Vetenskapsrådet

Ansökan

2016-03-15

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Projekttitel (svenska): Active@Work: Individbaserat beslutsstöd för att främja fysisk aktivitet och egenvård på arbetsplatsen för personer med artros

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Sökta medel

År:	2017	2018	2019
Belopp:	1 983 309	1 612 849	1 669 094

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Projekttitel (svenska)*

Active@Work: Individbaserat beslutsstöd för att främja fysisk aktivitet och egenvård på arbetsplatsen för personer med artros

Projekttitel (engelska)*

Active@Work - optimizing physical activity at work with personalized decision support among individuals with osteoarthritis

Abstract (engelska)*

The aim is to explore if mobile technology including a personalized decision support system, can have any effect on physical activity level, health, work ability, quality of life, work productivity or sick leave among individuals with osteoarthritis (OA). We also aim to study if there is any difference in effect between using mobile technology and activity monitoring alone or when continuous feedback concerning physical activity is added.

Participants will be allocated through a patient education program for OA and randomized into either (A) Patient education program and physical activity monitoring, (B) Intervention A plus continuous feedback concerning physical activity or (C) Patient education program (control). The intervention will be performed during three months, with measurements at baseline, and follow-ups after 3, 6 and 12 months. Patient-reported outcomes, outcomes from technical devices and register data will be evaluated.

Lund University is responsible for the randomized controlled trial and Halmstad University is responsible for developing the mobile technology and activity support in the project. Inclusion of patients in the project is expected to start in spring 2017 and to continue until 2019. Analyses and manuscript writing will be performed during 2019.

This project will show how technological solutions can be used to develop evidence-based treatment models to improve health and work ability which can be effective as first line treatment of OA.

Populärvetenskaplig beskrivning (svenska)*

Artros är en av de stora folkhälsosjukdomarna, med höga samhällskostnader för sjukvård, läkemedel, samhällsservice. 15 % av medelålders personer i Sverige beräknas ha artros i knä, eller symptom som vid artros. Många med artros är i arbetsför ålder och forskning har visat att personer med artros har dubbelt så stor risk att vara sjukskrivna och har större risk att bli förtidspensionerade jämfört med den totala befolkningen. Det finns därför anledning att hitta insatser som möjliggör för personer med artros att vara kvar i arbete och undvika sjukskrivning. Fysisk aktivitet är en av de viktigaste interventionerna vid artros och ingår i grundbehandlingen, tillsammans med information samt viktkontroll. Patientundervisning i form av artrosskolor bedrivs inom primärvården i stora delar av Sverige. Artrosskolor syftar till att öka livskvalitet och aktivitetsnivå hos personer med artros samt minska sjukvårdskonsumtion och sjukskrivning. Detta projekt syftar till att studera om hälsa, arbetsförmåga och sjukskrivning kan påverkas genom mobilt stöd till ökad fysisk aktivitet i arbetet för personer med artros.

Patienter rekryteras via artrosskolor i region Skåne och Halland och randomiseras till: (A) Artrosskola samt enbart monitorering av fysisk aktivitet med mobil teknik utan kontinuerlig rådgivning; (B) Artrosskola samt monitorering av fysisk aktivet med mobil teknik och kontinuerlig rådgivning om fysisk aktivitet; (C) Artrosskola (kontroll).

Monitoreringen sker via en aktivitetsmätare där daglig fysisk aktivitet registreras. I grupp (B) får studiedeltagaren kontinuerliga råd via sin mobiltelefon, för att optimera den fysiska aktivitetsnivån. Deltagarna i grupp (A) och (B) kan följa sin egen aktivitet via projektets web-sida. Fem olika självskattningsformulär fylls i före interventionen startar, efter avslutad intervention (3 mån) samt 6 och 12 månader efter start. Sjukskrivning följs via registerdata från region Skåne och Halland.

Den förväntade ökningen av artros i befolkningen kommer att ställa stora krav på sjukvården och sjukförsäkringssystemet i en befolkning som är alltmer stillasittande och blir alltmer överviktiga. Då artros är en progressiv, irreversibel sjukdom som drabbar en stor andel av den arbetande befolkningen, är det av största vikt att finna metoder för hur vi kan möjligöra för dessa att vara fortsatt kvar i arbetslivet trots funktionsnedsättningar och aktivitetsbegränsningar. European League Against Rheumatism (EULAR) har påtalat behovet av mer forskning kring grundbehandlingen av artros, såsom beteendeförändringar (till exempel att öka sin fysiska aktivitet och minska stillasisttandet). Vårt planerade projekt finns i behandlingspyramidens bas med utbildning och stöd till ökad fysisk aktivitet via mobilt stöd.

Att använda mobil teknologi och monitorering av aktivitet för att stödja ökad fysisk aktivitet och egenvård på arbetsplatsen kan förbättra hälsa, arbetsförmåga och arbetskapacitet hos personer med artros och samtidigt minska behovet av sjukskrivning. Bibehållen arbetskapacitet hos den förväntat ökande gruppen av personer med artros är av vikt för att spara både direkta och indirekta kostnader för samhället på grund av sjukskrivningar, förlorad produktivitet samt ökade kostnader för sjukvård och läkemedel. Ökad fysisk aktivitet kommer att främja hälsa, öka livskvalitet och minska risken för sjukskrivningar och dessutom minska kostnader för samhället på grund av sjukskrivningar, minskad produktivitet och ökad läkemedelskonsumtion. Det föreslagna projektet är ett bra exempel på hur innovativa tekniska lösningar kan användas för att utveckla evidens-baserade behandlingar för att förbättra hälsa och öka arbetsförmågan. Dessa behandlingar finns inom primärvården och är tillgängliga för en ringa kostnad och på primärvårdsnivå och kan vara effektiva som basbehandling för artros. Projektet kommer också att bidra till basbehandlingen genom att testa en modell för kontinuerlig och individualiserad behandling i rätt tid inom ramen för patientutbildning och hälsosam beteendeförändring.

Redogörelse för etiska överväganden*

Patients who hare referred to patient education for OA at the participating primary health care centres are informed of the project by a physiotherapist before starting the patient education programme. Patients who do not want to participate in the study will have normal care, i.e. participate in the patient education programme as planned. Those patientens who agree to participate will receive oral and written information about the study and information that participatin is strictly voluntarily and can be interrupted at any time whithout affecting treatment. Participants will sign an informed consent, which also will be signed by coordinator of the study. No individual data will be shown and all collected data will be anonymized before analyses are performed. The key to the codes will be locked in an only the researchers in the group will have access. Transfer of data from accelerometers to the technichal application will be performed through internet and adequate actions for coding and anonymisation will be made to ensure the participants integrity.

