

# INTERNATIONALT SYMPOSIUM

## Motives and Barriers for Physical Activity

Why are interventions for increasing physical activity behaviour not always successful?

Rigshospitalet, Auditorium 1  
Mandag d. 30 august 2004

### Arrangører



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K O M M U N E



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## **“Motives and Barriers for Physical Activity”**

Why are interventions for increasing physical activity behaviour not always successful?

Rigshospitalet, Auditorium 1, mandag d. 30 august 2004

### **Arrangeret af:**

Dansk Selskab for Fysisk Aktivitet og Sundhed,  
Klinisk Enhed for Sygdomsforebyggelse og Institut for Idrætsmedicin, Bispebjerg Hospital

### **i samarbejde med:**

Danske Fysioterapeuter  
Københavns Lægeforening  
Københavns Kommune og  
Frederiksberg Kommune

### **PROGRAM**

#### **09.00-09.10 Welcome**

*Chairmen: Nina Beyer & Anne Frølich*

#### **09.10-10.10 Effects of different types of interventions for increasing physical activity behaviour**

*Charles Foster, BA(Ed), MSc, Senior researcher at Division of Public Health and Primary Health Care, Oxford university, UK.*

#### **10.10-11.10 Motives and barriers for physical activity and adoption and maintenance of physical activity throughout the lifespan**

*Abby King, PhD, Professor of Health Research Policy and of Medicine, Stanford University, USA.*

#### **11.10-11.30 Coffee break**

#### **11.30-12.00 The Inter 99 study: Determinants for increasing physical activity in the general population**

*Lisa von Huth Smith, MSc.PHS, .PhD-stud., Research Centre for Prevention and Health, Copenhagen County, DK.*

#### **12.00-12.15 Exercise on prescription in Vejle County, Denmark**

*Stephan Siig Hansen, MA, Coordinator of Health Department, Vejle County, DK.*

#### **12.15-12.30 Factors influencing attendance to the exercise on prescription program in Ribe County**

*Anne Rosell, MSc.PHS, Health Department, City of Frederiksberg, DK.*

#### **12.30-13.30 Lunch**

*Chairmen: Steen Werner Hansen, MD D.M.Sc, Hospital medical director &*

*Thomas Lund Sørensen, MD, Senior consultant*

- 13.30-14.30 Attitudes and adherence to treatment and rehabilitation**  
*Lucy Yardley, PhD, Professor at Department of Psychology, University of Southampton, UK.*
- 14.30-14.40 Attitudes and beliefs influencing whether people accept and adhere to falling prevention in Denmark.**  
*Nina Beyer, PhD, Institute of Sports Medicine, Copenhagen, Bispebjerg Hospital, DK.*
- 14.40-15.00 Coffee break**
- 15.00-16.00 Methods to measure physical activity**  
*Ulf Ekelund, PhD, Investigator Scientist, Medical Research Council Epidemiology Unit, University of Cambridge, UK.*
- 16.00-16.20 A new physical activity scale for measuring physical activity**  
*Mette Ådahl, PT PhD stud., Research Centre for Prevention and Health, Copenhagen County, DK.*
- 16.20-16.50 Organisation of rehabilitation for patients with chronic conditions: Bispebjerg Hospital and Copenhagen Community Health and Care Administration**  
*Anne Frølich, MD, Senior Consultant, Clinical Unit of Preventive Medicine and Health Promotion, Bispebjerg Hospital, DK.*
- 16.50-17.00 Closing remarks**

## Forord

Talrige studier har vist, at fysisk aktivitet er af stor betydning såvel i forbyggelse som i behandling af kardiovaskulære sygdomme, hypertension, type 2 diabetes, apopleksia cerebri, osteoporose, visse cancertyper, metabolisk syndrom m.m. Tilsvarende har talrige studier vist, at fysisk inaktivitet ikke alene er forbundet med lav personlig funktionsformåen, men også med øget morbiditet og mortalitet, når man sammenligner inaktive individer med fysisk aktive individer.

Baseret på store befolkningsundersøgelser anbefales det internationalt, at alle voksne dagligt udfører omkring en halv times moderat fysisk aktivitet dagligt, gerne gennem aktiviteter, som naturligt kan indpasses i dagligdagen (gang, cykling, havearbejde). Denne anbefaling kan opnås gennem akkumulering af flere mindre aktivitetsperioder a fx 5-10 min.

