Abstracts and posters

1 FIT FOR LIFE PROGRAM

Jyrki Komulainen

Fit for Life Program, LIKES Research Center for Sport and Health Sciences, Finland

www.kki.likes.fi

The national Fit for Life –program (FFL) inspires adults over the age of 40 to include physical activity in their daily routines, and it also creates physical activity services that are easily available and close to the adult population. FFL moves beginning exercises with over 700 local projects. The goal of the local projects is to lower the threshold of people over 40 to become physically active by offering them opportunities for guided group exercise, starter courses in different events, fitness testing, individual fitness guidance etc. The local FFL projects are organized in cooperation with different organizations, such as municipal sports and health services, workplaces, occupational health care, sports clubs, various associations and public health organizations. The FFL program is continually looking for new partners to become active in moving the middle-aged and senior population. Local projects can apply for funding from national FFL program, which is funded by the Ministry of Education and Ministry of Social Affairs and Health.

FFL provides information about physical activity and other factors that affect our health and well-being in the channels such as Kipinät (a magazine produced by FFL), press releases and TV. In addition to providing general information about health-enhancing physical activity, they introduce successful local FFL projects and their operational models, which can then be utilized by other organizers of physical activities around the country. The FFL program has published brochures, videos, DVDs, guide books and fitness calendars for the use of local FFL projects. Several organizations in Finland provide educational opportunities in the area of adult physical activity. The FFL program does not provide its own instructor, peer instructor or other equivalent training, but it informs people about educational offerings of other organizations. FFL organizes an annual seminar and consults the organizers of local FFL projects. THE FFL monitors and follows up the activities of local FFL projects. One goal of FFL is to strengthen cooperation and networking between organizations operating in the field of HEPA. FFL organizes annually educational cruise (Kunnon Laiva –cruise) in cooperation with nearly 30 organizations. The target group has been provided diverse and latest information about HEPA, which they can utilize in their own work. One of the best example of our activity is a theme that began in 2005 – exercise and weight control.

2 PHISICAL ACTIVITY COUNSELING IN MATERNITY AND CHILD HEALTH CARE — A CONTROLLED TRIAL

Minna Aittasalo, Matti Pasanen, Mikael Fogelholm, Tarja Kinnunen, Katriina Ojala, Riitta Luoto

The UKK Institute for Health Promotion Research, Tampere, Finland

Purpose

To examine the effects of individual physical activity (PA) counseling in municipal maternity (MCs) and child health clinics (CCs).

Design

A controlled trial.

Setting

Twenty-four public health nurses in three experimental (EXP) and three control (CON) MCs and CCs, which were situated in two cities in Southern Finland.

Subjects

132 pregnant and 92 postpartum women with no earlier deliveries.

Intervention

The nurses in EXP integrated a primary and four booster PA counseling sessions into routine visits. An option for supervised group exercise was offered. In CON former practices were continued.

Measures

Leisure-time PA (LTPA) prior to pregnancy and at 16-18 and 36-37 weeks' gestations in MCs and at 5 and 10 months postpartum in CCs was elicited by questionnaire.

Results

According to the analysis of covariance (adjusted for baseline LTPA, age, BMI, smoking status and education) no group differences in LTPA changes were found in the first follow-up in MCs or CCs. In the last follow-up statistically significant differences in changes were discovered in MCs in the favor of EXP in the number of days (43%; 95% CI 9 to 87) and minutes (154%; 95% CI 16 to 455) of at least moderate-intensity LTPA.

Conclusions

Individual PA counseling helped pregnant women to maintain their pre-pregnant level of moderate-intensity LTPA.

PHYSICAL ACTIVITY COUNSELING IN MATERNITY AND CHILD HEALTH CARE - A CONTROLLED TRIAL

Minna Aittasalo, Matti Pasanen, Mikael Fogelholm, Tarja Kinnunen, Katriina Ojala, Riitta Luoto
The UKK Institute for Health Promotion Research, Tampere, Finland

UKK Institute

Purpose

To examine the effects of individual physical activity counseling (PAC) in municipal maternity (MCs) and child health clinics (CCs)

Subjects

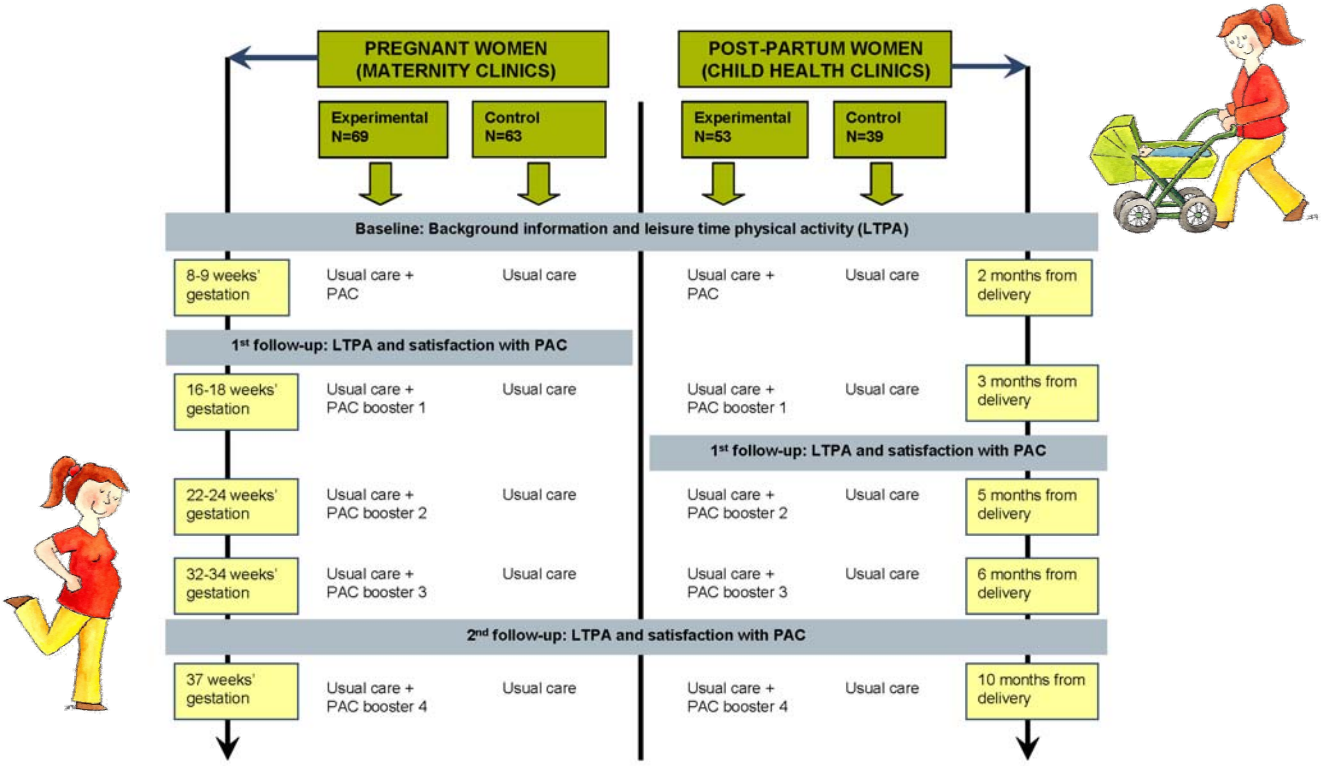
- 24 public health nurses in 3 experimental (EXP) and 3 control (CON) MCs and CCs situated in 2 cities in Finland
- 132 pregnant and 92 postpartum women with no earlier deliveries

Intervention

EXP: 1 primary and 4 booster PAC sessions at routine visits + an option for supervised group exercise
CON: usual counseling practices

Measures

- leisure-time physical activity (LTPA) questionnaire prior to pregnancy and two times during the intervention



Results (analysis of covariance; adjusted for baseline LTPA, age, BMI, smoking status and education)

1st follow-up: no group differences in LTPA changes in MCs or CCs

2nd follow-up: in MCs statistically significant differences in changes in the favor of EXP in the number of days (43%; 95% CI 9 to 87) and minutes (154%; 95% CI 16 to 455) of at least moderate-intensity LTPA

Conclusions

Individual PA counseling helped pregnant women to maintain their pre-pregnant level of moderate-intensity LTPA.

Contact information:
Minna Aittasalo
The UKK Institute for Health Promotion Research
minna.aittasalo@uta.fi

3 QUALITY SEAL SPORT PRO GESUNDHEIT [SPORT FOR HEALTH]

Winfried Banzer

J. W. Goethe-University, Institute of Sports Sciences, Dept. of Sports Medicine, Germany
Deutscher Olympischer Sportbund (DOSB)

The Quality Seal SPORT PRO GESUNDHEIT (Sport for Health) stands for a high-quality, effective and nation-wide preventive exercise programme offered by sports clubs. It primarily addresses those who do not exercise and also includes people with poor health prospects. An extensive public relations work ensures a high degree of familiarity. Many statutory health insurance companies take over the costs of their members' participation in Quality Seal programmes on a prorated basis. Today about 13.000 Quality Seal courses are already certified throughout Germany.

Which criteria apply to SPORT PRO GESUNDHEIT?

For a course to be awarded the Quality Seal by the Land Sports Confederation or a governing body for a specific sports discipline, it has to meet the following criteria:

- Target group-oriented offerings
- Uniform organizational structure
- Supported by quality management
- Qualified trainers
- Preventive health check-up
- Sports clubs as active health care partners

What can be achieved? Who is addressed?

The ultimate aim is long-term development of a healthy lifestyle, of which exercise and sport are an accepted part. There are three preventive sectors in which lack of exercise plays a decisive role:

- exercise to promote heart and circulatory functions
- exercise to help the muscle and skeletal system
- avoidance of specific risks and stress-related illnesses

For all sectors, there are programmes for certain target groups, e.g. courses for children with movement problems.

Who is involved in SPORT PRO GESUNDHEIT?

Main responsibility lies with the DOSB (Deutscher Olympischer Sportbund) and the German Medical Association. Both partners contribute wide, varied and sometimes joint previous experience. Organisational responsibility and responsibility for professional content are held by all of the 16 Federal Sports

Confederations. Apart of these Federations, the German Gymnastic Federation, the German Swimming Federation, the German Federation of Table Tennis, the German Aikido Federation and the German Life Saving Federation are also participating in the programme.