The intervention in this project comprise of accelerometers that the participants carry during working hours as well as feedback through smartphones. This procedure needs to be supported by the employer. The level of physical activity that this project aims for the participants to achieve, will not affect the possibility of conducting regular work.

Application to the Regional Ethical Review Board in Lund will be done during spring 2017.

I projektet ingår hantering av persondata

Ja

I projektet ingår djurförsök

Nej

I projektet ingår humanförsök

Ja

Forskningsplan*

Se nästa sida för bilaga.

Active@Work - optimizing physical activity at work with personalized decision support among individuals with osteoarthritis.

Purpose and aims

The aim of this proposed project is to explore if mobile technology including a personalized decision support system, can have any effect on physical activity level, health, work ability, health related quality of life, work productivity or sick leave among individuals with hip and/or knee osteoarthritis. This will be performed by developing and evaluating the use of mobile technology and activity monitoring to support and optimize physical activity at work through self-management of health, work ability and quality of life in individuals with OA and to evaluate the technology in a randomized controlled trial. Our research questions are:

- Can an intervention, comprised of the above mentioned technology, have any effect on physical activity level, self-rated health, work ability, quality of life or work productivity among individuals with OA?
- Is there any difference in effect between using mobile technology and activity monitoring alone or when continuous feedback concerning physical activity is added?

Survey of the field

Osteoarthritis (OA) is a joint disease, commonly in weight bearing joints such as the knee and hip, causing pain and decreased physical functioning. There is no cure for OA and treatment is focused on alleviating symptoms. In the later stages of OA joint replacement is common. In Europe the prevalence of OA is in excess of 40 million, however, as OA is strongly correlated with increasing age, the projection is that by year 2025 Europe will have 210 million citizens 65 years and over, causing deep concerns for the escalation of OA prevalence (Conaghan P. et al. 2013; Hiligsmann M. et al. 2013). Although more prevalent among older individuals, the incidence of OA on men and women of ages up to 65 (working age) has been reported to be approximately 48% in Canada (MacDonald K et al. 2014) and 43% in Sweden (BOA report 2013). OA of the hip and knee affect men more than women below the age of 45, whereas women are affected more frequently than man above the age of the 55 (MacDonald K et al. 2014). The exact cause of the disease is unclear and the aetiology of OA is deemed to be multifactorial.

An expert committee established by the European League against Rheumatism (EULAR) has recently reported that the burden of OA in Europe for medical costs, community and social services, and absence from work, is 0.5% of gross national product. An American study from 2010 determined that 41% of study participants with OA were employed at least part time, and overall work impairment was significantly correlated with OA severity (Sadosky A. et al. 2010).

There are three major pillars of treatment for osteoarthritis: First line) Education, exercise, weight control, health behaviour change; Second line) Pharmacological pain relief, physiotherapy; Third line) Surgical intervention (Roos E.M. et al. 2012). Only 10% of OA patients receive surgical treatment, the vast majority of patients receive first and second line treatment (Culliford D. et al. 2012). The European League against Rheumatism (EULAR) calls for more research into first line of treatment and non-pharmacological interventions, such as behaviour change and self-management strategies to improve quality of life (Fernandes L. et al. 2012.)

Coping with the symptoms of hip and/or knee OA, is a life-long commitment. Since most of the patients with hip and/or knee OA will receive treatment that includes self-management, it is important that education programs and instructions on physical training must be based on theories that can maintain behavioural changes during a long period of time. This also encompasses maintaining work ability.Thus, behavioural science theory and psychological principles such as (i) prompt intention formation; (ii) prompt specific goal setting; (iii) prompt review of behavioural

goals; (iv) prompt self-monitoring of behaviour; and (v) provide feedback on performance can be used when promoting self-management of OA.

Individuals with OA has shown to have twice the risk of sick-leave than the total population and up to 50% increased risk of early retirement (Hubertsson et al 2012). Sick-leave longer than 90 days counts for the majority of sick-leave among persons with hip-OA (Hubertsson et al 2014). Among women with knee-OA, there is an increased risk for sick-leave in health care professions, child care and among cleaner . Among men with knee-OA the risk is increased among building construction workers, metalworker och farmer (Hubertsson 2015). Thus, to find effective methods to promote individuals with hip- or knee-OA to continue in working life seems essential.

Physical activity and Osteoarthritis

There is strong evidence to indicate that moderate intensity, low-impact physical activity provides considerable disease-specific benefits for persons with OA with regards to pain, function, mood and quality of life, without exacerbating symptoms or worsening disease progression (US Department of Health and Human Services 2008). Repetitive mechanical loading and unloading of weight bearing joints is crucial in maintaining the integrity of joint cartilage. Cartilage is non-vascular thus the transport of nutrients and waste products in this tissue is performed by compression and release. It is especially essential for persons with hip or knee OA to avoid prolonged sedentary periods as this is detrimental to already diseased joints. Unfortunately, most adults with OA are not sufficiently active. A longitudinal study in the US monitoring 1,089 participants (ages 49–84 years) with radiographic knee OA between 2008 and 2010 determined that almost half of participants were inactive according to the definition by the US Department of Health and Human Services (Lee J. et al. 2013).

Pain is the main reason why patients seek medical care. Long standing osteoarthritic pain is a common complaint among the older work force (45 to 65 years) which has been reported to negatively affect work productivity in terms absenteeism (loss of working days), and presenteeism (self-reported reduced work productivity). Patients with hip or knee OA experience pain on initiation of movement even after shorter intervals of sitting. Persons with hip and knee OA are therefore recommended in the everyday clinical setting not to sit in the same position for more than 20-30 minutes at a time. They should regularly stand up and walk around, straighten their knees and then extend the hips. However, to the best of our knowledge, there are no stipulated guidelines based on evidence on what duration may be optimal to decrease the perceived discomfort of stiffness and pain at movement onset. Movement-associated pain and decreased range of motion may lead to muscle weakness and weakness may result in an inability to stabilize a joint and causing joint laxity and/or joint damage. Individuals with hip or knee OA are significantly less active (movement-related activity) than individuals with no OA. Individuals with OA also perceive limitations in activity but these perceived limitations are not directly related to the actual ability to perform physical activity. It is therefore important to support these individuals in being more physically active, by fostering behaviour change and good self-management habits.