Men på trods af at denne viden eksisterer og er søgt formidlet ud til den danske befolkning, er en betydelig andel af danskere stadig fysisk inaktive eller ikke tilstrækkelig fysisk aktive. På Sundhedsstyrelsens hjemmeside kan man læse at *"En fjerdedel af os (danskere –Red.) bevæger os så at sige ikke, en fjerdedel bevæger sig mellem 5 og 10 timer om ugen, en fjerdedel mellem 10 og 20 timer - og resten over 20 timer af ugen. Det viser en stor undersøgelse af danskernes motionsvaner, udført af PLS Rambøll for Sundhedsstyrelsen". Samme undersøgelse har vist at "Godt halvdelen af danskerne (56%) vil gerne være mere fysisk aktive, end de er i dag, mens 43% af danskerne ikke har et ønske om at være mere aktive. Kun 29% har konkrete planer om at blive mere fysisk aktive - og der er stor forskel på, hvor langt ude i fremtiden, de har planer om at blive mere fysisk aktive".*

Man ved meget om de sundhedsmæssige fordele ved at være fysisk aktive, men man ved meget mindre om hvilke strategier, der er effektive i forhold til at øge det fysiske aktivitetsniveau hos inaktive individer.

Der eksisterer en række motiver og barrierer for at ændre eller vedligeholde det fysiske aktivitetsniveau. Hvilke barrierer skal vi være opmærksomme på hos raske henholdsvis patienter, hos unge voksne og gamle ? Denne viden er afgørende for valget af hensigtsmæssige strategier mhp. at øge det fysiske aktivitetsniveau hos inaktive mennesker.

Endelig er der forskel på strategier, når det drejer sig om en en-til-en programmer (fx egen læge/fysioterapeut til patient), programmer i lokalsamfundet, nationale programmer og programmer, der omfatter ændringer af miljøet.

Det er vores håb at symposiet vil give os en større indsigt i disse forhold til gavn, når vi fremover skal markedsføre fysisk aktivitet.

30. August 2004

Nina Beyer  
Fysioterapeut, PhD.  
DASFAS og Institut for Idrætsmedicin, Bispebjerg Hospital.

# Effects of different types of interventions for increasing physical activity behaviour

C. Foster, M. Hillsdon.  
University of Oxford, Oxford, and University College London

**Purpose:** Despite the many benefits of regular health enhancing physical activity (HEPA) too few adults are sufficiently active. This presentation aims to review the evidence of effectiveness of three different types of HEPA intervention, individual, environmental and community based.

**Methods:** A series of three reviews were conducted using a variety of search methods looking for HEPA interventions aimed at adults aged 16 years or more.

Inclusion criteria for individual HEPA interventions were studies with (1) randomised, controlled designs, (2) comparing different interventions to encourage sedentary, community dwelling adults to become physically active, (3) a minimum of six months follow up from the start of the intervention to the collection of final data and (4) either used an intention to treat analysis or had no more than 20% loss to follow up. Study authors were contacted for additional information where necessary. Standardised mean differences and 95% confidence intervals were calculated for continuous measures of self reported physical activity and cardio-respiratory fitness. For studies with dichotomous outcomes, odds ratios and 95% confidence intervals were calculated.

Inclusion criteria for environmental HEPA interventions were (1) part of observational research using an experimental study design (2) the aim of the study was to examine the effect of changing any aspect of the environment on HEPA behaviour (3) to use a natural or man-made element of the environment as mechanism to increase HEPA behaviour (4) HEPA or physical fitness was the dependent variable (5) the impact of the environmental change was compared against a control, non intervention group or a pre/post measure of HEPA and (6) the study population was over 18 years.

Inclusion criteria for community based HEPA interventions were (1) the community was the 'unit' of intervention (2) the intervention adopted multiple approaches to promoting HEPA. For this review the community was defined as a geographical area, such as a city or town, defined by geopolitical boundaries. This review examined review level evidence.