SPORT PRO GESUNDHEIT is a system with on-going development. Thanks to a number of model projects and their evaluation results, both Quality Seal programmes and co-operation between the bodies involved will continue to improve in the years to come.

Reference

Deutscher Sportbund, Bundesvorstand Breitensport (ed.): QM Handbuch: Qualitätssiegel SPORT PRO GESUNDHEIT. Frankfurt/Main 2006.

4 HEPA PROMOTION AND THE USE OF UKK WALK TEST FOR CARDIORESPIRATORY FITNESS ASSESSMENT AT POPULATION LEVEL IN SLOVENIA

Jozica Maučec Zakotnik and/or Andrea Backović Juričan
Community Health Centre Ljubljana, CINDI Slovenia

Introduction

High prevalence of physical inactivity and other risk factors for chronic diseases urged Slovene authorities and CINDI Slovenia experts to start implementing promotion of healthy lifestyle and HEPA promotion projects.

HEPA promotion at population level

Since 1999 CINDI Slovenia and Sport Union of Slovenia have managed national project called Slovenia on the Move- Move for Health through which they want to encourage adults into practicing at least 30 minutes moderate physical activity five times a week.

The principal method used in the project is HEPA counselling together with the execution of UKK walk test. Between the years 1999 and 2005, 74 local organizations carried out 914 community walk tests in 140 Slovenian towns and villages.

HEPA promotion at primary health care level

In 2002 regular performance of national Programme of Primary Prevention of Cardiovascular Diseases (CVD) started. This programme consists primarily of screening for risk of CVD among adults in certain age groups, but the most important component is the health education counselling delivered in 61 Health education centres.

The main goal of the health education counselling is to improve health through achieving positive changes in lifestyle of those adult individuals, who are at risk for CVD. HEPA promotion is essential component of the most health educational workshops. UKK walk test has being used for cardio-respiratory fitness assessment and HEPA promotion.

From the year 2002 till 2005 health professionals conducted: 626 Weight reduction workshops, 360 Physical activity workshops, 2132 Health promotion and risk factor workshops and 1529 Walk tests.

Conclusion

It can be predicted that significant changes in lifestyle of the Slovene population regarding more regular and moderate exercising can be expected in future 5 years.

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HEPA PROMOTION AND THE USE OF UKK WALK TEST FOR CARDIORESPIRATORY FITNESS ASSESSMENT AT THE POPULATION LEVEL IN SLOVENIA

Jožica Maučec Zakotnik and Andrea Backović Juričan
Community Health Centre Ljubljana, CINDI Slovenia

INTRODUCTION

A high prevalence of physical inactivity and other risk factors for chronic diseases have urged Slovene authorities and CINDI Slovenia experts to start with promotion of a healthy lifestyle and health - enhancing physical activity (HEPA) at the population level and at the primary health care (PHC) level. From year 1998 till year 2006, CINDI Slovenia and some other health organisations have educated 1713 health professionals, mostly working in Slovene "Community health centres", in the area of health promotion, noncommunicable chronic disease prevention and HEPA counselling as well as for the UKK walk test implementation.

Picture 1. People at the one of the community walk tests in Ljubljana.

HEPA PROMOTION AT THE POPULATION LEVEL

A national project, named "**Slovenia on the Move – Move for Health**", has been managed by CINDI Slovenia and Slovenian Sports Union from 1999. It's main goal is to encourage adults to perform moderate physical activity at least 30 minutes daily, preferably most days of the week.

Figure 1. Slovenia on the Move – Move for Health project logo.

The main partners in the project are:
- mass media,
- sports professionals and
- health professionals,

connected through a network of Regional/ Local Health Promotion Groups (R/LPPS).

The main methods, used in the project, are:
- promotion of HEPA ideas through mass media campaigns,
- distribution of health promotion and HEPA promotion materials,
- organisation of public health events at a local level,
- organisation of the"2 km walk tests at local levels" ("community walk tests") and "HEPA counselling" for individuals.

Picture 2. Population brochure Slovenia on the Move- Move for Health 2005 (consists simple HEPA guidelines, nation-wide 2 km walk test information and personal physical activity diary).

The "UKK walk test" is:
- a reliable and a feasible tool for the cardio-respiratory fitness assessment at the population level,
- suitable for testing adult population from 20 to 65 years without major health problems and being able to walk 2 km briskly,
- a suitable tool to support the HEPA promotion and promotion of walking as the basic human movement for recreational or transport purposes.

Between the years 1999 and 2005, 74 local organizations have carried out 914 community walk tests in 140 Slovenian towns and villages. A total of 17 085 people, mainly between 35 and 60 years of age, have participated in walk tests and have been HEPA counselled till the end of 2004. The average fitness index, measured in 5 year period, was 90 (93 in women and 87 in men).

The major "**Nordic Walking promotion**" as a part of HEPA promotion has started in 2005, when CINDI Slovenia educated around 80 primary health care professionals as Nordic Walking leaders. In 2005, they started to demonstrate nordic walking nationwide and included demonstrations in the 172 public "2 km walk tests", performed in 2006. CINDI Slovenia is also one of the founders of the Slovenian Nordic Walking Association.

Picture 3. Health education workers during worming up at the one of the Nordic Walking training sessions.

HEPA PROMOTION AT THE PRIMARY HEALTH CARE LEVEL

In 2002, implementation of the **"National Programme of Primary Prevention of Cardiovascular Diseases (CVD)"** has started. It is supported by the law of the Republic of Slovenia and financed by the National Health Insurance Institute. Programme activities are performed at the primary health care level, carried out by the primary health care teams. The national prevention programme starts with screening for individuals, who are at higher risk for CVD among adult population (men 35-65 and women 45-70 years of age). The most important component of this programme is a nonfarmacological intervention (health education counselling), delivered trough 60 "Health education centres".

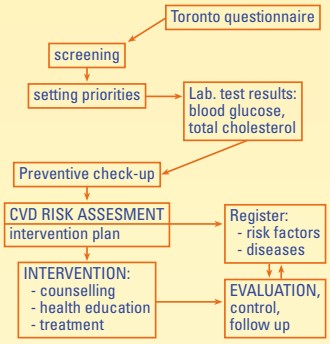

Figure 2: Established procedure for national Programme of Primary Prevention of Cardiovascular Diseases.

A health education counselling is delivered according to the methodology, developed by the CINDI Slovenia programme and is based on a teamwork. Teams consist of physicians, nurses, physiotherapists and others. The main goal of the health education counselling is to improve health through positive changes in lifestyles of those adult individuals, who are at a higher risk for CVD and also those, who already have any chronic disease.

The HEPA promotion is an essential component in 3 (out of 5) health educational workshops:
- "Health promotion and risk factors",
- "Physical activity" and
- "Weight reduction".

The "UKK walk test" has been used for a cardio-respiratory fitness assessment in all 3 workshops.

Figure 3. Health educational workshops. (HEPA appears in those who are emphasized with red colour).

232 professionals have been specialy trained in order to run "Physical activity" workshops and 267 to run "Weight reduction" workshops. From the year 2002 till 2005, health professionals have been working in Health education centres and have conducted: 626 "Weight reduction" workshops (9390 participants), 360 "Physical activity" workshops (3600 participants), 2132 "Health promotion and risk factors" workshops (21 320 participants) and 1529 "Walk tests" (15 290 participants).

CONCLUSSION

It can be predicted that significant changes in lifestyle of the Slovene population regarding higher level of HEPA can be expected in future 5 years.

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- Navodila za izvajanje preventivnega zdravstvenega varstva na primarni ravni. Uradni list RS st.: 19/98, 47/98, 26/00, 67/01, 33/02, 37/03, 117/04.
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5 WALKING CLUBS FINLAND

A campaign to promote walking in Finland, 2005-2009.

Hannele Hiilloskorpi[1], Katriina Kukkonen-Harjula[1]

[1]*UKK Institute for Health Promotion Research, Tampere, www.ukkinstituutti.fi;*

Suomen Latu (The Central Association for Recreational Sports & Outdoor Activities), Helsinki, www.suomenlatu.fi;

The Finnish Heart Association, Helsinki, www.sydanliitto.fi

Description

Walking is the most popular exercise in Finland. More than 2 million people walk or go Nordic walking regularly. Suomen Latu, UKK- institute and The Finnish Heart Association have create a promotion campaign for walking, with the aim of activate inactive people walking, increase the popularity of walking, improve the facilities for walking, inform about the health and social benefits of walking and bring into focus the holistic, social and mental elements of walking

Aim

To found 10 000 walking clubs around the Finland.

Description of target groups:

- 10 000 club: aim to increase regular physical activity
- Seniors: aiming at reach regular physical activity in a good company
- Sport Walkers: aiming at good fitness

Methods

- Educate Walking Club instructors and support establishment of new walking groups.
- Produce Walking Club material and magazine features, maintain websites, www.kavely.fi
- Organize walking events throughout Finland in co-operation with the local branches of Suomen Latu and the Finnish Heart Association
- Follow-up of statistics

6 PREVALENCE OF PHYSICAL ACTIVITY IN LITHUANIA

Alvydas Kalvenas, Rasa Jankauskiene, Elena Puisiene
Lithuanian Academy of Physical Education, Kaunas, Lithuania

Lithuania extends over 65,300 sq. km. Its population is 3,435,600, out of whom 2,289,400 (66.6 %) live in urban areas and 1,146,200 (33.4 %) live in rural areas. Male population is 1,603,400 (46.7 %), and female population is 1,832,200 (53.3 %).

According to the data from the surveys Finbalt Health Monitor and Health Behavior in School-Aged Children, carried out in 2002, 48.2 % of men and 42.1 % of women are physically active for 30 min. twice or more times per week. To compare with the Finnish data, this rate is relatively lower, since in Finland, 58 % of men and 65 % of women are physically active twice per week (Helakorpi et al. 2003). The survey in an adolescent sample (2004) shows that 71.4 of adolescent boys and 42 % of adolescent girls (age 11-15) are physically active twice per week (Grabauskas et al., 2004). Although starting from 1994 physical activity of the Lithuanian adult population relatively increased, it is still insufficient.

