in a simple and natural way

Conclusions:

- Adapt the offer of facilities to the new type of demand
- Newly designed sports facilities to oppose sedentary living
- Induce inactive population into exercise, for one's amusement and for one's health
- Improve conditions for those who already perform physical activity

35 Cost-utility of an exercise referral of children with obesity from paediatric primary care to local sport professional: Move with us - Exercise Looks After You program

Gusi, Narcis¹; Parraca, Jose Alberto¹; Olivares, Pedro¹; Quesada, Fabian²; Cebrian, Clarencio³; Rodriguez, Carlos J.²

¹University of Extremadura, Faculty of Sports Sciences, Caceres, Spain

²Regional Ministry for Youth & Sport, Caceres, Spain

³Regional Ministry of Health & Dependence, Caceres, Spain

Introduction: Childhood obesity is a major public health concern that HEPA is working for facing it up assessing stakeholders, but there is a lack of cost-effective studies of specific exercise-based interventions for making decisions.

Methods: We performed an 8-month blinded randomised multicentric clinical trial including 186 young people (124 in the intervention group and 62 in the control group) aged 8 to 12 years old with obesity referred by paediatric teams at primary care centres to a sport professional at local level. The intervention were two exercise sessions per week based on developing physical and social skills for participating in regular sport for children. Main outcomes measures: a) health-related quality of life (HRQOL) by EQ-5D-Y (recently developed by an international child EQ-5D Task Force¹) answered by children, and the proxy version answered by parents, b) general health assesses by Visual Analogic Scale, c) health-related fitness, d) cost of intervention (salaries of 600 hours of personnel for sessions and assessing, material). The specific Spanish temporal utilities were applied. We calculated the costs and savings for the public health system using non-parametric bootstrapping and the under curve technique for calculating the cost-utility of the addition of Move with Us to regular care. We measured at baseline and 3 and 8 months after the intervention.

Results: Intervention group improved fat percentage (8%), body weight (1%), hand-grip strength, agility, vertical and long-jump compared to control group. However, both groups slightly increased absolute body weight. The final HRQOL reported by parents and children showed agreement. The intervention group improved 5.6 Quality of Life Adjusted Years (QALY) of HRQOL at 8 months compared to control group changes. The net benefit using the area under curve technique was 3.03 QALYs. The marginal cost of 8 groups of 10-20 children in 5 municipalities was 7000 EUR. The cost-utility ratio applying area under curve technique was 2,308 EUR per QALY. The threshold of willingness for paying per QALY in Spain is 40.000 EUR. We also modelled and discussed some scenarios for sensitivity and confidence intervals.

Conclusions: The Move with Us program included in the Exercise Looks After You programme is highly cost-effective in children with obesity and it could efficiently complement existing HEPA programs for general children population.

¹Gusi N, Badia X, Herdman M, Olivares PR. Translation and cultural adaptation of the Spanish version of EQ-5D-Y questionnaire for children and adolescents. *Aten Primaria*. 2009 Jan;41(1):19-23.

Health effects of physical activity

4 “Cesenatico Cammina gli itinerari del benessere”- Cesenatico in walking: the journeys of well-being

Palazzi, Mauro; Castoldi, Francesca; Franzoso, Giulia; Reali, Chiara; Prati, Elena; Muccioli, Mariangela; Raineri, Cristina; Sangiorgi, Diego

Public Health Department, Local Health Unit for Cesena, Italy

Introduction: The project started in 2007 by the contribution of the Cesenatico Town Council and the Department of Public Health in Cesena. Its priority objectives were to awaken people to the importance of regular and moderate physical activity (PA), to increase the psycho-physical perception of health with PA practice and to create social momentum in which people can be physically active in groups, in particular through the organisation of walking groups led by an expert walker.

Activities undertaken: In the community the following activities were undertaken:

- Location and indication of urban and extra-urban journeys
- Production of information material and organisation of an annual public event to reinforce motivation
- Activation of walking groups two times a week led by an expert walker

After 1 year of activities, a study was realised on a sample of 96 subjects engaged in the project to evaluate the effects on health and on perception of well-being produced with walking practice. A short motivational counselling was made to increase PA compliance. The principal measure of outcome was the subject's perception of health obtained through regular PA practice measured with a 3 and 6 months follow up. Other measures have been abdominal circumference, blood pressure and BMI.