**Results:** For individual HEPA interventions sixteen studies involving 6255 participants met the inclusion criteria. Nine studies incorporated a package of behavioural strategies to encourage an increase in self determined physical activity. Strategies typically involved a combination of goal setting, self monitoring, reinforcement, social support and relapse prevention. Seven studies incorporated interventions where the intended physical activity was directed by a health or exercise professional. This review suggests that overall physical activity interventions have a modest effect but due to the heterogeneity of the studies, no conclusions can be drawn about the effectiveness of individual components of the interventions.

For environmental HEPA interventions nineteen intervention studies were found that met the inclusion criteria. The studies divided into two types of environmental interventions. In the first group (of three studies) the environment was physically altered and new opportunities for activity were developed and promoted for the intervention group. In the second group (of sixteen studies) health education materials were used to promote stair climbing in particular environments, commercial or commuting settings. Environmental change studies showed a small increase on HEPA, but the relative impact of environment changes was not evaluated.

For community interventions seven reviews met the inclusion criteria. We identified four common classifications of types of community interventions (1) comprehensive integrated community approaches (2) community-wide 'campaigns' using mass media (3) community-based approaches using person-focused techniques and (4) community approaches to environmental change. The

evidence base for the effectiveness of community interventions to promote physical activity is still relatively small. The disparity of approaches makes it difficult to draw strong conclusions about which components of a community approach should be recommended.

**Conclusion:** Although the evidence base for the effectiveness of the three types of HEPA interventions appears small and inconclusive, some conclusions can be made about effective practice. For individual HEPA interventions, our findings indicate that professional advice and support as well as access to physical activity programmes can encourage people to be more active in the short and mid-term. More research is needed to establish which ways work best in the long term to encourage different types of people to be more active. For environmental HEPA interventions less is known. While some interventions have attempted to change the environment to promote HEPA, the design and numbers of these intervention studies are currently insufficient to make conclusions about what is effective. What is missing is a set of observational studies about the nature of the relationship of the environment to HEPA behaviour. Future research in this area should focus on what aspects of the environment are related to what types of HEPA behaviour for what kinds of people? The review-level evidence for the effectiveness of community HEPA interventions to promote physical activity remains equivocal. While the larger-scale community programmes have had some positive results, they have not tended to demonstrate population-level impact. More positive results have been seen from the smaller-scale programmes which have taken behaviour change techniques more normally used in primary care and translated these to the community setting.

Supported by the British Heart Foundation, London.

# **Adoption and Maintenance of Physical Activity Across the Lifespan**

Abby C. King, PhD.

Professor, Departments of Health Research & Policy and Medicine  
Stanford University School of Medicine, Stanford, CA USA

Over the past decade, the prevalence of inactivity in many industrialized nations has remained unchanged or increased. Yet, the heterogeneity of these populations--both within and between cultures—in terms of resources, interests, past experiences, and other factors, creates particular challenges with respect to developing effective physical activity interventions. To aid the development of such interventions, it is useful to apply a multi-level perspective that includes interpersonal as well as environmental approaches. Several promising directions that are currently being developed in the physical activity promotion field will be highlighted. These directions include broadening the focus of interventions to include sedentary activities that typically compete with physical activity goals and targets (e.g., TV use); exploring life transitions, when physical activity may naturally change and/or interest in becoming more active may increase (e.g., transitions from school to work, or from single to married status); identifying population segments at particular risk for inactivity who have been little studied (e.g., informal family caregivers, rural or isolated population segments); broadening the reach of effective programs into the larger population through the use of state-of-the-art communication technologies and other types of intervention channels (e.g., telephone-linked computer systems, personal digital assistants); striving to be sensitive to the cost-benefit trade-offs of our programs (i.e., to answer the question ‘Which programs are most beneficial for which population subgroups, and at what cost?’); exploring the environmental context of physical activity and person-environmental interactions (including both the physical and social environments); and, finally, applying a trans-disciplinary perspective in helping us to engage new partners in achieving large-scale physical activity promotion (e.g., urban planners, transportation experts, environmental groups). The presentation will close with suggestions and recommendations for future intervention development in this field.

# Determinants for increasing physical activity in the general population – the Inter99 study

Lisa von Huth Smith<sup>1</sup> and Torben Jørgensen<sup>1</sup>

<sup>1</sup>Research Centre for Prevention and Health, DK-2600 Glostrup

**Background:** There is a lack of knowledge on which factors are of importance for increased physical activity among individuals at high risk for developing ischemic heart disease (IHD). Knowledge within this area is of essential importance in the planning of future interventions aimed at decreasing the incidence of ischemic heart disease and other diseases resulting from physical inactivity. The objective of the present study was to identify predictors of successful maintenance/increase of physical activity in a populationbased intervention study.