The research *Health Behavior in School-Aged Children* shows that one of the measures of physical activity is whether or not students meet the recommended 60 minutes of physical activity per day 5 or more days per week (Zaborskis, Lenciauskiene 2006). The application of this criterion has shown that the level of physical activity of Lithuanian students as compared with the average for EU countries and regions is rather high.

According to the research carried out in 2004, 28.3 % of the respondents exercised moderately for 30 min. at least 4 times per week, out of whom men 30.3 % and women 28,7 %. The prevalence of overweight (BMI 25-29 kg/m^2) is 33.2 % of the Lithuanian population (38.2 % in men and 29.3% in women), while the prevalence of obesity (BMI >30 kg/m^2) is 15.8 % (14.2% in men and 16.9% in women) (Lithuanian Health Information Centre 2004).

Sport in Lithuania during the Soviet period was oriented to elite sport. Recreational sport and physical activity only started to be developed after Lithuania regained its independence, with more and more sports clubs and recreational zones being established every year. However, this change is slow. Public sector with funding from the government is underdeveloped and, as a result, services of sports clubs are relatively expensive and available to a limited number of people living in urban areas. The inadequate condition of bicycle routes and other public recreational zones do not promote physical activity either. Thus, political decisions have to be carried out on the national level to change this situation.

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7 CARDIOVASCULAR FITNESS IN SWEDISH AND SPANISH ADOLESCENTS: INFLUENCE OF SEXUAL MATURATION STATUS

Francisco B Ortega *, Jonatan R Ruiz, Anita H Wennlöf, Ángel Gutiérrez, Michael Sjöström
Unit for Preventive Nutrition, Dept. Biosciences and Nutrition at NOVUM, Karolinska Institutet, Huddinge, Sweden (FOP, JRR, AHW, MS)
Department of Physiology, School of Medicine, University of Granada, Granada, Spain (FOP, JRR, AG).
Department of Clinical Medicine, Örebro University, Örebro, Sweden (AHW)

In adolescent population, cardiovascular fitness (CVF) is a powerful health index and a predictor of morbidity not only over adolescence, but also later in life.

The purposes of this study are: 1) To study CVF differences between Spanish and Swedish adolescents; 2) to examine the relative effects of sexual maturation status on CVF assessment and interpretation.

A total of 1867 Spanish adolescents from the AVENA study (Alimentación y Valoración del Estado de Condición Física de los Adolescentes) (1) and 472 from the Swedish part of the EYHS study (European Youth Heart Study) (2) were involved in this report (age range from 14 to 16 y). In the AVENA study, CVF was assessed by 20m shuttle run test, whereas a maximal ergomiter cycle test was used in the EYHS study. The maximal oxygen consumption was calculated according to Leger et al. (1988), and Hansen et al. (1989), for Spanish and Swedish adolescents respectively. Sexual maturation status was assessed according to Tanner and Whitehouse (1976) procedures, using self-report and brief observation by a trained researcher, for Spanish and Swedish adolescents respectively. Sex and country differences and the relative effects of sexual maturation status on CVF were assessed by two-way ANCOVA.

Spanish adolescents showed a higher CVF than Swedish peers ($P \leq 0.001$), in both males and females. The same result was observed after adjustment for age, however, after adjustment for sexual maturation status, no significant differences were found in either males or females.

The results obtained suggest that differences in CVF level found between Spanish and Swedish adolescent were partially explained by difference in sexual maturation status. Therefore, for CVF assessment and interpretation in adolescent population, sexual maturation status seems to be an interfering factor and it should to be taken into account.

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Cardiovascular fitness in Swedish and Spanish adolescents: Influence of sexual maturation status

Francisco B Ortega *, Jonatan R Ruiz, Anita H Wennlöf, Ángel Gutiérrez, Michael Sjöström

Unit for Preventive Nutrition, Dept. Biosciences and Nutrition at NOVUM, Karolinska Institutet, Huddinge, Sweden (FOP, JRR, AHW, MS)
Department of Physiology, School of Medicine, University of Granada, Granada, Spain (FOP,JRR,AG).
Department of Clinical Medicine, Örebro University, Örebro, Sweden (AHW)
* Francisco B. Ortega. E-mail: ortegaf@ugr.es

INTRODUCTION

In adolescent population, cardiovascular fitness (CVF) is a powerful health index and a predictor of morbidity not only over adolescence, but also later in life.

AIMS

1) To study CVF differences between Spanish and Swedish adolescents

2) To examine the relative effects of sexual maturation status on CVF assessment and interpretation.

METHODS

A total of 1867 Spanish adolescents from the AVENA study (Alimentación y Valoración del Estado de Condición Física de los Adolescentes) (González-Gross et al., 2003) and 472 adolescents from the Swedish part of the EYHS study (European Youth Heart Study) (Poortvliet et al., 2003) were involved in this report (age range: 14-16 y).

In the AVENA study, CVF was assessed by 20m shuttle run test, whereas a maximal ergometer cycle test was used in the EYHS study. The maximal oxygen consumption was calculated according to Leger et al. (1988), and Hansen et al. (1989), for Spanish and Swedish adolescents, respectively.

Sexual maturation status was assessed according to Tanner and Whitehouse (1976) procedures, using self-report and brief observation by a trained researcher, for Spanish and Swedish adolescents, respectively.

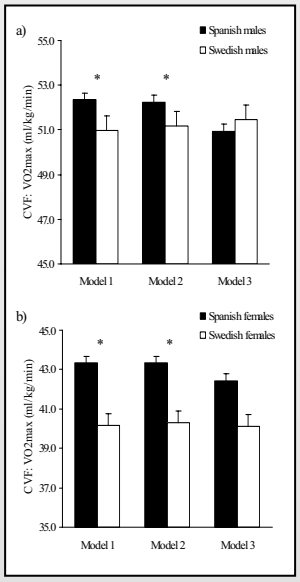


Figure 1. Sex and country differences in CVF by two-way ANCOVA (with sex and country as fixed factors) are shown for males (a) and females (b) adolescents (range 14-16 y).
Model 1 (no covariate) and Model 2 (adjusted for age) showed significant differences (* P≤0.001) between Spanish and Swedish adolescents.
Model 3 (adjusted for sexual maturation status) did not show difference between Spanish and Swedish adolescents.
All the Models showed a higher (P≤0.001) CVF level in males, compared with females.

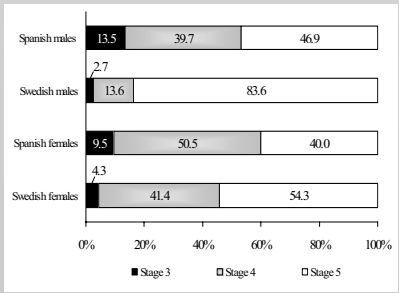


Figure 3. Country differences in sexual maturation status were conducted by Mann-Whitney U. Swedish adolescents were more mature than Spanish peers in both males and females (P≤0.001).

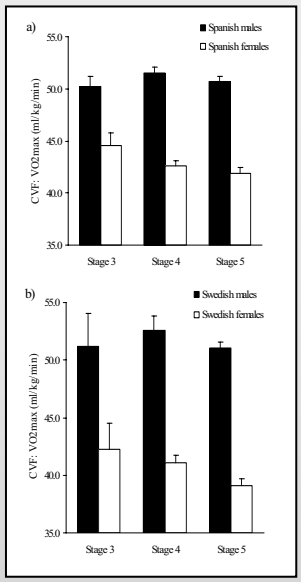


Figure 2. Differences in cardiovascular fitness (CVF) according to sexual maturation status (Tanner stages 3, 4 and 5) were analyzed by two-way ANOVA (with sex and sexual maturation status as fixed factors) for Spanish (a) and Swedish (b) adolescents.
No significant sexual maturation status differences in CVF level were found in either Spanish or Swedish adolescents.
Male adolescents showed a higher CVF levels than females adolescents in all the groups (P≤0.001).

CONCLUSIONS

The results obtained suggest that differences in CVF level found between Spanish and Swedish adolescent were partially explained by difference in sexual maturation status.

Therefore, for CVF assessment and interpretation in adolescent population, sexual maturation status seems to be an interfering factor and it should to be taken into account.

The Swedish part of the study was supported by grants from the Stockholm County Council (M.S.).
The AVENA study was funded by the Spanish Ministry of Health (FIS nº 00/0015), CSD grants 05/UPB32/01, 109/UPB31/03 and 13/UPB20/04, the Spanish Ministry of Education (AP2002-2920; AP2003-2128; AP-2004-2745), and grants from Panrico S.A., Madaus S.A., and Procter and Gamble S.A.

8 INFLUENCE OF AMOUNT AND INTENSITY LEVEL OF PHYSICAL ACTIVITY ON CARDIOVASCULAR FITNESS AND FATNESS IN CHILDREN

Jonatan R Ruiz[1,2], Francisco B Ortega[1,2], Nico S Rizzo[1], Anita Hurtig-Wennlöf[1,3], Julia Wärnberg[1,4], Michael Sjöström[1]

[1]Unit for Preventive Nutrition, Department of Biosciences and Nutrition at NOVUM, Karolinska Institutet, Huddinge, Sweden; [2]Department of Physiology, School of Medicine, University of Granada, Granada, Spain; [3]Department of Clinical Medicine, Örebro University, Örebro, Sweden; [4]Immunonutrition Research Group, Department of Metabolism and Nutrition. Consejo Superior de Investigaciones Científicas, Madrid, Spain.

Obesity among children and adolescent represents an uncontrolled and increasing worldwide epidemic (1). Low cardiovascular fitness (CVF) is another important health problem (2). It is unclear how the amount and intensity of physical activity (PA) are associated with CVF and body fatness in children.

To examine the relations of objectively measured total PA and intensity levels to CVF and fatness in a random sample of children aged 9 to 10 years.

A cross-sectional study of 780 children aged 9-10 years from Sweden (n = 413) and Estonia (n = 367) was conducted. PA was measured by accelerometry and expressed in min/d of total PA, moderate PA and vigorous PA. CVF was measured with a maximal ergometer bike test expressed as W/kg. Body fat was derived from the sum of five skinfold thicknesses. Multiple regression analysis was used to determine the degree to which variance in CVF and body fat was explained by PA, after control for age, sex and study location.