Since 2009, a collaboration with local General Practitioners has been in place to evaluate the effects on improvements in clinical management and on prevention of complications in patients with chronic disease who can benefit from regular PA practice. First results will be expected this year.

Results: From 2007 until now about 200 walking groups were established. The mean number of participants was about 200 people (30 people for each walking meeting). 3 annual public events were organised in order to provide health information and to reinforce motivation for walking. Some improvements were made to make walking groups more accessible.

The results emphasize a general improvement on health perception and an increase of time dedicated to PA. Most people engaged in the study found the group activity very useful because this is a stimulus to go out and be more active. There was no evidence for significant changes in physical parameters, as expected from the scientific literature.

Conclusions: As PA promotion guidelines suggest, offering concrete opportunities to be active and the possibility to exercise in groups are basic elements to promote and increase PA practice and to support motivation for remaining physically active.

13 Physical activity and physical function are related to well being in Spanish elderly

Garatachea, Nuria; Molinero, Olga; Martínez-García, Raquel; Jiménez-Jiménez, Rodrigo; Cano, Juan; González-Gallego, Javier; Márquez, Sara

University of León, Institute of Biomedicine, Spain

Introduction: In spite of the potential of regular physical activity to improve physical functioning and the feeling of well being in the elderly, the literature remains sparse, with most studies conducted in the USA, and the evidence for a linkage of physical activity levels to well being is not always positive. The aim of the research was to investigate in a sample of Spanish elderly whether measures of physical activity and physical function are related to feelings of well being.

Methods: The sample was a cohort of 151 elderly people (89 women and 62 men, aged 60–98 years) from the north of Spain. Participants completed surveys including demographic characteristics, and measures of physical activity (Yale Physical Activity Survey, YPAS), instrumental activities of daily living (Barthel Index, BI) and well being (Psychological Well Being Scale, from Spanish: Escala de Bienestar Psicológico = EBP). Components of the physical function were measured by the Senior Fitness Test (SFT).

Results: Upper and lower body strength, dynamic balance, aerobic endurance, self-reported weekly energy expenditure and physical activity total time were significantly correlated with both Material and Subjective well being. All components of physical function were significantly impaired in dependent subjects when compared to independent individuals of the same sex and physical activity category. Significant differences were also observed in Subjective well being among less active dependent and independent individuals.

Conclusions: Physical function and physical activity are related to feelings of well being, and results emphasize the positive functional and psychological effects of physical activity in dependent subjects. Although further studies are necessary to confirm our findings in different populations and settings, this research has provided important background for future research in Spanish elderly. An implication of these results for health strategies is the necessity of providing to older adults health education and promotion programs, to encourage a way of life in which physical activity involvement is valued and integrated into daily living.

22 Physical activity in the prevention and treatment of disease

Edling, Carina

Swedish National Institute of Public Health, Department of Health Behaviours

Introduction: The Swedish National Institute of Public Health (SNIPH) was commissioned by the Swedish government to spread the text FYSS - Physical Activity in the Prevention and Treatment of Disease to all health care municipalities in Sweden. The work started in 2008 and will be completed in March 2010.

FYSS is a book that summarizes the up-to-date scientific knowledge on how to prevent and treat various diseases and conditions using physical activity. The book covers most areas of diseases and conditions where physical activity has a documented effect.

Written by 95 experts, FYSS is produced by the Swedish Society of Sports Medicine and it is published in cooperation with SNIPH.

Activities undertaken: The target groups for FYSS seminars and workshops were licensed or registered health-care staff such as physicians, physical therapists and nurses in Sweden, who all have the right to prescribe physical activity. There is also a plan to engage decision-makers and to prepare them to make standpoints in promoting physical activity.

Several countries work with physical activity as a way to prevent and treat diseases and conditions. The Swedish Society of Sports Medicine together with SNIPH initiated a translation of FYSS from Swedish to English. This work is to be completed in autumn/winter of 2009.

Results: The book has now been presented at conferences in all health care municipalities in Sweden. The municipalities are currently completing a survey on how they work with physical activity on prescription (FaR®).