**Material and Methods:** The study population comprises 61.301 persons. A random sample of 13.016 persons was invited for a risk assessment for IHD by means of a computer program (PRECARD<sup>®</sup>). The remaining 48.285 served as reference population. According to predefined criteria participants were classified into a high risk and a low risk group. The 13.016 persons were a priori randomised to receive a high intensity or a low intensity intervention. Those at high risk received individual lifestyle counselling. Individuals in the high intensity intervention group were furthermore offered lifestyle counselling in groups on smoking cessation and/or physical activity/diet over a 6-month period. Individuals in the low intensity intervention group were referred to their GP. Interventions were made in three waves (at baseline, after one year, and after three years). Changes in physical activity were monitored by questionnaires.

**Results:** Among men there was a weak and insignificant association between intervention intensity and successful maintenance/increase of physical activity (OR 1.16 (95% CI 0.87-1.57)). This association was stronger though insignificant in high-risk men (OR 1.30 (95% CI 0.76-2.21)). Among women there was no association between intervention group and successful maintenance/increase of physical activity. High-risk men were significantly less likely to maintain/increase physical activity than low-risk men (OR 0.75 (95% CI 0.62-0.91)). This association was weaker and insignificant among women (OR 0.86 (95% CI 0.69-1.06)). Among high-risk men prudent diet was significantly associated with maintained/increased physical activity (OR 1.91 (95%CI 1.14-3.22)). Among women there was an insignificant tendency towards an association between diabetes and successful maintenance/increase of physical activity (known diabetes mellitus, OR 1.32 (95% CI 0.49-3.55), newly discovered diabetes mellitus OR 1.36 (95% CI 0.67-2.74)). This association was also found among high-risk women (known diabetes mellitus OR 1.44 (95% CI 0.51-4.00), newly discovered diabetes mellitus OR 1.68 (95% CI 0.79-3.53)). There was no association between diabetes mellitus and successful maintenance/increase of physical activity among men. More results will be presented at the symposium.

**Conclusion:** The present study showed no substantial effect of high-intensity intervention compared to low intensity intervention on successful maintenance/increase of physical activity after one year. This finding should be compared to changes in physical activity in the reference population. Analysis of the effect of repeated high-intensity intervention after one year and after three years will be carried out to evaluate the effect of repeated lifestyle intervention. Furthermore, the study indicates that predictors of successful maintenance/increase of physical activity in an intervention study are different for men and women.

## Exercise on prescription in Vejle County, Denmark

Stephan Siig Hansen  
Department in Vejle County, Denmark.

**Background:** Extensive research shows us that exercise and physical activity are very effective methods in health promotion as well as in the treatment of a number of different diseases. What research also has shown us is that it is possible to change the participants exercise habits over a short period of time. However, the hard part seems to be how to get the participants to maintain a higher level of physical activity.

The Committee of Health in Vejle County decided on the 18. December 2002 to grant 2.1 mill. DDK (approx. 285.000 Euro) to a project on exercise on prescription. During a period of 3 years, 600 – 700 patients with either Type II diabetes or Hypertension and with a BMI lower 35 get the opportunity to be referred from their general practitioner to an intensive 3 months exercise program.

**Purpose:** The purpose of the project “Exercise on prescription in Vejle County” is to investigate if engaging the participants’ general practitioner (GP) has a positive effect. By getting the GP to prescribe exercise as a treatment, it is hypothesised that the participant will acknowledge physical activity as a treatment for a given disorder. By acknowledging physical activity as a treatment that might even be fun to join, it is our hope that the participants will be more adaptive and therefore maintain a higher level of physical activity a year after joining the project.