Lower body fat was significantly associated with higher levels of vigorous PA, but not to moderate PA or total PA. Those children who engaged in > 40 min of vigorous PA per day had lower body fat that those who engaged in 10-18 min/d of vigorous PA. Total PA, moderate PA and vigorous PA were positively associated with CVF. Those children who engaged in > 40 min/d of vigorous PA had higher CVF than those who accumulated < 18 min/d of vigorous PA.

This study suggests that, after adjustment for demographic factors, the intensity of PA, especially vigorous PA, but not total PA is negatively related to body fatness, whereas both amount and intensity of PA are positively associated with CVF in children.

Influence of amount and intensity level of physical activity on cardiovascular fitness and fatness in children

Jonatan R Ruiz (1,2), Francisco B Ortega (1,2), Nico S Rizzo (1), Anita Hurtig-Wennlöf (1,3), Julia Wärnberg (1,4), Michael Sjöström (1)

BACKGROUND

Obesity among children and adolescent represents an uncontrolled and increasing worldwide epidemic. Low cardiovascular fitness (CVF) is another important health problem. It is unclear how the amount and intensity of physical activity (PA) are associated with CVF and body fatness in children.

AIM

To examine the relations of objectively measured total PA and intensity levels to CVF and fatness in a random sample of children aged 9 to 10 years.

METHODS

A cross-sectional study of 780 children aged 9-10 years from Sweden (n = 413) and Estonia (n = 367) was conducted. PA was measured by accelerometry and expressed in min/d of total PA, moderate PA and vigorous PA. CVF was measured with a maximal ergometer bike test expressed as W/kg. Body fat was derived from the sum of five skinfold thicknesses. Multiple regression analysis was used to determine the degree to which variance in CVF and body fat was explained by PA, after control for age, sex and study location.

CONCLUSIONS

The intensity of PA, especially vigorous PA, but not total PA is negatively related to body fatness, whereas both amount and intensity of PA are positively associated with CVF in children.

RESULTS

		Body Fat					Cardiovascular Fitness				
Model	Predictor variable	*b*	*P*	95% CI		R^2	*b*	*P*	95% CI		R^2
1	Total PA	-0.054	0.115	-0.0007	0.0074	0.13	0.129	**<0.001**	0.0737	0.0219	0.22
2	Moderate PA	0.018	0.597	-0.0004	0.0002	0.12	0.087	**0.008**	0.0022	0.0143	0.21
3	Moderate-vigorous PA	-0.011	0.751	-0.0002	0.0003	0.12	0.108	**0.001**	0.0034	0.0132	0.21
4	Vigorous PA	-0.081	**0.02**	0.0019	0.0222	0.13	0.124	**<0.001**	0.0625	0.0525	0.21

Table 1: Standardized multiple regression coefficients (b), confidence interval (95% CI) and standardized coefficient of determination (R2) examining the association of body fat (sum of five skinfold thicknesses) and cardiovascular fitness (W/kg) with physical activity (PA) after adjustment for sex, age and study location.

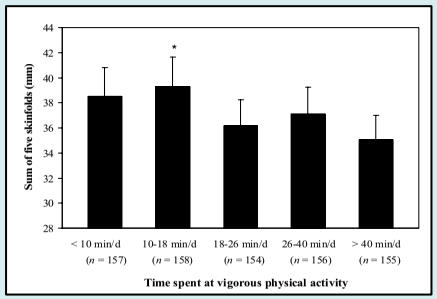


Figure 1. Mean sum of five skinfolds stratified by time spent at vigorous physical activity. Errors bars represent 95 % CIs. * A significant difference (P < 0.001) was observed between those who accumulated > 40 min (n = 155) of vigorous physical activity per day and those who accumulated 10-18 min/d (n = 158) at this intensity level.

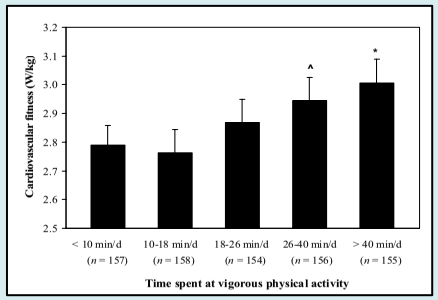


Figure 2. Mean cardiovascular fitness stratified by time spent at vigorous physical activity. Errors bars represent 95 % CIs. * A significant difference (P < 0.001) was observed between those who accumulated > 40 min (n = 155) of vigorous physical activity per day and those who accumulated < 18 min/d (n = 315) at this intensity level. ^ A significant difference (P = 0.018) was also observed between children who accumulated 26-40 min/d of vigorous physical activity (n = 156) compared to those who accumulated 10-18 min/d at this level of intensity (n = 158).

(1) Unit for Preventive Nutrition, Department of Biosciences and Nutrition at NOVUM, Karolinska Institutet, Huddinge, Sweden; (2) Department of Physiology, School of Medicine, University of Granada, Granada, Spain; (3) Department of Clinical Medicine, Örebro University, Örebro, Sweden; (4) Immunonutrition Research Group, Department of Metabolism and Nutrition. Consejo Superior de Investigaciones Científicas, Madrid, Spain. **E-mail: ruizj@ugr.es**

9 SPECIFIC APROACH TO THE MONITORING OF PHYSICAL ACTIVITY AND THE LIFESTYLE OF THE CZECH REPUBLIC POPULATION

Josef Mitáš, Radim Šlachta
Faculty of Physical Culture, Palacky University in Olomouc, Czech Republic

The Center for Kinanthropology Research participates in international projects IPAQ (since 2002) and IPEN (since 2004). The activities are conducted within a research project "Physical activity and inactivity of the inhabitants of the Czech Republic in the context of behavioral changes", # 6198959221.

In compliance with international methods, we use standardized questionnaires (IPAQ and adapted NQLS) and monitoring devices (accelerometers ActiGraph, and pedometers) to monitor inhabitants' physical activity (PA). In addition, we use specific items to describe the trends and characteristics of PA and the lifestyle of the inhabitants of the Czech Republic more accurately. Tracking these specifics (preferences in PA, ownership of a dog, a car, a bicycle or a weekend house) allows characterizing an overall population PA in more details also in other European countries. The distinctions of the Czech research are providing feedback to each participant individually and possible application of GIS analyzes (map layers and GIS data are exceptional and unique in Europe) in the promotion of healthy lifestyle.

During the years 2002 – 2004, we carried out a research on PA in the inhabitants of the Czech Republic using IPAQ questionnaire. Males (14,260) and females (15,682) aged 18-65 participated in this study. Results obtained from the national specific items in the questionnaire have shown that 45% of males and 50% of females participated at least once a week in any organized PA. The ownership of a car or a bicycle is a significant correlate of the inhabitants' PA [$H(3, 29942) = 208.09$; $p = .000$, $\eta^2 = .07$]. Participants owning a bicycle only (Mdn = 3,972 MET-min/week), or a bicycle and a car (Mdn = 3,997 MET-min/week) demonstrated significantly higher levels of total PA in comparison to those who own a car only (Mdn = 3,168 MET-min/week) or have neither a bicycle nor a car (Mdn = 3,252 MET-min/week). Cycling is the leading type of PA in both males and females. Among the others are dance aerobics in females and football in males. In addition, the inhabitants participated in walking (and hiking), swimming, running (including jogging), volleyball and weight lifting. Our results have shown that walking is the leading type of PA in the nation.

Our results and observed trends across the age groups are to be used in establishing the general recommendations for PA and healthy lifestyle applicable in the Central European region (Czech Republic, Slovak Republic, Hungary and Poland) at least.

10 RELATIONSHIP BETWEEN ENVIRONMENTAL AND PSYCHOSOCIAL VARIABLES WITH CYCLING FOR TRANSPORTATION

Titze, S[1], Janschitz, S[2], Stronegger, WJ[3], Oja, P[4]

[1] *Institute of Sport Science, University of Graz, Austria*

[2] *Institute of Geography and Regional Science, University of Graz, Austria*

[3] *Institute of Social Medicine and Epidemiology, Medical University of Graz, Austria*

[4] *UKK Institute, Tampere, Finland and Karolinska Institute, Stockholm, Sweden*

Ecological models of health behaviour with individual, social and environmental level factors provide a useful framework to study the determinants of health-enhancing physical activity and in particular active transportation. The aim of the present study is to identify relationships between individual, social and environmental factors and cycling for transportation with the purpose to learn more about potential determinants of cycling for transportation.

A telephone survey was conducted among 997 randomly selected inhabitants (15 to 60 years) of the city of Graz, Austria. Response-rate was 69,4%. People were asked about environmental characteristics along their route from home to a frequently visited destination when they actually cycle or would cycle the route. Social support and the perceived pros and cons for cycling were also queried. Altogether 490 (49%) men and 507 (51%) women with a mean age of 37,6 years (SD=12,7 years) participated in the study. A car was available in 90% of the households and 88% of the sample had a bicycle. The proportion of different transportation modes for the most frequently used route during the past seven days was 32% for car, 23% for bike, 23% for walking, 20% for public transport and 2% for motorbike.

We conducted bivariate analyses comparing low and high ratings for environmental and psychosocial factors between cyclists and users of other transportations modes. High rating of land-use-mix, street-connectivity, enjoyment, mobility and social support were significantly positively related with cycling, and high rating of physical effort and barriers were significantly negatively related with cycling.

Our results suggest specific environmental and psychosocial determinants of transport cycling. They should be useful for the design of intervention studies on the promotion of cycling for transportation.