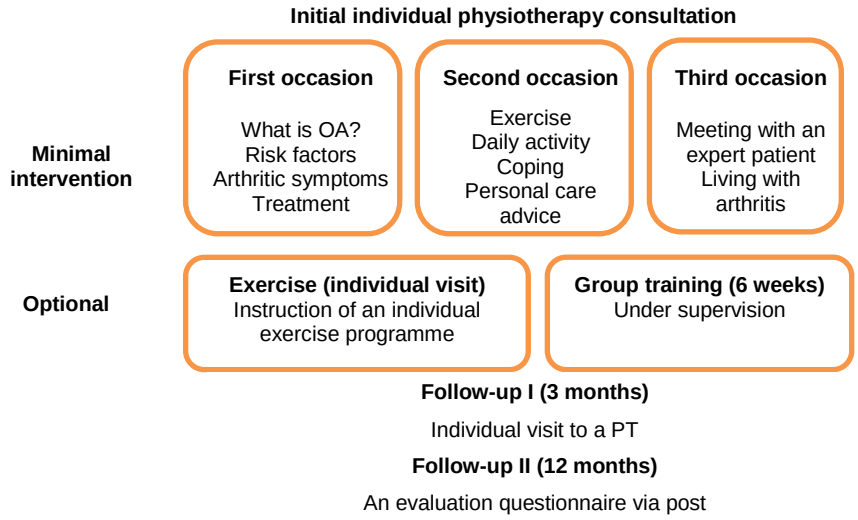
Physical activity can be addressed both on an individual or organizational level. On an individual level, information and counselling can be advantageous (Malik et al. 2014) but including technical devices for activity monitoring such as accelerometers, improves positive outcome measures (Ward et al. 2005). On an organizational level, the focus is more on supportive strategies to promote physical activity. Various strategies to survey prerequisites for physical activity at work are suggested by the American Centre for Disease Control and Prevention. The National Institute for Health and Care Excellence in UK (www.nice.org.uk) has presented a checklist for employers, on important factors that promote physical activity at work, e.g. to make physical activity possible during work time, to support walking, to provide walk/bike assess to buildings and surroundings, to have physical activity incentive policies, to encourage employees to walk to meetings.

Active@Work will make use of these guidelines in order to identify the key work environment factors that must be incorporated by the decision support system.

Better management of patients with Osteoarthritis (BOA)

Better management of patients with Osteoarthritis (BOA) is a joint project between four geographic regions in Sweden, financed partly the Swedish National Social Insurance Office. The aim of BOA is to offer every patient with OA adequate information and exercise according to evidence-based recommendations; and to ensure that surgical interventions are only considered if non-surgical treatment has been tried and failed. In primary health care, patients with hip or knee OA is referred to participate in a short patient education programme according to BOA. The structure of the BOA education programme is presented in Figure 1. Participants are required to fill in a questionnaire before they attend the education program, three months and twelve months after they complete the education program. The questionnaire includes questions about function and ability to perform activities of daily living, pain, medication, treatment as well as self-efficacy. To date, over 25 000 patients have attended the BOA education program.

Figure 1. The BOA Patient education programme



Project description

The aim of this proposed project is to explore if mobile technology including a personalized decision support system, can have any effect on physical activity level, health, work ability, health related quality of life, work productivity or sick leave among individuals with hip and/or knee osteoarthritis. The project includes the development of such systems, based on theories presented below. Patient will recruited in connection to participating in the patient education program for osteoarthritis, which is considered as treatment as usual.

Theory

The International Classification of Functioning Disability and Health (ICF)

The ICF provides a system for describing health in relation to different components: structure and function, activity and participation and also environmental and personal factors. Osteoarthritis has an impact on all different components of the ICF. On structural level, cartilage is affected and also surrounding soft-tissues. Functional limitations are seen early in the process as limitations on mobility in joint functions and pain. Activity and participation restrictions can be addressed to several fields, but work is one of the most important. It is also to pay attention to environmental factors, since this can facilitate or be a barrier for activity (Figure 2).

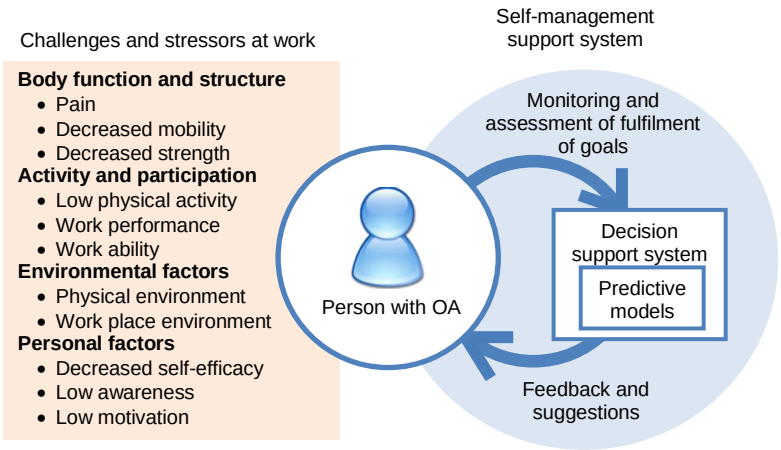
A key element affecting ***body function and structure*** is peripheral nociceptive pain due to the inflammatory process. For each individual, a model correlating well-being, pain and activity level will be automatically learned from the data. Based on the current status of the participant such as activity level, pain and well-being, as well as personal and environmental factors, the decision support system will suggest appropriate type, duration and intensity of activity to be undertaken.

The ***activity and participation*** component of the system is based on two important guidelines taught in the BOA education programs: the *20-min rule* and the *24-hour rule*. The *20-min rule* suggests that a patient should change position every 20 minutes, that is, if the person has been standing for the past 20 minutes then he/she should sit down and vice-versa. The *24-hour rule* suggests that some level of discomfort after physical activity is expected and the amount or intensity of physical activity should be reduced only if the patient does not feel better after 24 hours. The adequate amount of activity for each participant will be determined from previous activity data and self-reported measures for that participant.

Environmental factors must be taken into account because most guidelines and recommendations for physical activity in OA target exercise routines that cannot be undertaken during working hours (American Geriatrics Society Panel on Exercise and Osteoarthritis 2001). Some independent organizations provide suggestions for improving well-being at work (www.arthritiscare.org.uk), such as planning and prioritizing work tasks, taking short breaks and changing position when feeling uncomfortable. Activity suggestions in the project will be tailored to the participants work environment.