Conclusions: FYSS is a source of information that summarizes to which extent physical activity can be used to prevent and treat various diseases. It also gives advice on exercise recommendations and includes risks with physical activities for various conditions. FYSS is a tool for health-care staff in prescribing physical activities. The book is also useful for activities organizers within the communities who work with physical activity on prescription (FaR®) and for educational institutions such as colleges and universities that focus on health sciences and public health.

It will soon be available in English to be used as a tool in the work with physical activity as a way to prevent and treat diseases. There is a need for more research in the area of physical activity as a way to prevent and treat diseases and conditions.

24 Relationship between physical activity in different domains and health-related quality of life in middle-age employees

Jurakić, Danijel; Pedišić, Željko; Greblo, Zrinka

University of Zagreb, Faculty of Kinesiology, Croatia

Introduction: Health-related quality of life (HRQoL) refers to self-perceived health including its physical, mental, and social aspects¹ (Ware & Sherbourne, 1992). Although scientific studies showed positive relationship between leisure-time physical activity and HRQoL², relationship between physical activity in other domains (work, domestic, transport) and HRQoL is still unclear. Therefore the main purpose of this study was to determine the relationship between physical activity in different domains (work, domestic, transport, and leisure-time) and HRQoL.

Methods: HRQoL and physical activity were assessed on a random sample of 766 Croatian employees aged 40-65 years using SF-36 and IPAQ, respectively. The relation between physical activity in different domains and HRQoL was evaluated by least-squares multiple regression analyses. In the regression model, the physical activity levels in four domains were used as independent variables and eight scales and two component summary measures of SF-36 as dependent variables. Prior to regression analyses, we adjusted HRQoL and physical activity for the socio-demographic (age, level of education, and personal income) and lifestyle variables (tobacco habits, alcohol consumption, and BMI).

Results: Multiple regression analyses showed a significant relationship between physical activity and physical functioning, general health, and vitality in females (multiple R range, 0.16-0.22) and physical functioning, role physical, bodily pain, vitality, social functioning, mental health, and physical and mental summary component score in males (multiple R range, 0.18-0.27). Leisure-time physical activity was positively related to HRQoL, whereas work and transport physical activity were inversely related to HRQoL.

Conclusions: Physical activity was significantly related to several HRQoL scales and summary component scores after adjustment for socio-demographic and lifestyle variables. Our findings support the hypothesis that only leisure-time physical activity has important role for improving HRQoL. We also showed that there is a need for distinction of physical activity throughout different domains in studies of physical activity and HRQoL on middle-aged employees.

¹ Ware JE Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. *Med Care.* 1992; 30(6):473-83.

² Bize R, Johnson JA, Plotnikoff RC. Physical activity level and health-related quality of life in the general adult population: A systematic review. *Prev Med.* 2007; 45(6):401-15.

HEPA promotion in specific target groups

2 Physical activity levels during structured physical activity sessions in Flemish preschools

Van Cauwenberghe, Eveline¹; Labarque, Valery²; De Bourdeaudhuij, Ilse¹; Cardon, Greet¹

¹*Ghent University, Department of Movement and Sports Sciences, Belgium*

²*HU Brussel University, Centre for Practice-based Research and Services (PRAGODI), Belgium*

Introduction: Increased PA in preschoolers is associated with a reduced risk of being overweight and less likelihood of having one or more risk factors for cardiovascular disease. However, some studies have shown that preschool children exhibit low levels of PA and high levels of sedentary behaviour. Therefore it is important to promote PA beginning as early as in preschool age.

In Flanders, virtually all children attend preschool and preschools are obliged to organise structured PA sessions for 2 hours a week. Consequently structured PA sessions can be an important contributor to habitual PA levels in preschool children. The present study aimed to examine PA levels during structured PA sessions in preschools and to determine possible determinants on the PA levels during structured PA sessions.

Methods: The sample included 488 children (50% boys; mean age: $5,4 \pm 0,4$) from 34 preschools throughout Flanders. The PA levels of 37 different structured PA sessions, delivered by the preschool teacher ($n=23$) or by a specialized PE teacher ($n=12$), were measured. The children wore a GT1M ActiGraph accelerometer on the right hip, during the structured PA session. Measurement intervals of 15 seconds and the cut-points of Pate et al. (2006) were used to determine the PA levels. A checklist was filled out by the teacher. Independent Samples T-testing and Multiple Regression were used for the analyses.