Acknowledgements

This study is funded by the Fonds Healthy Austria (FGÖ) and by the city of Graz, Department of Science and Department of Traffic Engineering

Relationships between environmental and psychosocial variables with cycling for transportation

Titze. S[1]. Janschitz. S[2]. Stronegger. WJ[3]. Oja. P[4]

[1] Institute of Sport Science. University of Graz. Austria
[2] Institute of Geography and Regional Science. University of Graz. Austria
[3] Institute of Social Medicine and Epidemiology. Medical University of Graz. Austria
[4] UKK Institute. Tampere. Finland and Karolinska Institute. Stockholm. Sweden

Introduction

- Walking and cycling serve as health-enhancing physical activity (HEPA).
- Based on ecological models of health behavior we need to study the determinants of active transportation

Aim

To study relationship between individual, social and environmental factors and cycling for transport

Methods

Telephone survey. Response rate: 69,4%
Data from 997 randomly selected inhabitant of the city of Graz between 15 and 60 years. Females: 51%

Results

- Car: 90% of the households
- Bicycle: 88% of the sample

Tab.1. Proportion of different transportation modes for the most frequently used route during the past seven days

Car	Bicycle	Walking	Public transport	Motorbike
32%	23%	23%	20%	2%

Tab. 2. Bivariat analyses: Ratings for environmental and psychosocial factors and cycling behaviour

	Ratings of cyclists in comparison to non-cyclists				
	high rating	low rating		high rating	low rating
Attractive environment	n.s.		Enjoyment	↑	
Land-use-mix	↑		Physical effort		↓
Safety	n.s.		Barriers		↓
Street-connectivity	↑		Mobility	↑	
Hilliness	n.s.		Social support	↑	

Conclusion

The results suggest that there are several environmental determinants of transport cycling.
The investigation of determinants is important for the design of interventions to promote cycling for transportation

Acknowledgements. This study is funded by:

11 ARE OVER WEIGHT ADULTS LESS PHYSICALLY ACTIVE THAN NORMAL WEIGHT ADULTS?

Maria Hagströmer, Patrick Bergman, Pekka Oja, Michael Sjöström
Unit of Preventive Nutrition, Department of Biosciences and Nutrition, Karolinska Institutet, Sweden

Background

Questionnaires are often used when trying to assess the amount and type of physical activity (PA) within a population. These subjective methods often ask if, and to which extent, the individuals have participated in exercise or organized training on a regular basis. The results from theses studies suggest that this type of activity decrease as BMI increase. The aim of the present study was to assess this relationship using an objective instrument, the accelerometer.

Methods

A total of 1114 randomly selected individuals, age 18-74, 36% overweight, 7% obese participated in the study. The participants carried the accelerometer, Actigraph MTI, for seven consecutive days. The accelerometer registers PA continuously as vertical acceleration, and the outcome was summarized each minute as counts. Total PA was assessed as counts·min^{-1}. Cut-off values for moderate and vigorous activity was 1952 – 5724, and > 5724 counts respectively. Time spent in moderate and vigorous intensity activities (MVPA) was used as a measure for health-related PA. Periods of 100 counts or less were labeled as inactivity. Scatterplot and linear regression analysis was used to describe the association between activity variables and BMI. Accelerometer data were log transformed and analyzed using ANOVA. Post-hoc analysis according to Tukey was carried out.

Results

The variation in total PA and time spent in MVPA could to a very small extent be explained by BMI (R^2 = 7,7 %, 9,2 % respectively). Post-hoc analyses indicate that the total PA and MVPA slightly decreased as BMI categories increased (< 25 > 25 – 29,9 > 30 BMI). No gender differences were found. The variation in physical inactivity could not be explained by BMI.

Conclusions

Body composition can only to a very small extent be explained by the total amount of physical activity, or the total amount of physical activity at moderate or vigorous intensity. In addition, overweight individuals are not more sedentary than normal weight individuals. The results do not support the notion that overweight in the population is caused by inactivity.

Are overweight adults less physically active than normal weight adults?

Maria Hagströmer, Patrick Bergman, Pekka Oja, Michael Sjöström

In summary

Body composition can only to a very small extent be explained by the total amount of physical activity, or the total amount of physical activity at moderate or vigorous intensity.

In addition, overweight individuals are not more sedentary than normal weight individuals.

The results do not support the notion that overweight in the population is caused by inactivity.

Objective

To determine to what extent body composition can be explained by the art and degree of physical activity.

Study Group

More than one thousand randomly selected individuals across Sweden (n = 1114; 500 men; 45 ± 15 years), of which 36 % were overweight, 7 % obese.

Figure 1. The accelerometer worn at center for gravity

Methods

Physical activity was measured for seven consecutive days using an accelerometer (MTI Actigraph; Figure 1). Days with at least 10 hours of recording were included, mean registration time per day was 14 hours.

Outcome variables were: Total physical activity, expressed as mean counts per minute. Time in moderate or vigorous activity, as minute per day (more than 1951 counts per minute). Time spent in sedentary activities, as minute per day (less than 100 counts per minute)

Scatterplot and linear regression analysis was used to describe the association between activity variables and BMI. Accelerometer data were log transformed and analyzed using ANOVA. Post-hoc analysis according to Tukey was carried out.

Results

Figure 2 and Figure 3 show scatterplot for BMI and total physical activity, and moderate to vigorous physical activity, respectively (R^2 = 0.037 and 0.044 respectively).

Post-hoc analysis indicated that the physical activity variables slightly decreased as BMI categories increased ($P < 0.01$). No gender difference was found.

Sedentary time was not associated with BMI (Figure 4).

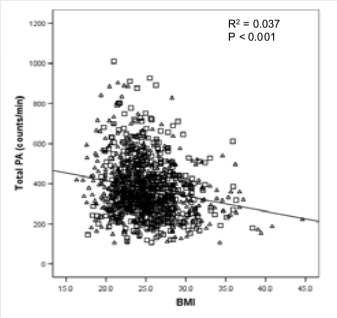


Figure 2. Total physical activity (counts per minute) and BMI

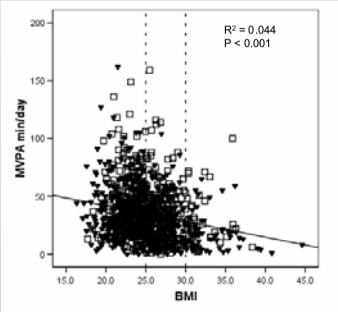


Figure 3. Moderate and vigorous activity (minute per day) and BMI

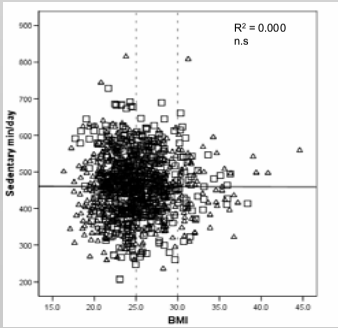


Figure 4. Sedentary time (minute per day) and BMI

Karolinska Institutet
Hagströmer Maria
Department of Biosciences and Nutrition

Visiting address: Hälsovägen 7
Postal address: 171 77 Stockholm

Telephone:+46-8-08-608 3344
Fax:+46-8-608 3350

email: maria.hagstromer@prevnut.ki.se
web site: www.prevnut.ki.se

12 NETWORKING PHYSICAL ACTIVITY AND HEALTH IN SCOTLAND

Flora Jackson
Physical Activity Programme, Programme Design & Delivery, NHS Health Scotland, Edinburgh, Scotland

The Physical Activity and Health Alliance is a joint collaboration facilitated by NHS Health Scotland on behalf of the Scottish Executive in order to support the Physical Activity & Health Practitioners of Scotland in the implementation of the Scottish Physical Activity Strategy 'Let's Make Scotland More Active' (Scottish Executive, 2003).

The Alliance will provide practitioners in the field of physical activity & health in Scotland with an interactive vehicle for two-way communication through which existing evidence, policy and practice will be disseminated and members encouraged to share knowledge and learning. It is envisaged that the Alliance will take the form of a virtual interactive e-network plus a programme of annual events.

Given the complexity of the physical activity & health agenda there is no single department, agency or organisation that currently develops, promotes and delivers all areas of physical activity (Let's Make Scotland More Active, Scottish Executive, 2003). Therefore the size of the potential workforce involved in the promotion of physical activity in Scotland is considerable.

The Alliance Will:

- Build capacity across the Physical Activity workforce.
- Disseminate existing evidence, policy and practice.
- Provide opportunities to enhance knowledge, enable learning and improve practice.
- Be a central hub of resources, tools and links.
- Act as a national forum for sharing ideas, promoting discussion and stimulating debate.

Membership is FREE and available to practitioners from a range of professional and volunteer backgrounds, including local government, NHS Health Boards and Community Healthcare Partnerships, Community Planning, voluntary and community organisations, local enterprise companies and businesses.
Members of the Physical Activity & Health Alliance will receive the additional benefit of free, exclusive access to hundreds of online resources including Policy Documents, Research & Evidence, Toolkits, Websites and Reports. For those interested in becoming members, registration can be completed on the website at http://www.paha.org.uk/

Over the next few months, phase 2 of the Alliance website will be fully implemented, introducing a number of interactive features that will enable information exchange with and between members through the development of an online community and a series of face to face events, for practitioners engaged in the physical activity and health agenda.

References

Scottish Executive, (2003) Let's Make Scotland More Active. A Strategy for Physical Activity. Scottish Executive, Edinburgh, February 2003,

NHS Health Scotland, (2005) Physical Activity Workforce Development Plan

Networking Physical Activity and Health in Scotland

physical activity and health alliance

Networking Physical Activity and Health in Scotland

Introduction

The Physical Activity and Health Alliance is a joint collaboration facilitated by Health Scotland on behalf of the Scottish Executive in order to support the physical activity and health practitioners of Scotland in the implementation of the Scottish Executive's Physical Activity Strategy *Let's Make Scotland More Active* (2003).

The National Physical Activity Strategy

In February 2003 the First Minister launched *Let's Make Scotland More Active*. The goal of the strategy is 'to increase and maintain the proportion of physically active people in Scotland', while the target is to have 50% of all adults (over 16) and 80% of all children (under 16) meeting the minimum recommended levels of physical activity by 2022. The target for adults is that they should accumulate at least 30 minutes of moderate activity on most days of the week, and children need to accumulate at least one hour at the same level of intensity as adults.

In supporting the physical activity workforce the Alliance will in turn support the Scottish Executive in achieving the 2022 targets and in meeting the strategic objectives set out in the strategy:

- to develop and maintain long-lasting, high quality physical environments to support inactive people to become active
- to provide accurate and evidence-based advice to staff who are involved in government policy and service delivery, and who work in the voluntary and private sectors
- to raise awareness and develop knowledge and understanding about the benefits of physical activity and provide access to information
- to carry out research, monitoring and evaluation.

Alliance Vision

The Alliance will provide practitioners in the field of physical activity and health in Scotland with an interactive vehicle for two-way communication through which existing evidence, policy and practice will be disseminated and members encouraged to share knowledge and learning.

Alliance Objectives:

1. Build capacity across the physical activity workforce.
2. Disseminate existing evidence, policy and practice.
3. Provide opportunities to enhance knowledge, enable learning and improve practice.
4. Be a central hub of resources, tools and links.
5. Act as a national forum for sharing ideas, promoting discussion and stimulating debate.