Personal factors (including motivation, awareness, self-efficacy, attitude, and social influence) influence the intention to change one's behaviour. Self-efficacy is a person's belief that he/she can attain a specific goal. Higher levels of self-efficacy were shown to be a predictor of better ability in individuals with OA of the knee, hip or both (Benyon et al. 2010). A high level of self-efficacy has been found to be associated with decreased pain, increased activity and higher quality of life in individuals with knee OA (Van Liew 2013). Based on the participant's scoring of items within the decision support system, we will provide personalized recommendations for activity and deliver positive Implementation Intention Prompts (IIPs) to encourage engagement in physical activity.

Figure1. Supporting persons with hip and knee OA at work

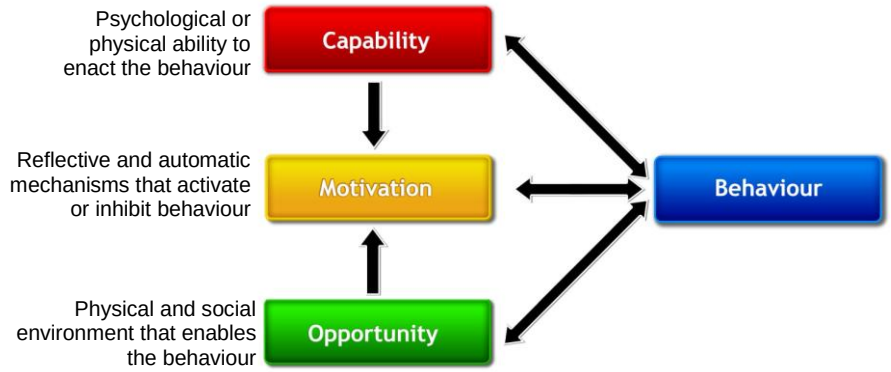


Self-management and behaviour change

There is a link between self-management and successful behaviour change. Studies studying the effects of self-management have shown positive results on health, well-being and work ability (Foster et. al. 2009). This is often obtained by acknowledging psychological factors such as motivation, coping, self-efficacy and personal resources (Linton et al. 2005), and the individual's

own participation in the change process through priority-making, goal formulations and feedback. To receive positive feedback when goals are reached will enhance the change process and increase self-efficacy, motivation for change and goal attainment (Foster et. al. 2009). Self-management of health also requires priority-making and decision-making and can be improved with the help of a monitoring and decision support system. The development of a successful self-management intervention will be performed by the COM-B model (Michie et al. 2011) (Figure 3).

Figure 3. The COM-B system - a framework for understanding behaviour.



A considerable amount of research has been conducted on the cognitive processes involved in physical activity behaviour change (Biddle et al. 2015). The Theory of Planned Behaviour (Ajzen 1985) will be used, with its focus on intended action and three components to predict it; (1) having a positive attitude towards the activity by assessing the level of emotion towards the behaviour; (2) social norms; and (3) perceived behavioural control (self-efficacy). Our model will also include individual's commitment to carry out behaviour when faced with obstacles (Gollwitzer, 2006) and provide the individual with specific personalized ways to achieve goal intentions by linking situation cues to a particular type of behaviour (Gollwitzer, 1993) to increase the physical activity level. For example, 'when I sit for more than 20 minutes (situational cue) then I will stand up and walk around'. Combining a multi-component physical activity consultation with gratitude based IIPs into an existing OA programme will likely lead to behaviour change. To date, no studies have included gratitude Implementation Intention Prompts (IIPs) to encourage more increased physical activity and healthy habits in OA populations.

Activity monitoring and m-Health interventions

Activity monitoring using wearable accelerometers and smart phones provides a powerful platform for supporting self-management. Glynn et al (2014) showed in a randomized controlled trial of an m-health intervention that using a smartphone application to promote behaviour change in primary care setting (SMART MOVE) increased physical activity and decreased weight and blood pressure compared to controls. Coping with a longstanding disability such as OA is a lifetime task and therefore it is important for patients of working age to acquire self-management strategies in their daily life and at work.

Level of physical activity is a very important aspect related to healthy lifestyles and plays an even greater role in the maintenance of quality of life for persons with OA. Large studies have been conducted using accelerometers to determine the physical activity habits of young, adult and senior populations (Colley et al. 2011). One accelerometer sensor close to the body's centre of mass (waist or chest) is adequate for estimating energy expenditure (Altini et al. 2014). A longitudinal study between 2008 and 2010 used accelerometer sensors to monitor inactivity in over 1000 adults with knee osteoarthritis and determined that almost half of participants were inactive (Lee J. et al. 2013).

Methods

Design and setting

The project will be performed as a randomized controlled intervention study within primary health care in the region of Skåne and Halland. The development and structure of the project will be mapped onto the MRC Framework for complex interventions (Craig et al. 2008).

Sample

Patients who are referred to the patient education program for OA in primary health care will be invited to participate in the project. Access to the BOA register will be formally applied for according to BOA requirements. After oral and written informed consent the patients will be randomized (using a random list and sealed envelopes) into three groups:

A. Patient education program and physical activity monitoring.

B. Patient education program, physical activity monitoring and continuous counselling/feedback concerning physical activity.

C. Patient education program (control).

Interventions

Health behaviour and self-care require active decision making and self-regulation, both of which will be provided in this project. Tailoring the decision support (or coaching) to individual participants will be based on specific user profiles obtained from clinical databases, lifestyle information, as well as self-reported indicators. The system will continuously monitor physical activity levels and the health state of participants with the help of wearable sensors and a smart phone. This information will be processed in real-time in order to predict the immediate and long-term wellbeing of each participant. The DSS will, when appropriate, provide timely suggestions and feedback to the participant in order to prompt and maintain positive behaviour change and good self-monitoring habits, in particular at work. Predictive models will be developed as shown in figure 2.

Activity monitoring will be performed by giving each participant in groups (A) and (B) a wearable sensor coupled to a smart phone, where the daily physical activity level will be recorded. The monitoring will start at the patient education program within BOA. In group (B) each participant will receive personalized feedback about the duration and amount of physical activity, including sedentary time during the work day, individual goal attainment, and suggested activities through their smart phone. The participants in group (A) and (B) will have the opportunity to follow their physical activity level through a website. Participants in groups (A) and (B) will be able to answer questions concerning the level of symptoms/pain, health and well-being, which will be used to adjust their personalized feedback using the decision support system described previously.

The intervention will be performed during three months, with follow-ups after 3, 6 and 12 months. The follow-ups at 3 and 12 months will be performed together with the follow-ups within BOA, the follow-up at 6 months will be added.