# Factors influencing attendance to the exercise on prescription programme in Ribe County

Anne Rosell

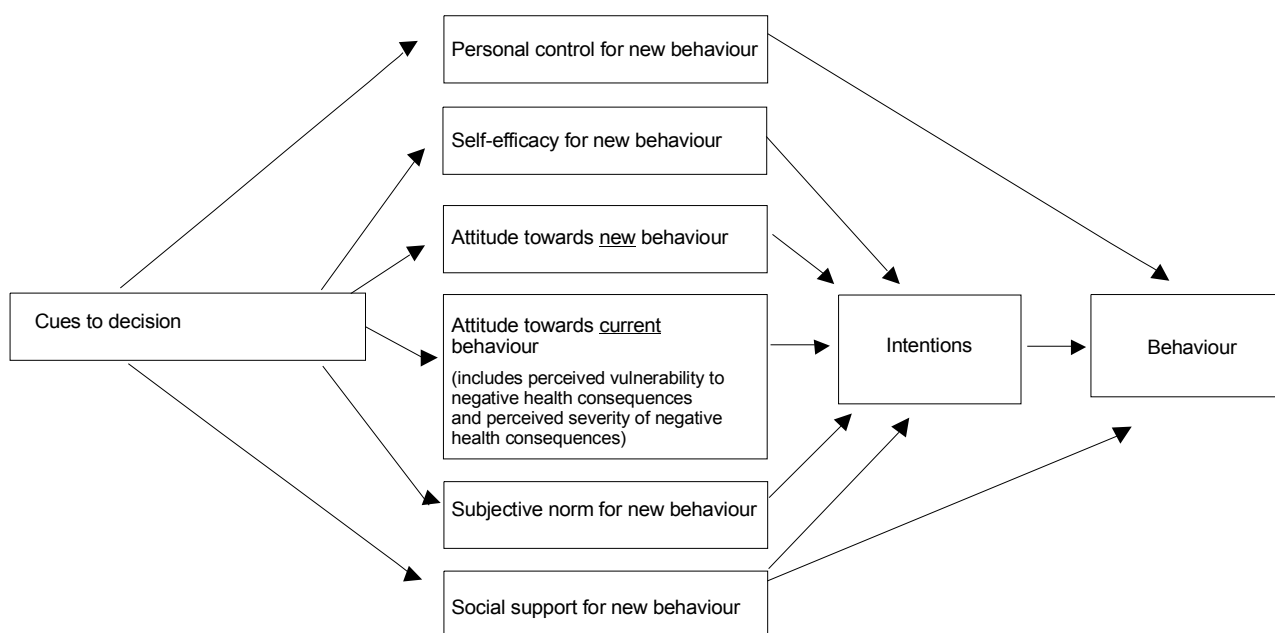
Health Department, City of Frederiksberg

**Background:** In 2002, Ribe County started a project where general practitioners could refer patients to a 3-months exercise programme including diet counselling. The criteria for being included were: inactivity and mild depression or a metabolically related disease. Purpose: The aim of this study was to describe and understand patients' attendance to the exercise programme.

**Method:** We used an extended version of The Theory of Planned Behaviour model as our theoretical background. The patients' beliefs about exercise on prescription and physical activity were explored through qualitative interviews during and after the exercise programme. The physiotherapist registered attendance.

**Results:** The patients got knowledge about the programme through the media ( $n=4$ ) and their general practitioners ( $n=4$ ). They were motivated to attend the programme due to a positive attitude towards the programme and concerns about their health. Attendance was between 72 and 100 % ( $m= 89\%$ ) exclusive vacation. The patients' positive attitudes towards the programme were decisive for the high participation. They enjoyed the exercise programme, and experienced improvements in physical functioning and well-being. The patients got a negative attitude towards their former behaviour, as they learned about the adverse effects of inactivity. During the programme many of the patients experienced social support from other patients. The patients did not experience any crucial barriers to participate, as they had adequate self-efficacy and personal control. Within the group a norm existed that one should attend the programme every time.

**Conclusion:** We found that our theoretical model was applicable when examining attendance. Attendance was influenced by 'Attitude towards current behaviour', 'Attitude towards new behaviour', 'Self-efficacy for new behaviour', 'Personal control for new behaviour', 'Subjective norm for new behaviour', and 'Social support for new behaviour'. On the basis of our results, we assess that the patients were satisfied with the current exercise programme. However, this is to be seen partly as a result of the way the physiotherapist handled the exercise programme.