The Alliance will be accessible to practitioners from a range of professional and volunteer backgrounds, including local government, NHS Health Boards and Community Healthcare Partnerships, Community Planning Partnerships, voluntary and community organisations, local enterprise companies and businesses.

Physical Activity and Health Practitioners

Given the complexity of the physical activity and health agenda and the many ways in which it can be achieved, there is no single department, agency or organisation that currently develops, promotes and delivers all areas of physical activity.

This coupled with the factors that influence how active people are (i.e. where they live, their health, their social networks, their perception of personal safety, confidence, opportunities and the local environment) makes it clear that organisations with the responsibility to encourage inactive people to become active exist across a range of sectors. These include the environmental, transport, planning, regeneration, education, social work, health, private, voluntary and community sectors to name but a few.

The size of the workforce potentially involved in promoting physical activity in Scotland is therefore considerable, and while this is an encouraging fact it also raises issues about accessibility and the appropriateness of information available to support the work of such a wide range of practitioners.

The physical activity workforce can be categorised into three distinct practitioner groups:

Group 1	Those for whom physical activity it is a core part of their work
Group 2	Those for whom physical activity forms a key part of their work but is not the main focus
Group 3	Those services which can contribute to the physical activity agenda but may not recognise their potential as physical activity practitioners

The Physical Activity and Health Alliance will predominately target Group 1 and Group 2 practitioners and to a lesser extent Group 3.

List of organisations/professions that can play an important role in promoting physical activity in Scotland.

Group 1	**People for who it is a core part of their work**	
	NHS	Physical activity health promotion specialists
	Local Government	Active Travel co-ordinators Health Walk co-ordinators
	Voluntary organisations	Active Commuting organisations
Group 2	**People for who it is a key part of their work, but not their main focus**	
	NHS	GPs, health visitors, dieticians, physiotherapists
	Local Government	Leisure and recreation services Countryside access departments Teachers
	Voluntary organisations	Activity club leaders Organisations working with specific groups (e.g. people with mental health problems) Transport and active commuting organisations
Group 3	**People who have the potential to promote physical activity**	
	NHS	Coronary and respiratory rehabilitation services Services for older people Primary care practice managers Policy makers
	Local Government	Social services Town and transport planners Community safety co-ordinators Architects
	Local enterprise companies and businesses	Personnel responsible for healthy workplaces Housing associations
	Other	Further and higher education Local access forums

An Alliance with and for its members

In order to ensure that the Alliance adequately and appropriately supports the physical activity and health workforce it is essential that mechanisms of consultation with those whom the Alliance will serve be established as an ongoing process integral to the structure, function and operation of the Alliance. Thus developing an Alliance with and for its members.

Development of the Physical Activity and Health Alliance

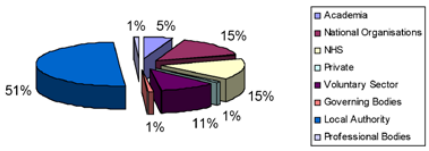
The consultation methodology adopted was designed to actively engage practitioners in the development of the Alliance. A series of consultation events were held in the form of:

- interviews with key stakeholders within the Scottish Executive as the commissioning organisation
- interviews with key stakeholders within Health Scotland as the facilitating organisation
- interviews with key practitioners and professionals with a lead for physical activity and health at a strategic level operating at either a national, regional or local level
- a participatory appraisal event with a sample of practitioners and professionals working within the field of physical activity and health in Scotland.

Participants

The consultation events were attended by 91 practitioners, representative of the physical activity workforce in Scotland, coming from a range of sectors and professions.

Sectors Represented By Practitioners Attending Consultation Events



Recommendations derived from the consultation process were used to form the basis on which the structure, function and operation of the Physical Activity and Health Alliance has been developed.

Structure

Participants recognised the need to establish a series of management and operational structures/ procedures that would support both the implementation and maintenance of the Alliance.

Function

Participants foresaw the Alliance as a means of establishing contact and networking with other practitioners and the opportunity to share knowledge and learning either online through a virtual e-network or face-to-face at local, regional or national events.

Operation

Participants identified that in order to be successful the Alliance would need to:

- remain focussed on the implementation of *Let's Make Scotland More Active*
- be established as a recognised, multi-agency, cross-sectoral, interactive, national resource of credible physical activity and health information designed to support practitioners at all levels in the implementation of the national physical activity strategy
- be responsive to the needs of the practitioners across a range of disciplines within a culture of ongoing structure and organisational change
- be recognised by employers as an integral part of the practitioner's personal continual professional development
- provide practitioners with an opportunity to feedback and exchange information through a two-way process
- be resourced sufficiently to sustain the above.

What Next?

1 May 2006 marked the launch of phase one of the Alliance website, providing practitioners with access to hundreds of online resources such as research and evidence, guidance and recommendations, journals and articles, facts and statistics, reports, policy documents, toolkits, current practice, contacts and web links.

Over the next few months, phase two of the Alliance website will be fully implemented, introducing a number of interactive features that will enable information exchange with and between members through the development of an online community and a series of face-to-face events for practitioners engaged in the physical activity and health agenda.

Membership of the Alliance

Membership is FREE and available to all practitioners and professionals engaged in the physical activity and health agenda in Scotland. Members of the Alliance will receive the benefit of free, exclusive access to hundreds of online resources including policy documents, research and evidence, toolkits, websites and reports. For those interested in becoming members, registration can be completed on the website at **http://www.paha.org.uk/**

For further information please contact:
Flora Jackson
Physical Activity Alliance Co-ordinator
NHS Health Scotland
Rosebery House
9 Haymarket Terrace
Edinburgh EH12 5EZ
Email: flora.jackson@health.scot.nhs.uk

13 THE PROMOTION OF HEALTH–ENHANCING PHYSICAL ACTIVITY – MAIN ASPECT OF SPORT/RECREATIONAL MEDICINE AND PUBLIC HEALTH FUTURE RESEARCH AND PRACTICE IN MACEDONIA, SERBIA, MONTE NEGRO AND SERBIAN REPUBLIC

Simovska Vera, Zivanic S., Vidin M.
HEPA Macedonia, Skopje,Macedonia; Research Institute, VMA,Belgrade, Serbia
Affiliations: Popovska I, Vidin O., Simovski A., Executiv Counsil of HEPA Macedonia, Skopje.

There is a strong evidence for the Macedonian physical activity strategy. National multi-sectoral policy and programme on physical activity were formulated within the context of the first Draft–Action Plan for development and implementation of CINDI Programme for NCD prevention/control and health promotion in Macedonia, 2002-2007. "Move for Health" Executive Council was established in 2003 with aim to formulate development strategy and plan for promoting physical activity at country level including: Millennium Development Goals, Move for Health Initiative/Day, implementation of the WHO Resolutions WHA 57.16 and WHA 57.17, as well as A/RES/58/5 on "Sport as a means to promote Education, Health, Development and Peace" Nov.03. The overall activities are presented on the web site:www.cindi.makedonija.com including the first Draft-Action Plan, "Move for Health" Day Programme (www.who.int/entity/moveforhealth/countries/en/mfh03_macedonia.pdf), Macedonian Declaration "Move for Health", Pyramid for "Physical Activity and Health", promotion of school education "Skills for Health", educational activities at University, PHC, mass media messages, the recommendations for physical activity in obese persons e.t.c

In order to implement quick action, "HEPA Macedonia" as National organization for the promotion of health–enhancing physical activity is established by the members of Executive Council for "Move for Health" in 2005. The president of HEPA Macedonia is Dr. Simovska Vera, PhD, national coordinator of Macedonian CINDI Programme, 2001–2005. "Tobacco-free move and physical activity" is title of National "Quit&Win" mass media campaign 2006, organized by HEPA Macedonia. The workshop at Medical Faculty with title "The new way of presentation of physical activity recommendations" is propose to be held on 31 May, 2006 "World No-Tobacco Day" (www.nosmoking.cjb.net).

The identified area of work are overall coordination, policy guidelines and national plan, evidence–based interventions and principles, capacity building, leadership and training, human resource development, partnership and network, advocacy and communication, surveillance, monitoring and evaluation and the case of funding physical activity programme/initiative. At present, the main goal and effort of the Health Authority-members of HEPA Macedonia is to explain the need of national physical activity strategy as part of Draft–National Plan for Health Strategy, 2006–2015 to the health policy-makers. The elaborate is submitted to the Macedonian Ministry of Health on 6 March, 2006.

The other countries such as Serbia, Monte Negro and Serbian Republic develop steps to implement their national physical activity strategies. The Annual Global Move for Health Initiative/Day would serve as a vehicle to support the implementation of the HEPA strategy.

In conclusion, physical activity and public health related to HEPA strategy/programme are enormous challenge for future research and practice in developing countries on the Balkan Region .

14 NATIONAL HEALTH ENHANCING PHYSICAL ACTIVITY PROGRAMME 2006-2011 IN SLOVENIA – INTERVENTIONS AT POLITICAL LEVEL TO CONTROL OBESITY

Jožica Maučec Zakotnik[1], Zlatko Fras[1], Rok Poličnik[2]
Community Health Centre Ljubljana, CINDI Slovenia [1], Ministry of Health [2]

Objectives In Slovenia, 70% of all deaths are caused by the most common forms of chronic diseases (CD). The leading cause of death (38%) is still cardiovascular diseases (CVD). Studies in Slovenia show low level of physical activity (PA) as well as growing trend in overweight and obesity among both, adult and young population. The research study by *Avbelj et al, 2006* shows that 18 % of boys and 21 % of girls aged five years are overweight, and 9% of boys and 8% of girls in the same age are obese. 17% of boys and 15% of girl's in adolescent age are overweight and in the same age 6% of boys and 4% of girl's are obese. "CINDI *Health Monitor Survey 2001"* shows at least 20 % of the adult Slovene population in the age group 25-64 who are not physical active enough. The same study shows the prevalence of overweight in 55% and obesity in15% among adult Slovenians.

Materials and Methods Initial activities in development of the National Health Enhancing of Physical Activity (NHEPAP) Programme and the National Programme of Food and Nutrition Policy (NPFNP) started by CINDI Slovenia in 1998 and were continued by the Ministry of Health (MoH) in 2001 as a complex intersectoral and interdisciplinary process supported by public and private sector as well as by WHO and the international experts society.