Measures

Patient-reported outcomes

Participants will answer the following questionnaires at baseline, after the intervention (3 months) and 6 and 12 months after the intervention. All self-reporting in group A and B will be done through the participant's smart phone or on the project website (by the participants own choice). A plan for further use of the system within health care and for official use will be developed in cooperation with BOA. Measurements will include:

- Self-rated work ability (Work ability Index,Ilmarinen,2007)
- Self-rated work productivity (WPAI-G, Legget et.al.,2016)
- Self-rated health-related quality of life (EQ-5D) (http://www.euroqol.org/)
- Self-rated function in relation to hip and knee arthrosis (HOOS, Nilsdotter 2003, KOOS, Paradowski 2006).
- Self-rated physical activity (IPAQ, Craig et.al.2003).
- Questions about the work environment related to opportunities to be physically active during the work day.

Outcomes from technical devices

Physical activity data will be received from the electronic monitoring system and will be followed by the responsible researcher on group level during the whole intervention. Activity monitoring devices (i.e accelerometers) will be used in order to determine if a participant is adequately active, and the decision support system will then provide appropriate suggestions to increase or reduce physical activity in a timely manner. Predictive models will be developed based on the ICF framework and based on retrieved data from the project. The decision support system continuously monitors participant through activity monitor and self-reported information. This information is used to understand the user's context and behaviour and also to assess the effect of previous feedback and suggestions so that the effect of the intervention can be monitored. The system makes use of the acquired data and the predictive models described previously in order to provide a personalized implementation intention prompt (IIP) at the right time. The system also requires contextual information such as patient profiles, characteristics of the work environment, patient goals and resources, in order to parametrize the predictive models and personalize feedback to each individual. The interaction between the user and the system will take place using smart-phone. Participants can also access their personal data on a web-portal during the intervention and follow-up phases.

Register data

Sick leave data will be obtained from the Swedish Social Insurance Agency (SSIA) . For shorter sick leave spells (<14 days), we will use patient reported data Data on drug consumption will be collected through the national drug register (the National Board of Health and Welfare) Data concerning health care consumption will be obtained from Skåne Health Care data bases (SHR). Information on employment is received from Statistics Sweden (SCB) and the LISA data base (Longitudinal integrated database for health insurance and labour market studies)

Statistics

Power analysis based on that 50% of the participants improve their score on the work ability index (Ilmarinen 2007) with one point and with no change in score for the control group indicates that 60 participants will be needed in each group. To compensate for drop outs we will recruit 80 participants in each group. Compliance with the intervention will comprise of the activity monitoring device used on at least 50% of the work days. With relatively large group sizes and most data expected to a follow an approximately normal distribution, group differences in the development over time with respect to the different outcome variables will be analyzed by ANOVA models (repeated measures or cross sectional comparison of mean difference scores). Some outcome variables, such as activity data, may likely be skewed and hence appropriate transformations, or non-parametric models, will be applied. Final and exact analytical strategies will be decided once data is available for exploration of final group sizes and distributions/symmetry of numeric outcome variable data.

Time plan

The entire project will be undertaken in three years, from 2017-01-01 through 2019-12-31. During the first year we will develop the decision support system, recruit the participants and start the intervention (groups A and B). During the second year the intervention will continue with inclusion in group B and continuous data collection with follow-up periods. During the third year we will perform the data analysis, manuscript writing and reporting (Table 1).

Table 1. Time plan of the project.

	Planning of the project	**Inclusion in group A and C**	**Creating models for continuous feedback, using preliminary data from group A**	**Inclusion in group B**	**Collecting data from follow-up**	**Analysing data**	**Manuscript writing and reporting**
2016	X						
2017		X	X				
2018		X		X	X		
2019				X	X	X	X

Project organisation

At Department of Health Sciences in Lund University much of the research is focused on health promotion in different areas, including the working-life context. The group ensures the expertise to cover the main aspects of changing a physically inactive lifestyle into a healthy lifestyle. From Lund University:
Frida Eek is the principle investigator (PI) of the project and has been participating in planning of the project. Frida Eek will be coordinating the project from Lund and will have main responsibility for statistical analyses within the project.
Eva Ekvall Hansson is co-researcher in the project and has taken part in planning of the project. Eva Ekvall Hansson will be responsible for the contact with the BOA-register and will participate in the data-collection and will be responsible for the application to the Region Ethical Review Board.
Kjerstin Stigmar is co-researcher in the project and has taken part in planning of the project and will participate in data-collection and in analyses and presentations.
Gunvor Gard is co-researcher of the project and has taken part in planning of the project.
PhD-student: One PhD-student will be recruited in Lund and will take part in further planning of the project, in data-collection and in statistical analyses.

The Centre for Applied Intelligent Systems Research (CAISR) at Halmstad University is a long-term research program focused on aware intelligent systems. Within the area of health technology, CAISR's mission is to support healthy and active lifestyles, safe and independent aging, as well as effective care services by being aware of a person's situation, health, and well-being. The team members have extensive expertise in movement analysis and activity monitoring using accelerometers; machine learning and pattern recognition; modelling and statistics. From Halmstad University:
Anita Sant Anna is co-reseacher in the project and has taken part in planning of the project and will have the main responsibility for acquire the mobile technology and for creating the support system. Anita Sant Anna is coordinating the project from Halmstad.
Technician: One technician will be recruited and will be take part in developing the support system, the application and the web-site.

Significance

The use of mobile technology and activity monitoring to support improved physical activity at work and self-management of OA at work can increase health, work ability and work productivity among persons with OA and reduce the need for sick leave. The number of people suffering from OA will significantly increase in the future, and maintaining work ability for this group is important to save direct and indirect costs for society. An increased physical activity level will promote health, quality of life and reduce the risk for sick leave as well as reduce costs for society due to sick leave, loss of productivity and health care and medication consumption. Guidelines for how persons with OA can be treated in primary health care will be developed to reduce the need for sick leave. This project is a good example of how innovative technological solutions can be used to develop evidence-based treatment models to improve health and work ability, and which can be effective as first line treatment of OA in Sweden. This project also contributes to the first line of treatment by providing continuous, personalised and timely intervention within the realm of education and health behavior change.

Preliminary results

There are no preliminary results.