## **Attitudes and adherence to treatment and rehabilitation**

Lucy Yardley  
Professor of Health Psychology  
University of Southampton

This talk examines the influences on attitudes and adherence to therapy using a theoretical framework developed around the concept of 'supported self-care'. 'Supported self-care' is a concept that embraces all the ways in which people try to enhance their well-being in relation to health, with support from a variety of sources, including family, therapists and the wider social community. It encompasses a broader understanding of the factors that influence healthcare experiences than concepts that give central prominence to the role of the therapist (such as 'compliance' and even 'concordance'). It is also less individualistic and less focused on rational behaviour than terms such as 'self-regulation' or 'self-management'. Some of the key elements of the dynamic process of supported self-care will be outlined in a broad framework which highlights the role of a) social influences and b) experiences of self-care over time. The relevance of these factors will then be illustrated by recent collaborative research into supported self-care. Firstly, social identity and social influence are shown to be central to understanding how self-care activities (exercising to prevent falls) can be presented to older people in ways that may have positive or negative effects on their wellbeing and their enthusiasm for these activities. Secondly, studies of adherence to therapy demonstrate how personal experiences of therapy may alter beliefs or behaviour, and lead to further engagement in or rejection of this form of self-care activity.

## **Attitudes and beliefs influencing whether people accept and adhere to falling prevention in Denmark.**

Nina Beyer<sup>1</sup>, Anne Rosell<sup>1</sup>, Christine E Swane<sup>2</sup>.

<sup>1</sup>Institute of Sports Medicine, Copenhagen, <sup>2</sup>Institute of Gerontology, Copenhagen, Denmark.

**Aim:** The study aim was to establish the main attitudes and beliefs influencing whether people accept to participate in a falls prevention program.

**Methods:** Interviews were carried out with twelve people (77-88 years) who had either a) participated in a FPP (n=4), b) refused to participate in a FPP (n=4), or c) not been offered a FPP (n=4). The interviews were analysed using the Theory of Planned Behaviour beliefs as the theoretical framework.

**Results:** Behavioural beliefs (attitude towards FPP) were decisive for participation in a FPP. Normative beliefs (perceived approval/disapproval of FPP of people important to the individual) were less important. Perceived control beliefs (perceptions about how easy or difficult it is to perform the behavior) were important for the elderly who had a positive attitude to FPP. Those who had participated in FPP were satisfied with the program and stressed the importance of improvements in physical functioning and the social aspect.

**Conclusion:** The study indicates that it is important that the target group for a FPP can identify themselves with the target group presented to them. Furthermore, there may be a need for different programs aimed at different target groups, frail versus relatively healthy elderly.

## Methods to measure physical activity

Ulf Ekelund

Medical Research Council Epidemiology Unit, Cambridge.

Physical activity is a complex multidimensional form of human behaviour that theoretically includes all bodily movement from fidgeting to participation in extreme sport activities such as marathon running or triathlon. Usually, physical activity refers to the use of large muscle groups, such as movements of the arms and legs, but it has been defined as “*any bodily movement produced by skeletal muscles that results in energy expenditure*”. However, physical activity (defined as body movement) and energy expenditure are not synonymous. Body movement is a form of behaviour, whereas energy expenditure is an outcome of that behaviour. Furthermore, despite a large body of data supporting the associations between physical activity and health outcomes, the detailed relationship (i.e. dose – response) between the type and degree of physical activity and its effects on various aspects of health remains to be elucidated. The development and evaluation of different physical activity assessment methods is therefore of high priority.

Methods of physical activity assessment include both self-report methods, such as activity diaries, questionnaires and activity recalls, and objective assessment techniques. Objective assessment of free-living physical activity can be based on physiological (energy expenditure, heart rate [HR] monitoring) and biomechanical (accelerometry) principles. All assessment techniques have their inherent strengths and limitations and there is no method available which is able to accurately measure all different dimensions of physical activity. The choice of a specific method should ideally be based on the dimension(s) of activity which is most closely related to the research question, but is usually based on a trade-off between ease of assessment and measurement precision.

The aims of this presentation are; 1) to provide an overview of various methods for assessing physical activity; 2) to discuss the basic principles of different assessment methods; and 3) to discuss the strengths and limitations with different assessment methods. The presentation will focus on available methods that can be used for free-living physical activity assessment in epidemiological studies.