Results Both national programs were approved, NPFNP 2005-2010 by the National Assembly in 2005 and NHEPAP 2006-2011 by the Slovenian government this year. To achieve the main goal, healthy nutrition trough entire lifetime, NPFNP is using strategies to secure food availability and support local sustainable development and procurement of food, to support healthy food choices in different environments and for different populations groups, to develop curricula for nutritional education at different levels and different audience and to develop nutritional standards for different population groups. To achieve the main goal, regular PA throughout the entire lifetime, the strategies of the NHEPAP are acting through the planning and implementation of the national measures supported by activities of different professional and nongovernmental institutions and organizations. The NHEPAP includes three main pillars: Recreational sports, PA in the Work or School Environment and Transport-related PA.

Conclusions: Slovenian NPFNP and NHEPAP are good examples of the integration of health in other policies, the concept which will help countries to reduce and control the problem of obesity.

National Health Enhancing Physical Activity Programme 2006 – 2011 in Slovenia – Interventions at political level to control obesity

Jožica Maučec Zakotnik[1], Zlatko Fras[1,2] and Rok Poličnik[3]

[1] Ljubljana Community Health Centre, CINDI Slovenia, [2] Ljubljana University Medical Centre, Department for Vascular Medicine, [3] Ministry of Health

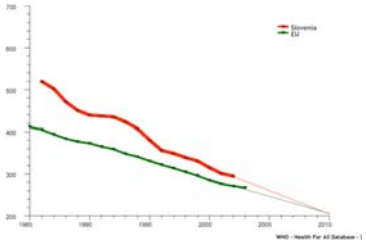
OBJECTIVES

ARE SLOVENES PEOPLE SUFFICIENTLY PHYSICALLY ACTIVE?

Studies in Slovenia have shown a low level of physical activity (PA), as well as a growing trend in overweight and obesity in both the adult and young population. A study by *Avbelj et al. from 2006* shows that 18% of boys and 21% of girls aged five are overweight, and 9% of boys and 8% of girls of the same age are obese. 17% of boys and 15% of girls in adolescence are overweight, while 6% of boys and 4% of girls in the same age range are obese. "The CINDI *Health Monitor Survey 2001"* has shown that at least 20% of the adult Slovene population in the age group 25-64 is not physically active enough. The same study has shown that the prevalence of overweight people among adult Slovenes is 55% and that of obesity 15%.

HEALTH SITUATION IN SLOVENIA

In Slovenia, 70% of all deaths are caused by the most common types of chronic diseases. The leading causes of death (38%) are still cardiovascular diseases (CVDs) and cancer (26%). The mortality rate due to CVDs among male and female inhabitants of the Republic of Slovenia is gradually decreasing, but it is still higher than in EU15 members.



Reference: WHO Health for all Database,

PROMOTING HEALTH THROUGH PHYSICAL ACTIVITY AND HEALTHY NUTRITION

Food and Nutrition Action Plan (FNAP) for Slovenia 2005 - 2010

Three pillars of FNAP:

1. Food safety
2. Well-balanced and protective nutrition
3. Assuring sustainable food supply

Long-term goal of FNAP:

To achieve nutrition recommendations for proper intake of nutrients in all age, social and other population groups.

Medium-term goals of FNAP:

- To improve nutrition of the entire population and especially of groups at risk
- To increase consumption of fruit and vegetables
- To decrease consumption of total fat and animal fats
- To eat the appropriate amount of food to maintain normal body weight.

Key strategies to achieve FNAP goals:

- Promotion of:
  - breast-feeding
  - healthy nutrition for children, adolescent and population groups at risk
- Development and implementation of:
  - educational programmes on healthy nutrition and public health nutrition
  - nutritional standards for all population groups, especially groups at risk
- Healthy food offerings in catering and tourism
- Promotion of local food suplly

COMMON GOALS

To improve health

To increase quality of life

To reduce prevalence of NCDs

To reduce obesity

To promote healthy lifestyle

To increase cooperation among all partners in the implementation stage

National Health Enhancing Physical Activity Programme (NP HEPA) 2006 - 2011

Three pillars of NP HEPA:

1. Recreational sports
2. HEPA in the work and school environment
3. Transport-related HEPA

Long-term goal of NP HEPA:

To achieve and maintain regular PA and exercise in all population groups for life in order to enhance health and prevent NCD.

Medium-term goals of NP HEPA:

- To increase the percentage of children, adolescents and adults who are sufficiently physically active to meet the recomendations
- To decrease the percentage of overweight and obesity among children, adolescents and adults
- To increase PA level in special population groups

Key strategies to achieve HEPA goals:

- Promotion of HEPA messages and programmes:
  - among all population groups, especially groups at risk
  - in transport and tourism
  - at workplaces and schools
- Improvement of:
  - accessibility and quality of HEPA programmes
  - traffic infrastructure for pedestrians and cyclists

CONCLUSIONS

The Ministry of Health of the Republic of Slovenia has succeeded in developing key intersectoral and interdisciplinary policies and action plans which will help reduce NCDs and the growing problem of overweight and obesity in the Republic of Slovenia.

REFERENCES

Resolution on national programme of food and nutrition policy 2005 – 2010 (Official Gazette of the RS, No. 39/2005)
National Health Enhancing Physical Activity Programme 2006-2011

15 THE SCOTTISH PHYSICAL ACTIVITY RESEARCH COLLABORATION (SPARCOLL): MAPPING THE PROMOTION OF WALKING IN SCOTLAND

Dr Claire Fitzsimons[1], Professor Nanette Mutrie[1], Professor Myra Nimmo[1], Dr David Ogilvie[2], Dr Candace Currie[3], Ms Joanna Inchley[3], Professor Catharine Ward Thompson[4], Dr Fiona Bull[5], Mr Charles Foster[6].
[1]University of Strathclyde; [2]MRC Social and Public Health Sciences Unit, University of Glasgow; [3]Child and Adolescent Health Research Unit, University of Edinburgh; [4]OPENspace Research Centre, Edinburgh College of Art/Heriot Watt University; [5]British Heart Foundation National Physical Activity Centre, University of Loughborough; [6]British Heart Foundation Research Centre, University of Oxford.

NHS Health Scotland commissioned the University of Strathclyde and a group of collaborating partners (authors and international experts*) to develop SPARColl (www.sparcoll.org.uk). With a focus on walking, SPARColl aims to contribute to the evidence base on physical activity, disseminate this evidence, and raise the profile on health-related physical activity in Scotland. Walking has been shown to be the single most popular mode of physical activity in Scotland (The Scottish Office, 2000).

One of the first work plans of SPARColl is a mapping exercise of activities aimed at the promotion of walking in Scotland (along with a systematic review of the effects of interventions to promote walking). The aim of the mapping exercise is to:

1. Explore what specific interventions are currently being undertaken as part of a general effort to promote walking in Scotland.
2. Investigate what kind of outcomes and evaluations are being (or have been) undertaken (for example who is running interventions, who is attending, outreach to different groups, frequency and distance of walking).

The mapping exercise has to date identified a variety of agencies that support walking groups in Scottish communities (Scottish Ramblers Association; Paths to Health; Scotland's Health at Work; Active Schools). Walking groups within each agency have completed a questionnaire with standard headings (number of walkers; age; ethnicity; male/female ratio; target groups; disabled walkers; walk details; local environment; leisure, work or school time walking; walking encouragements; project evaluation).

Of 164 walking groups mapped to date, 10,248 individuals have participated in at least one walk (0.2% of the Scottish population). Of those individuals over 1,000 have reported some form of disability; the ratio of males to females is 1 to 2.5; 14% are from ethnic minorities; and there are 543 trained walk leaders. 13% of walkers are aged 16 and under, 51% are aged 17-65 years and 35% are aged 65 years and over. Walks of 2 to 6 miles are completed in between 20 minutes and 2½ hours utilising both built up areas or parkland/wooded/field settings, with groups offering 1-4 walks/week. Most walking groups are in the central belt between Glasgow and Edinburgh. Primary target groups are the local community, mother and toddlers, cardiac rehabilitation patients and mental health patients.

This information will be used to identify areas lacking in walking group provision in Scotland and to relate the systematic review findings to current activities in Scotland.

*Adrian Bauman, Australia; James Sallis, USA; Billie Giles Corti, Australia; Pekka Oja, Finland; Sally Macintyre, UK

The Scottish Physical Activity Research Collaboration (SPARColl): mapping the promotion of walking in Scotland

Claire Fitzsimons, Nanette Mutrie, Myra Nimmo, David Ogilvie, Candace Currie, Joanna Inchley,
Catharine Ward Thompson, Fiona Bull, Charles Foster
www.sparcoll.org.uk

SPARColl

NHS Health Scotland commissioned the University of Strathclyde and a group of collaborating partners to develop SPARColl (www.sparcoll.org.uk). The collaborators are the authors and a team of international reviewers (Professor Adrian Bauman (Australia); Professor James Sallis (USA); Professor Billie Giles Corti (Australia); Professor Pekka Oja (Finland); Professor Sally Macintyre (United Kingdom)). With a focus on walking, SPARColl aims to contribute to the evidence base on physical activity, disseminate this evidence, and raise the profile on health-related physical activity in Scotland. Walking has been shown to be the single most popular mode of physical activity in Scotland (The Scottish Office, 2000).

Mapping Exercise

One of the first work plans of SPARColl is a mapping exercise of activities aimed at the promotion of walking in Scotland (along with a systematic review of the effects of interventions to promote walking).

Aims of the Mapping Exercise

1. Explore what specific interventions are currently being undertaken to promote walking in Scotland.

2. Investigate what kind of outcomes and evaluations are being (or have been) undertaken.

Methods

The mapping exercise has to date identified a variety of agencies that support walking groups in Scottish communities. Figure 1 shows the agencies contacted to date and the information gathered from each walking group.