Equipment

Commercially available accelerometer-based activity monitors (e.g. FitBit One) will be used to continuously acquire activity information during the working day. This data will be transferred to a smart phone via a specially developed application (App). This App will: 1) enable the acquisition of self-reported outcomes and general information; 2) store the acquired data on a secure server; 3) enable the participant to view current and previous activity level information; 4) provide personalized and timely IIPs according to participant's goals, activity and history (using the proposed decision support system). Participants will also be able to access their own information stored in the server via a web-portal. Researchers will have access to participants' activity and self-reported outcome information as well as which IIPs were suggested by the decision support system.

National cooperation

The researchers in the project are included in the Lund University Network for Osteoarthritis Research and Development (LOAD), hosted at the Department of Orthopaedics at Lund University. Within LOAD physicians, biochemists, physiotherapists, radio physicists and biomechanical researchers work together to advance state of the art knowledge and treatment of OA. Lund University can therefore greatly contribute to Active@Work.

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Min ansökan är tvärvetenskaplig

☐

Ett tvärvetenskapligt forskningsprojekt definieras i denna utlysning som att det för sitt genomförande behöver sakkunskaper, metoder, terminologi, data samt forskare från fler än ett av Vetenskapsrådets ämnesområden medicin och hälsa, naturvetenskap och teknikvetenskap, humaniora och samhällsvetenskap samt utbildningsvetenskap. Om ditt forskningsprojekt är tvärvetenskapligt enligt denna definition anger och redogör du för detta här.

Klicka här för vidare instruktioner

Jag är projektledare för ett pågående fritt projektbidrag inom området Medicin och hälsa för vilket Vetenskapsrådets utbetalning av medel pågår t o m 2016

☐

Aktivitetsgrad i projektet*

	Roll i projektet	Namn	Procent av heltid
1	Projektledare	Frida Eek	20
2	Medverkande forskare	Eva Ekvall-Hansson	10
3	Medverkande forskare	Kjerstin Stigmar	10
4	Medverkande forskare	Anita Sant'Anna	20
5	Medverkande forskare	Gunvor Gard	10

Löner inklusive sociala avgifter

	Roll i projektet	Namn	Procent av lönen
1	Projektledare	Frida Eek	20
2	Medverkande forskare	Eva Ekvall Hansson	10
3	Medverkande forskare	Kjerstin Stigmar	10
4	Övrig ej disputerad personal	Doktorand	100
5	Medverkande forskare	Anita Sant'Anna	20
6	Övrig ej disputerad personal	Tekniker	20
7	Medverkande forskare	Gunvor Gard	10

Totalt

	2017	2018	2019	Totalt
1	173 280	178 022	182 400	533 702
2	89 194	93 389	95 760	278 343
3	77 520	79 526	82 080	239 126
4	474 240	485 184	510 720	1 470 144
5	145 920	153 216	160 512	459 648
6	100 000	100 000	100 000	300 000
7	103 603	106 704	109 440	319 747
Totalt	1 163 757	1 196 041	1 240 912	3 600 710

Övriga kostnader

Lokaler

	Typ av lokal	2017	2018	2019	Totalt
1	Hyror kontor	50 000	54 000	55 000	159 000
	Totalt	50 000	54 000	55 000	159 000

Driftskostnader

	Driftskostnader	Beskrivning	2017	2018	2019	Totalt
1	IKT	Data support och program	50 000	50 000	50 000	150 000
2	Resor	Resor för möten	4 000	4 000	5 000	13 000
3	Konferenser	Deltagande vid konferenser	30 000	40 000	40 000	110 000
4	Etikprövning	Avgift	5 000			5 000
5	Utrustning	framtagning och inköp av teknisk utrustning	350 000			350 000
	Totalt		439 000	94 000	95 000	628 000

Avskrivningar utrustning

	Avskrivning	Beskrivning	2017	2018	2019

Total kostnad för projektet

Total budget*

	Specificerade kostnader	2017	2018	2019	Totalt, sökt	Annan kostnad	Total kostnad
1	Löner inkl. sociala avgifter	1 163 757	1 196 041	1 240 912	3 600 710		3 600 710
2	Driftskostnader	439 000	94 000	95 000	628 000		628 000
3	Avskrivningar utrustning				0		0
4	Lokaler	50 000	54 000	55 000	159 000		159 000
5	Delsumma	1 652 757	1 344 041	1 390 912	4 387 710	0	4 387 710
6	Indirekta kostnader	330 552	268 808	278 182	877 542		877 542
7	Total projektkostnad	1 983 309	1 612 849	1 669 094	5 265 252	0	5 265 252

Motivering av sökt budget*

The project is expected to run for three years. Application to FORTE has also been made, no decision yet. The budget includes salary for the researchers included in the project, one PhD-student and one technician. The budget also includes costs for accelerometers, developing the application and web-site. Normally, the time for a full-time PhD-student to perform a thesis is four years and this project runs for three years. Lund University and Halmstad University usually fund PhD-students in their latter part of their studies by granting so-called "doktorandmånader" and we thereby expect the PhD-students to have possibilities to complete their education in four years.

In the budget, costs for office-rent, computers and programmes are also included and is requisite for the researchers included.

Salarys:

Frida Eek: Is the PI of the project and coordinates the whole project. Frida will be main supervisor of the PhD-student in the project.

Eva Ekvall Hansson: Is senior researcher in the project and contributes with knowledge from primary health care, OA and patient education. Eva will be co-supervisor of the PhD-student in the project.

Kjerstin Stigmar: contributes with knowledge from the field of health in the work-place and from OA. Will be co-supervisor of the PhD-student.

Gunvor Gard: Is a senior researcher in the project and will contribute in 2017 and 2018 with knowledge about behaviour change.

Anita San't Anna: Is participating from Halmstad University and has the technical knowlegde concerning accelerometers and applications in smartphones. Anita will be main responsible for developing the equipment in the project.

Technician: will be employed if the project gets funding and will develop application and web-site.

PhD-student in Lund: Will be recruited if the project gets funding. Will participate in the randomized controlled trial

Office rents: Offices are necessary

Running expences:

Statistical software such as SPSS will be necessary as well as computers for PhD-students and researchers, in order to perform analyses of data. The researcher in the project will have to have some meetings during the project which will generate costs.

Results from the project will be delivirede to other researchers at conferences and in scientific papers.

Cost for application to the Regional Ethical Review Board is 5 000 SEK and the project can not start without approval.

The intervention in the project comprise of technical equipment in the form of accelerometers, application for smartphones and a web-site and cost for obtaining accelerometers and developing application and web-site are necessary.