# A new physical activity scale for measuring physical activity

Mette Aadahl<sup>1,2</sup> and Torben Jørgensen<sup>1</sup>

<sup>1</sup>Research Centre for Prevention and Health, DK -2600 Glostrup

<sup>2</sup>Department of Medical Orthopaedics and Rehabilitation, Rigshospitalet, DK-2100 Ø.

**Introduction:** Obtaining valid information on physical activity is essential when exploring the association between physical activity and health, but most existing methods have certain limitations. Many questionnaires focus on either work-related or leisure time physical activity. Other methods are very detailed, but complicated, expensive and time-consuming to administer. The aim of this study therefore was to develop and validate a physical activity scale for measuring physical activity in 24 hours of work, leisure time and sports.

**Material and Methods:** A random sample of 2.543 Danish men and women aged 20 to 60 were contacted by mail and asked to select frequent and relevant physical activities from a number of physical activities of known energy expenditure. The response rate was 61.7%. The selected physical activities were included in the physical activity scale, organised in 9 different MET (metabolic equivalent) levels, ranging from sleep/rest (0.9 METs) to high intensity physical activities (>6 METs). Face and content validity of the physical activity scale was examined through interview with 10 volunteer men and women. Criterion validity was assessed against accelerometry (CSA 7164) and physical activity diary in 40 volunteer men and women. The new questionnaire was applied in the three-year follow-up of an on-going population based intervention study: The Inter 99 study. The first 619 participants in the study have filled out the physical activity scale and the association between physical activity level and cholesterol, blood pressure, body mass index and waist circumference was assessed in linear regression models.

**Results:** Validation of the physical activity scale showed that correlation between the activity scale and the diary was high ( $r=0.74$ ,  $p=0.000$ ), whereas correlation between the activity scale and the accelerometer measurement was poor ( $r=0.20$ , NS). In the Inter 99 population, physical activity level (measured by the new physical activity scale) was significantly positively associated with high density lipoprotein (HDL), but not with blood pressure. Furthermore a daily physical activity level below 45 METs was inversely associated with waist circumference and body mass index. The association was not significant for those with an activity level  $\geq 45$  METs.

**Conclusion:** The physical activity scale is a simple and valid alternative to measuring physical activity level by diary. It combines information on all types of physical activity, i.g. sports, leisure time and work-related physical activity in one measure. Further testing of validity and reliability should be carried out in order to make the activity scale a useful instrument for monitoring activity level in both research and clinical practice.

# **Optimising care and implementing rehabilitation in patients with chronic conditions in tight collaboration between the primary and secondary healthcare sectors in Copenhagen Hospital Collaboration and Copenhagen Municipality**

Anne Frølich

Clinical Unit of Preventive Medicine and Health Promotion, Bispebjerg Hospital.

A report from the World Health Organization “Innovative care for chronic conditions 2001” claims that the disease burden has changed as the proportion of chronic diseases has increased dramatically during the last decades but health systems have not changed. There is evidence that effective prevention and treatment is possible but patients do not receive this as Health systems are designed to provide episodic, acute care while chronic conditions are lengthy and require continuity of care.

A project on “Optimising care and implementing rehabilitation in patients with chronic conditions” was launched in Copenhagen Hospital Corporation (H:S) in 2003. The project is financed by the Ministry of Interior. The goal of the project is to develop new ways for collaboration between the primary and secondary healthcare sector to ensure high quality of delivered healthcare in patients with chronic conditions. The project goal is supported by the following activities,

- Preparation of problem-oriented guidelines for the four chronic conditions
- Start off rehabilitation units in the hospital for the four chronic conditions
- Start off rehabilitation centres in the primary care sector
- Educational activities for health professionals
- Improve communication between sectors

The project covers four chronic conditions, chronic obstructive lung disease, heart failure, diabetes mellitus type 2, and fall in elderly frail people, and plans to include more conditions over time. Rehabilitation includes the following fundamentals, physical training, patient education, smoking cessation support, dieticians counselling, etc. tailored to the chronic condition in question, and the individual patient needs in accordance with guidelines. Physical training is seen as an essential element in the rehabilitation programmes, and start during the hospital stay, and follow-up is planned after discharge either to the rehabilitation unit in the hospital or to the rehabilitation centre in the primary care sector. Project plans as well as plans for implementation has been developed in tight collaboration between relevant health professionals and representatives from both sectors.