Results: Mean duration of the session: 46 ± 11 minutes (range: 30 – 86 minutes). Most of the time was spent in sedentary (28%) and light (36%) activities while 36% of the session was spent in MVPA. Average PA was 413 ± 157 Counts Per Epoch (CPE). Children who received the session from a specialized PE teacher spend significantly less time in sedentary activities and more time in light and moderate activities. For the average PA during the session this difference was not significant ($p=0.39$).

More children during the session ($p= 0.01$) and shorter sessions ($p< 0.001$) predicted a higher average PA. There was a trend that age was a significant predictor ($p= 0.051$) of the PA levels, with being older predicting higher activity levels.

Conclusions: During structured PA sessions in Flemish preschools only 36% of the time is spent on MVPA. Consequently, there is still room for improvement. Furthermore a multi-factorial approach to promote PA in preschoolers seems needed.

9 Dancing like John Sergeant? Physical activity in adults aged 60-69 in England

Chaudhury, Moushumi; Shelton, Nicola

University College London, Department of Epidemiology and Public Health, United Kingdom

Introduction: The benefits of a physically active lifestyle are well documented e.g. reduced risk of ischaemic heart disease, diabetes and obesity. Regular participation in older age can increase quality of life and independence. The current UK recommendations for adults are 30+ minutes of moderate intensity activity, 5+ days a week. The main objective of this paper was to determine risk factors for physical activity (PA) in adults aged 60-64 and 65-69 in England by current work status using Health Survey for England (HSE) data.

Methods: Data was collected from a nationally representative cross-sectional data series, the Health Survey for England. Data was collected from 1550 adults aged 60-69 in HSE2006 and 561 adults aged 60-64 in HSE2007 by trained interviewers. The HSE2006 collected data on questions on PA participation including occupational and non-occupational activities and sports and exercise in the prior 4 weeks. HSE2007 self-completion questionnaire obtained information on knowledge of and attitudes to PA. Main outcome measures for HSE2006 included sports and exercise participation, PA levels, risk factors for participation in PA at or above recommended levels for adults. In HSE2007: Perception of own PA, barriers to doing more PA, knowledge of current PA recommendations.

Statistical analysis compared knowledge of PA targets, attitudes to and perception of own PA and barriers to participation. Cross tabulation of PA by current work status, BMI, health status, age and sex, using SPSS version 15. Logistic regression analysis using STATA 10, using weighting and complex survey design methods.

Results: 3% men and 7% women knew the PA targets. 57% adults thought they could get enough PA in their daily life. 78% men and 77% women thought they were very/fairly physically active compared with people of their own age. 22% men and 13% women reported that work commitments, and 25% men and 22% women that poor health stopped them from doing more physical activity. Obesity, not working and limiting long standing illness were associated with lower odds of physical activity for both men and women. Sports and exercise, walking, heavy housework and gardening were all lower in non working adults.

Conclusions: Few adults knew the current recommendations for PA, and people had unrealistic views of their own levels of activity and of the barriers to their participation. More attention needs to be paid to health promotion in the over 60s when they are no longer working and to health education around PA targets.

12 Mobility management for kindergartens: “There is nothing like starting young”

Braun, Margit; Reiter, Karl

Austrian Mobility Research (FGM-AMOR)

Introduction: There is a dramatic decrease of physical activity of children in Austria. This leads to overweight, a lack of co-ordination abilities and consequently to a higher risk of being involved in an accident. About 20% of the children between 10-14 years report back pain. On the other hand children are more and more taken to the kindergarten by car and experience the world from the perspective of the back seat of their parents` car.

Kindergarten age is the perfect age to rouse children`s enthusiasm for cycling and walking and to influence the mobility behaviour in further life. Children who have a positive attitude towards these ways of moving tend to “educate” their parents to use bicycles more often because they are affected in an emotional way.

Activities undertaken:

The goals of this kindergarten program are:

- to motivate children to learn cycling playfully
- to train employees of kindergartens on how to implement the action
- to provide emotional context and material
- to design the kindergarten environment into a reduced car area
- to advise parents to abstain taking their children to the kindergarten by car

The kindergarten program consists of:

- Learning how to cycle
- Picture cycling stories
- Certificate „I can bike“
- Motivating activities for parents

In the city of Graz (255.000 inhabitants) 46 kindergartens implemented the program. Every group got special bicycles (no pedals, no training wheels) to learn to cycle. Telling stories about cycling is another activity; therefore a special picture book was developed. Those children who learnt to cycle got a certificate. Additionally, motivating activities for parents to reduce car trips to the kindergarten were carried out.