Annan finansiering för detta projekt

	Finansiär	Sökande/projektledare	Typ av bidrag	Status	Dnr eller motsv.
1	FORTE	Eva Ekvall Hansson	Forskningsanslag	Sökt	2016-00758
Totalt					

	2017	2018	2019	Totalt
1	1 824 445	1 432 266	1 498 575	4 755 286
Totalt	1 824 445	1 432 266	1 498 575	4 755 286

Publikationer (pdf)*

Se nästa sida för bilaga.

Frida Eek

Maiden name Carlsson
(11 years included due to parental leave: 16 months 2009-2010, 18 months 2012-2013)

1. Peer-reviewed original articles

2005-2007

Carlsson F, Karlson B, Orbaek P, Osterberg K, Ostergren PO. Prevalence of annoyance attributed to electrical equipment and smells in a Swedish population, and relationship with subjective health and daily functioning. Public Health. 2005;119(7):568-77.

Carlsson Eek F, Garde AH, Hansen AM, Persson R, Ørbæk P, Karlson B. The Cortisol Awakening Response – an exploration of intra- and interindividual variation. Scand J Work Environ Health. 2006;32(Suppl 2):15-21.

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Halford, C.,Jonsdottir, I., & **Eek, F.** (2011b). Perceived stress, psychological resources and salivary cortisol. In U. Lundberg, P. Garvin & M. Kristenson (Eds.), The role of saliva cortisol measurement in health and disease: Bentham Science Publishers. eISBN 978-1-60805-342-1

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Eva Ekvall Hansson

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International Journal of Rehabilitation Research 2008 Mar;31(1):51-57.

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Gerthi Persson, Amina Jama Mahmud, **Eva Ekvall Hansson**, Eva Lena Strandberg. Somali women´s view of physical activity – a focus group study. BMC Women's Health 2014, 14:129.

Ekvall Hansson E, Troein M, Beckman A. Quality of Research Projects in Medical Education – Does Extended Time Lead to Higher Quality? Education 2015; 5(1): 20-25 doi:10.5923/j.edu.20150501.04

Larsson J, **Ekvall Hansson E**, Miller M. Increased double support variability in elderly female fallers with vestibular asymmetry. Gait Posture. 2015 Mar 9. pii: S0966-6362(15)00067-3. doi: 10.1016/j.gaitpost.2015.02.019. [Epub ahead of print]

Ekvall Hansson E, Beckman A, Persson LL. Does a mineral wristband affect balance? A randomized, controlled, double-blind study. J Otolaryngol-Head-Neck Surg. (2015) 44:26 DOI 10.1186/s40463-015-0079-1

*Rocca P, Beckman A, **Ekvall Hansson E**, Ohlsson H. The correlation of physical activity, self-rated health and socioeconomic status in healthcare utilisation - a logistic regression model. BMC Public Health.(2015) 15:737

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Ekvall Hansson E. Dizziness: vertigo, disequilibrium and lightheadedness. International Journal of Medical and Biological Frontiers 2010;16(1-2):41-48.

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Ekvall Hansson E. 2009. Dizziness: vertigo, disequilibrium and lightheadedness. In: Lindqvist A, Nyman G, editors. Dizziness: vertigo, disequilibrium and lightheadedness. Nova Science Publication 2009 Hauppauge, NY.

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Yrsel, utredning och handläggning. (**Eva Ekvall Hansson** redaktör) Läkartidningens förlag 2011.

8. Popular science publications including books/presentations

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Yrselsymposium. Moderator och ansvarig för programmet vid symposium anordnat av Läkartidningen, Stockholm 2013-04-25.

Gammal och yr. Presentation vid den nationella konferensen ”Fysioterapi” Stockholm 2015.

Kjerstin Stigmar

1. Peer-reviewed original articles

*Forsbrand M, Grahn B, **Stigmar K**, Hill J, Post Sennehed L, Petersson IF. Validation of the Swedish Version of the Start Back Tool against the Short Version of the Örebro Musculoskeletal Pain Screening Questionnaire in Patients with Back and/or Neck Pain in Primary Health Care. Annals of the Rheumatic Diseases 74 (suppl2):1319.2-1319. June 2015.

***Stigmar K.** Clinician Reported Outcomes Measures, CROMs, in RMDS. Annals of the Rheumatic Diseases 74(Suppl 2):21.2-21 June 2015.

Stigmar K, Ekdahl C, Borgquist L, Grahn B. How do physiotherapists perceive their role in work ability assessments? A prospective focus group study. Primary Health Care Research and Development 2014; 15: 268-276.

***Stigmar K**, Petersson IF, Jöud A, Grahn BE. Promoting work ability in a structured national rehabilitation program in patients with musculoskeletal disorders: outcomes and predictors in a prospective cohort study. BMC Musculoskeletal Disorders 2013 Feb 6; 14:57.

Stigmar K, Ekdahl C, Grahn B. Work Ability- concept and assessment from a physiotherapeutic perspective. An interview study. Physiotherapy Theory and Practice 2012; 28:344-354.

Stigmar K, Ekdahl C, Grahn B. Work Ability- experiences and perceptions among physicians. Disability and Rehabilitation 2010; 21:1780-1790.

2. Fackgranskade konferensbidrag (Peer-reviewed conference contributions) *vars resultat inte finns i andra publikationer*

Post Sennehed C, Holmberg S, **Stigmar K,** Forsbrand M, Petersson IF, Grahn B. Health care provider factors impact on referring rate to multimodal rehabilitation for patients with musculoskeletal pain in primary health care. Back and Neck Pain Forum, Buxton, juni 2016.

Bondesson E, **Stigmar K**, Jöud A, Petersson IF, Schelin M. REGASSA-REG- registerbaserad långtidsuppföljning av vård- och läkemedelskonsumtion efter intervention för psykisk ohälsa. FORTE TALKS, Stockholm, 2016.

Kwak L, Wåhlin C, **Stigmar K**, Hermansson U, Jensen I. Development of occupational health practice guidelines: a Swedish model. NES- Nordiska Ergonomisällskapet, Lillehammer, 2015.

Post Sennehed C, Axén I, Holmberg S, Petersson IF, Forsbrand M, **Stigmar K**, Grahn B. SMS-uppföljning av ryggpatienter med fokus på sjukfrånvaro, prestation i arbete och på fritid. Fysioterapi 2015, Stockholm, 2015.

Jensen K, Wåhlin C, **Stigmar K,** Kwak L, Riktlinje vid psykisk ohälsa- primär, sekundär och tertiär prevention. Fysioterapi 2015, Stockholm, 2015.