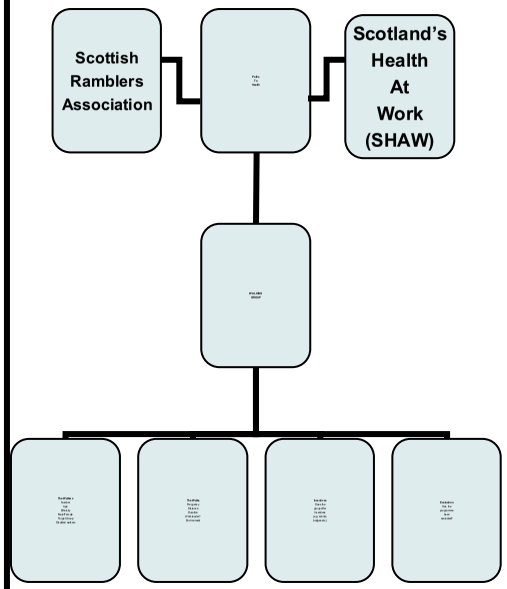


Figure 1. Information the mapping exercise is seeking from each walking group

Results

Walking Group Location

The location of the walking groups mapped to date is shown on Figure 2 along with Scottish population density. Most walking groups are located in the central belt between Edinburgh and Glasgow, the area with the highest population density.

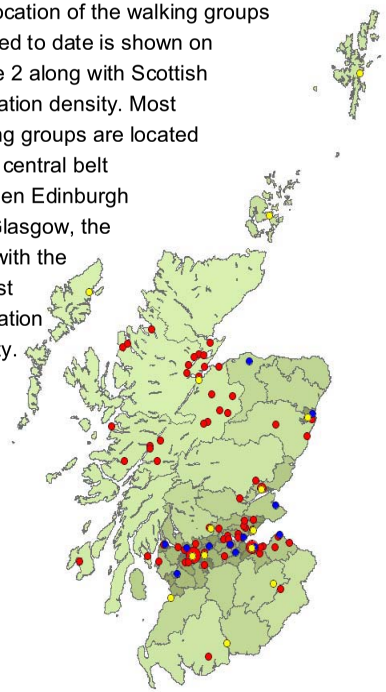


Figure 2. Location of walking projects in Scotland mapped to date (red dots represent Paths to Health projects; blue dots represent Scottish Ramblers Association 3-5 mile Projects; yellow dots represent Scotland's Health at Work (SHAW)). Green shading reflects population density (lighter shading represents lower population density) (Source: SCROL)

The Walks

Walks of 2 to 6 miles are completed in between 20 minutes and 2½ hours utilising both built up areas or parkland/wooded/field settings, with groups offering 1-4 walks/week.

The Walkers

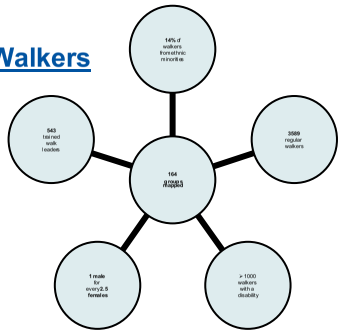


Figure 3. Characteristics of walkers

Conclusions

This information will be used to relate the findings of the systematic review to current practice in Scotland. The mapping exercise will also assist with the identification of areas in Scotland lacking in walking group provision. The mapping exercise will be ongoing via online contributions from walking groups to the SPARColl website (www.sparcoll.org.uk).

SPARColl Contact Details

If you would like any further information on SPARColl please visit our website -

www.sparcoll.org.uk

or contact the Project Co-ordinator, Claire Fitzsimons -

claire.fitzsimons@strath.ac.uk

Acknowledgements

SPARColl gratefully acknowledges the walking projects in Scotland who have contributed data to this mapping exercise.

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16 ISCA-PROGRAMME "HEALTH CARE AND HEALTH PROMOTION – BY MEANS OF PHYSICAL EXERCISES AND SPORT

Prof. Dr. Herbert Hartmann
International Sport and Culture Association (ISCA), Germany
(oral presentation)

The International Sport and Culture Association (ISCA) has launched a long-term programme <Health Care and Health Promotion by Means of Physical Exercises and Sport>. In regard to the WHO-Health-Report (2002) and the "Global Strategy of Diet, Physical Activity and Health" (2004), also in regard to EU's initiatives, finally based on the activities in some of our member organisations, ISCA feels challenged to give health and fitness related activities priority in the organisation in the future.

The ISCA approach to <Health Care and Health Promotion>:

Health benefits of physical exercises and sport have not yet been taken enough into consideration in people's everyday life. In this respect the following 3 general objectives for the ISCA programme will be considered:

- to promote awareness of the importance of physical activity for health
- to reduce fear/barriers/obstacles of entering activity programmes
- to provide enough differentiated, easily accessible and well-structured exercise programmes

To achieve this, the approach should be structured and goal-oriented to the particular purpose and target groups, and to take into account quality criteria. In this respect the great variety of simple and variable exercises within ISCAs popular sport activities (particularly gymnastics) can play an important part in all health-related campaigns of GOs and NGOs.

The ISCA programme will adapt a two-tiered strategy for health care and health promotion:

- General campaigning for active living
- Implementation of special health related exercises programmes.

These strategies will be explained more detailed during the presentation.

Aims and measures of the programme:

Further on the three main goals of the programme and its concrete measures will be explained:

- To raise awareness, to motivate and to offer practical support for ISCA member organisations to develop and improve their own national programmes for goal-oriented health promotion and prevention through sports and physical activities..
- To take a stand and create an image for ISCA to become acknowledged as a competent and powerful partner with regard to health promotion and healthcare inside and outside the sports system.
- To co-operating with other international "Sport for All" organisations to develop and carry out programmes and projects within "health and sport" with the objective of building an international network for this field of action.

An update on the present status and the upcoming measures of the programme will be given at the end.

17 INTERNATIONAL DEVELOPMENT OF NORDIC WALKING

Dr. Mrs Raija Laukkanen, Mr. Aki Karihtala, Ms. Tiia Aherto
International Nordic Walking Association, Vantaa Finland
(oral presentation)

Nordic Walking is fitness walking with specially designed poles to engage the upper body during walking. Purpose of Nordic Walking is to increase effectiveness of walking by increasing muscle mass activity, affecting coordination and motor fitness, increasing walking speed and balancing walking. It offers an efficient, easy and inexpensive way to improve physical condition irrespective of age, sex or physical condition.

Nordic Walking has its roots in the early 1930's in Finland as an off season training method of cross-country skiers. Development of Nordic Walking to its present form as a recreational sport started in early 1980's. In 1996 fitness specialists from Suomen Latu, Sports Institute of Finland and pole manufacturer Exel begin to develop forward the idea of walking with poles. This collaboration was a perfect recipe for a success story. In 1997 Exel launched and invented internationally the name "Nordic Walking" and introduced the first "Nordic Walker" poles. Nowadays there are over 760 000 Finns Nordic Walking regularly. Estimated population of Nordic Walkers around the world is nearly 6 million.

Nordic Walking has been studied since 1992 and there are over 40 published studies. Nordic Walking improves aerobic fitness and muscle endurance. Fitness improvement can be obtained in slower walking speed and it feel physically less strenuous than the actual level of physical exertion. There are results that Nordic Walking reduces pain in neck-shoulder region, it is suitable for elderly and patients, heart rate, oxygen uptake and caloric expenditure are higher than in normal walking, there is less load on knees in downhill and it improves muscle endurance in arms and mobility of the upper spine.

International Nordic Walking Association (INWA) is the world's first official international association promoting Nordic Walking. It was founded in Finland in year 2000. INWA's main objective is to promote Nordic Walking and focus on the development of education system and materials. INWA also collects scientific research materials and has cooperation with different health and fitness organisations. INWA organisation consists of board, advisory board, education committee and marketing and financing department. International Coaches take care of the education of national Coaches. Coaches are responsible for national level education for Nordic Walking Instructors and Activity Leaders. There are about 10 000 Instructors around the world. INWA is the head organisation for member associations whose main task is to develop Instructor networks and promote Nordic Walking nationally. INWA has 16 official member associations and Instructors in nearly 40 countries. The fastest growing countries are German speaking countries. North America, Japan and China are starting.

18 WHO EUROPEAN MINISTERIAL CONFERENCE ON COUNTERACTING OBESITY (ISTANBUL, TURKEY, 15–17 NOVEMBER 2006): *DIET AND PHYSICAL ACTIVITY FOR HEALTH*

Roar Blom
Technical Officer Physical Activity and Health, WHO Regional Office for Europe
(oral presentation)

On 15 – 17 November this year Health Ministers from WHO EURO's 52 Member States will meet in Istanbul to receive the latest information about the obesity problem, discuss it, and hopefully commit themselves to take action to counteract it.
The background is the high priority WHO has made to obesity, due to the significant public health challenge it represent, as well as the necessity to motivate leadership at the highest possible political level to achieve mobilization and synergies across different sectors in actions to curb the epidemic.

The preparatory process has been long and comprehensive and began in early 2005. In 2006, as many as 8 of the EURO staff including seconded staff from Member States are working full time to build the preparatory framework. My position, included in this group work, was established through a 2 year secondment between Norway and WHO to strengthen the focus on the physical activity component – both through its influence on overweight and obesity but also as a separate main health determinant.

The preparatory process has many components:

- Member States Conferences and Consultations
- Consultations with experts and stakeholders
- Establishing partnerships
- Drafting of the European Charter on Counteracting Obesity
- Background Technical Review Paper
- Promoting Physical Activity for Health – a Framework for Action in the WHO European Region
- Second European Action Plan for Food and Nutrition
- Communication strategy

A very important principle in the work has been to secure national involvement and responsibility, not only related to the outputs from the process leading up to the Conference, but also as a foundation and investment to secure ownership for the outcomes of the Conference. This has mostly been a Member States' driven process.

The main political outcome will be the anticipated adoption of the charter on counteracting obesity. Through the charter Member States will:

- acknowledge the growing challenge;
- adopt visions and goals;
- accept important principles for the work; and
- agree upon a framework for action

Key questions include whether the charter commits countries enough, and if the right balance is struck between focusing on factors influencing energy intake and focusing on factors influencing energy expenditure, i.e. between food and nutrition and physical activity. The final test of its content will be the Member States pre-Conference meeting in the Netherlands on 28-30 June 2006.

This Ministerial Conference would be an important and necessary step towards a less obese and healthier Europe. New coming challenging steps will be to support Member States in implementing physical activity as part of their public health work. With new promising motivating and guiding tools/documents under preparation, not least from HEPA Europe, with progress expected in search for effective interventions and best practice, and with even stronger alliances between responsible authorities, networks and stakeholders, new doors may be opened on this complex way to achieving the health goals.