Results: In the first year 115 kindergarten groups were involved in the program. Approximately 1500 children learnt to cycle (~ 53%). A survey among parents, who were concerned in the first place, showed that all were satisfied with the program. The action will now be offered as a regular annual program for the kindergartens.

Conclusions: This program is easy to apply and has a very good cost benefit ratio. The approach to combine emotional elements (story telling) and training of skills (e.g. balance) proved to be successful. The children became proud of their way of moving and also influenced their parents to change their mobility behaviour especially for the trips to the kindergartens. The method can be easily transferred to other sites.

14 Utilization of fitwalking inside a health unit for the promotion of physical activities and exercise-therapy

Parodi, Giuseppe; Arras, Maria Antonella; Garra, Gabriella

Local Health Unit TO1 Turin, Italy

Introduction: In 2008–2009 the Local Health Unit TO1 Turin has been developing a promotion project of physical activities in the firm, based on the spreading of fitwalking, in cooperation with the Walking School of the Damilano brothers in Saluzzo. “Fitwalking” is a way of walking based on some specific techniques which enable to walk correctly and manage to attain significant power of work from a metabolic point of view. The project carried out by the Health Promotion Service and, in the physical activity sector, by the Sports Medicine service, is part of a more detailed and enlarged workplace health promotion project which, starting from - 2007 - inter ministerial program “Gaining Health – Make Health Choices Easy” encourages to promote policies so as to counteract behaviours which are injurious to health. The project has been achieved together with Piedmont Region and Health Promotion Documentation Centre (DoRS), Piedmont Region.

Activities undertaken: October - November 2008: two courses in the firm to train fitwalking leaders. January 2009: The Local Health Unit recognized the role of the “firm fitwalking-leader” through a deliberation of the firm. In this way the fitwalking-leader is entitled to operate inside health projects of the firm. November 2008 – March 2009: continuation of fitwalking activity by leaders with weekly exercises. March 2009: courses to undertake fitwalking applied to other employees, carried out by the trained leaders.

Results: A positive result has undoubtedly been the large attendance and involvement of people and the low level of drop outs of the activities: 53 fitwalking-leaders trained (that is 88% of the people who had originally joined the course) and 223 employees started and finished the course to practice fitwalking (that is 99%). These people are continuing the activity and organizing themselves in spontaneous groups. Moreover, we had a spontaneous involvement of relatives, friends and acquaintances in a sort of chain reaction; this almost doubled the people involved. Besides, our project has found the interest of other external institutions, e.g. firms, health units and other public societies. Last but not least, some leaders are medical doctors and operators who, in cooperation with the Sports Medicine Service, are planning to utilize fitwalking with their patients. An exercise-therapy project for diabetic patients of the Diabetic Service of Sperino Hospital in Turin has already been started.

To mention critical points, we had two main problems: the lack of time of people, always busy in work and family tasks, and the idea sometimes well rooted according to which to practice sports or physical activity is only entertainment and not an instrument to improve health.

Conclusions: This project has enabled to take important and concrete steps towards two targets:

- to promote physical activity in the workplace and among people for prevention
- to get a suitable tool in order to start exercise-therapy activities in all situations of pathology which can get therapeutic assistance (in the so called sensitive to exercise pathologies).

16 Modifying long term exercise adherence and dietary behaviour within a referral scheme intervention in older adults

Pardo, Alba¹; Violan, Mariona²; García, J.²; Miñarro, C.²; González, A.³; Serra-Majem, L.⁴; Román, B.⁴

¹Catalan Sports Council (CCE), Spain

²Secretary General for Sport, Government of Catalonia, Spain

³Department of Public Health, Government of Catalonia, Spain

⁴University of Barcelona, Community Nutrition Research Centre, Spain

Introduction: Physical activity counselling in primary care and referral schemes increase physical activity levels in the population. However, long term adherence after exercise program interventions decrease from an initial 80% to about 50%. Both education interventions and behaviour modification techniques increase the effectiveness of physical activity interventions by large in increasing exercise adherence.

PAFES (Plan of Physical Activity, Sport and Health) is a primary-care-based program to promote physical activity implemented by the Health Department and the Sports Department of the Government of Catalonia.

The objective of this study is to assess the effectiveness in improving the long term adherence to physical activity in older adults after a supervised exercise program, combined with behavioural modification techniques or an educational intervention, dealing with the benefits of a Mediterranean diet pattern and physical activity.

Methods: *Design:* Within the framework of PAFES a randomised controlled trial of 6-months exercise intervention with 6-months follow-up in a sample of sedentary older adults in the contemplation stage of change, with at least one cardiovascular risk factor and referred by primary care to a supervised exercise program lead by a physical educator in a sports facility centre will be conducted.

Interventions: Intervention Group I: supervised exercise program plus an educational intervention concerning the benefits of the Mediterranean diet and physical activity on health.

Intervention Group II: supervised exercise program plus behavioural intervention based on the Social-Cognitive Model and the Transtheoretical Model.

Control Group: supervised exercise program.

The supervised exercise program will consist of 3 sessions per week of 60 minutes with a combination of moderate-intensity aerobic activities, strength training and flexibility exercises.

Main outcomes measures: The physical activity level (IPAQ-short version), the health-related quality of life (SF-12), the adherence to a Mediterranean diet pattern (Predimed questionnaire) and the behaviour modification will be assessed pre-, at 3 months, and post-intervention and twice during the follow-up.

Expected results: The need of implementing population-based, cost-effective physical activity interventions to achieve long term adherence leads this study to examine a multi-intervention strategy in older adults. We expect that both the educational intervention combined with the exercise program and the combination of the exercise program with the behavioural intervention will modify the long term adherence to the promoted behaviours in older adults.

19 Are children's cycling skills related to competence in real traffic?

Titze, Sylvia; Debenjak, Sonja; Kopp, Georg

University of Graz, Institute of Sport Science, Austria

Introduction: Traffic safety concerns by parents are often reasons for not allowing pupils to cycle to school. However, active mobility can contribute to accumulate 60-min of physical activity per day among children. The purpose of the study was to examine whether the performance during a general bicycle skill course and the cycling habits are associated with cycling competence in a real traffic situation among school children.

Methods: Eighty children (56% boys) age 9-10 years participated in a bicycle-skill-course. The AUVA¹-bicycle skill course has been developed by Kopp and his team² for primary-school children (6 – 10/11 years). It consists of three parts: (1) Children cycle during one hour through the bicycle-skill-course and encounter every day bicycle obstacles such as stairs, rim of a sidewalk, narrow curves, and rails. Reaction skills like emergency break and accurate break are also tested (2) Check of the correct fit of the bicycle helmet and adjustments if possible (3) Check of the function of the bicycle.

In addition parents filled out a questionnaire providing information about their children's bicycling habits during leisure time.

As a dependent variable children did a left turn maneuver in a real traffic situation. All performances were rated by trained observers using standardised forms. The performance was dichotomised into 0-1 mistake when turning left compared to more than 1 mistake. Logistic regression analyses were performed for associations between general bicycle skills (five general bicycle skills and two reaction skills) and the left turn in a real traffic situation.

Results: Controlled for gender the competence to accurately stop in front of a line was positively associated with the left turn maneuver in real traffic situation (OR=5.20). Secondly, children who cycled at least twice a week during leisure time had a higher chance to correctly turn left (OR= 4.30) compared to those who cycled less frequently during leisure time.

Conclusions: Cycling frequency in general as well as training on bicycle skill courses which include obstacles relevant for cyclists may support children to perform correct cycling in real traffic situations.

¹AUVA = Austrian Social Insurance for Occupational Risks

²<http://www.radworkshop.info/cms/index.php>

28 Soft memory training gym

Paltretti, Paola

Italian Union Sport for everybody, Committee of the Province of Bologna, Italy

Introduction: The project is based on the combination of soft aerobic gymnastics and cognitive training through stimulation of attention and memory by connecting movements to colours, sounds and words.

The project is aimed to enhance physical and cognitive activity for people over 60.

The innovative aspect of this project is the simultaneous training of body and mind through motion exercises practised in a group, contrary to what happens in other cognitive activities where people train alone.

The project is aimed to:

- promote active healthy lifestyle
- promote physical activity, according to the WHO definition, from infrequent to daily practice for at least 80% of people involved
- improve self-esteem
- increase the chances of social opportunities
- counteract sedentary lifestyle, helping to prolong physiological and mental autonomy
- reduce the need to see the general practitioner
- increase, through a proper communication, the awareness for correct lifestyles

Activities undertaken: Two weekly meetings in groups of 15-20, lasting an hour each for eight months. The lessons consist of 60 minutes of soft aerobic training, in connection with names, colours, music and odour. Lessons are held by teachers with a degree in Motion Science and specifically trained for the project.

UISP has established a Scientific Committee with the Faculty of Psychology of the University of Bologna and the Geriatric department of "S. Orsola Hospital in Bologna" that conducted a test survey among 200 normal over 60s. The psychologists compared a sample of subjects who practised with the ones who didn't using the pre-post method after a two month training period.

Results: Improvement of physical, cognitive, affective and self-esteem condition for the people involved, increased independence and acquisition of new incentives and interests and finally reduced need for medical care.

80 % of the 200 tested individuals showed significant improvement in the psycho – physical wellness perceived by the subjects, as demonstrated by results of the tests of which the survey consisted (MMSE, REY, symbol digit, TMMA-B, phonemic fluency, GDS, MACQ, EUROQUOL 5, IADL). Almost 90% of people enrolled in the program, about 3.200 people, are regularly practicing and declared their satisfaction with the activity.

The project won a prize in December 2008 during the national meeting of the "Associazione Italiana Rete Citta Sane".

Conclusions: The results showed how this training method can benefit healthy over 60s and could be extended to all people in the same conditions as the tested individuals.

31 Studies to improve the campaign for more active and healthy lifestyle of sedentary middle-aged men in Finland

Kinnunen, Liisamaria; Saarentola, K.; Lähdesmäki, A.; Kaivosari, A.P.; Havas, E.; Komulainen, J.

LIKES Research Center for Sport and Health Sciences, Finland

Introduction: The Fit for Life Program (KKI) promotes health-enhancing physical activities for adults over 40 years of age by developing, improving and increasing appropriate conditions and services for exercise at local and national level. One important target group is sedentary middle-aged men, for whom KKI planned a campaign called “the Adventures of Joe Finn”, aiming to encourage men take up a healthy lifestyle. The campaign includes a handbook on how to keep fit, a website (www.suomimies.fi), physical activity training courses, combined courses on cooking and experimentation of different sports and two national lorry tours including 18 events providing free fitness tests and information about health and physical activity for men.

Methods: A study (n=219) aiming to find out ways to market a physically healthier lifestyle for men was carried out in September 2007. The study looked for different lifestyle profiles during free time among men belonging to lower social class, aged 25 to 65, supportive factors and barriers towards physical activity, as well as differences between men’s media consumption. A study (n=716) aiming to determine motivational physical activity factors for men was carried out in May 2008. Data was collected from a random sample of men attending the lorry tour events.

Results: The first study identified four lifestyle groups during free time; socially active (25%), entertaining (30%), passive (26%), and sporting (19%). Middle age was 42 years. The media behaviour showed that over one-quarter of men watched television over five hours per day. The amount of watching television over three hours per day varied between different lifestyle groups. Main national newspapers were actively read by men. There were a fairly high number of men not using internet at all. In the second study three subgroups were divided according to men’s physical activity level; low (at least 30 min of exercise, ≤ 1 time a week, n=196), intermediate (at least 30 min of exercise, 2-3 times a week, n=223), and high (at least 30 min of exercise, ≥ 4 a week, n=119). The most physically motivational factors were support by a spouse/ family/ friends (83%), more leisure time (80%), and exercise in a group (78%).

Conclusions: The promotion of physically active lifestyle for sedentary middle-aged men requires understanding of their lifestyles, media behaviour, and supportive factors towards physically healthier lifestyle. Research results are used as evidence based platform in further development of the campaign. The results are valuable tools used in creating activities, choosing media, and planning networks in aiming to recruit sedentary middle-aged men towards more healthy and physically active lifestyle.