Pálsdóttir A M, Andersson G, Grahn P, Norrving B, Kyrö-Wissler S, **Stigmar K**, Petersson IF, Péssàh Rasmussen H. A randomized controlled trial of nature-based post-stroke fatigue rehabilitation, The Nature Stroke Study (NASTRU): study design and progress report. EOS-European Stroke Congress, Glasgow, 2015.
Stigmar K, Grahn B. Introducing insurance medicine in physiotherapy practice and education. WCPT- World Confederation for Physiotherapy Congress, Singapore, 2015.

Grahn B, **Stigmar K,** Forsbrand M, Post Sennehed C, Gard G, Holmberg S, Petersson I. WorkUp – Structured care in physiotherapy practice including workplace interventions to improve work ability in patients with neck and/or back pain. WCPT- World Confederation for Physiotherapy Congress, Singapore, 2015.

Kyrö Wissler S, Pálsdóttir A M, Hallgårde U, Grahn B, Petersson I F, **Stigmar K**, Grahn P. Nature-based rehabilitation in primary health care- theoretical and practical model, description and consideration. EUMASS- the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Stigmar K, Petersson IF, Jöud A, Nyberg A, Grahn B. Increased employment rate after multimodal rehabilitation, in patients with no prior sick leave. EUMASS- the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Kyrö Wissler S, **Stigmar K,** Pálsdottier A M, Grahn B, Hallgårde U, Grahn P, Petersson IF. Nature-based rehabilitation in primary health care in patients with stress related mental illness. Accepted for poster presentation, EUMASS- the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Stigmar K, Gedeborg-Nilsson C, Schau R**,** Hallgårde U, Petersson I F. Arts and culture in rehabilitation improves health related quality of life. EUMASS- the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Post Sennehed C, Axén I, **Stigmar K**, Holmberg S, Petersson IF, Nyberg A, Grahn B. WorkUp- Weekly text-messages follow-up of sick leave, work ability and productivity for back pain patients. EUMASS- the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Jensen I, Kwak L, **Stigmar K**, Wåhlin C. Researchers and practitioners together in developing clinical low back pain guidelines in Occupational Health Services. EUMASS- the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Grahn B, **Stigmar K,** Holmberg S, Jöud A, Croft P R, Hill J, Gerdtham U, Karlsson B, Harms-Ringdahl K, Jensen I, Gard G, Rivano Fischer M, Thulesius H, Johansson A-C, Larsson M EH, Petersson IF. WorkUp. Early structured care with or without workplace intervention to improve work ability in patients with neck, shoulder and/or low back pain- A prospective pare wise cluster randomized controlled trial in primary health care. EUMASS-the European Union of Medicine in Assurance and Social Security, Stockholm, 2014.

Grahn B, **Stigmar K.** Arbetsförmåga (abstract submission).
Work shop, Sjukgymnastdagarna, Stockholm 2011.

Stigmar K, Knutsson U. Coping strategies in work related stress- a group centred method with focus on behavioural change (abstract submission).
Work shop, International Congress for Physiotherapy in Psychiatric and Mental Health, Lund, Sweden, 2010.

5. Books and book chapters

*Petersson IF, Grahn B, **Stigmar K.** Chapter 23. Clinician reported outcome measures-experiences from multicentre follow-up and overview of commonly used measures in vocational rehabilitation and disability evaluation. I: Escorpizo R, Brage S, Homa D, Stucki G (Redaktörer). Contemporary issues in vocational rehabilitation and disability evaluation. Application and implementation of the ICF. Schweiz: Springer International Publishing; 2015.

8. Popular scientific presentations/reports

Post Sennehed L, Nyberg A, Holmberg S, **Stigmar K,** Petersson I, Forsbrand M, Hallgårde U, Grahn B. Multimodal smärtrehabilitering. Vårdgivarrelaterade faktorers betydelse för remittering till smärtrehabilitering. Region Skåne, 2015.
Hubertsson J, **Stigmar K,** Petersson I. Stöd för rätt sjukskrivning. Bilaga 2. Förstudierapport Stöd för rätt sjukskrivning. Litteraturöversikt vetenskaplig litteratur.

*Kwak L, Andersson B, Berndtsson A, Bonnevier H, Dahlgren M, Eurén-Petersson C, Kjellin L-G, Lehman L, Norberg S, Nordanstad N, Rydbeck J, Skiöld Å, **Stigmar K,** Ström A, Uppgren B, Ivarsson Walther R. Riktlinjer för hälsoundersökningar via arbetsplatsen. En sammanställning av företagshälsovårdens riktlinjegrupp 3/2015. Karolinska Institutet, 2015.

Jensen I, Wåhlin C, Dahlgren M, Hjalmarsson L, Ziemelis S, Blomquist P, Hagström R, Berndtsson A, Nordrup E, Ivarsson R, McKeogh M, Carlstedt-Duke B, **Stigmar K,** Rahm L, Eden L. Riktlinjer vid ländryggsbesvär. En sammanställning av företagshälsovårdens riktlinjegrupp. Karolinska Institutet, 2013.

Grahn B, **Stigmar K**, Wåhlin C, Kjellberg K, Ljungquist T. Forskning pågår: Arbetsförmåga. Särtryck Fysioterapi 05-2012 och 06-2012. Tillgänglig från: http://www.fysioterapi.se/show.asp?si=910#. Citerad: 2014-04-14.

Nyberg A, Grahn B, **Stigmar K**, Strid C, Petersson IF. Rehabiliteringsgarantin i Region Skåne. Strategisk utveckling och utvärdering av behandlingsmodeller samt uppföljning av behandlingsresultat, Region Skåne 2011.

Nyberg A, Grahn B, **Stigmar K**, Strid C, Petersson IF. Rehabiliteringsgarantin i Region Skåne. I: Busch H, Bonnevier H, Hagberg J, Lohela Karlsson M, Bodin L, Norlund A, Jensen I. En nationell utvärdering av rehabiliteringsgarantins effekter på sjukfrånvaro och hälsa. Slutrapport, del I. Enheten för interventions- och implementeringsforskning, Institutet för miljömedicin (IMM). Karolinska Institutet. Stockholm 2011.

Anita Sant'Anna

1. Peer-reviewed original articles

***A. Sant'Anna**, A. Salarian, N. Wickström (2011). A new measure of movement symmetry in early Parkinson's disease patients using symbolic processing of inertial sensor data. *IEEE Transactions on Biomedical Engineering*, 58(7), pp. 2127-2135.

***A. Sant'Anna**, N. Wickström (2010). A Symbol-Based Approach to Gait Analysis From Acceleration Signals: Identification and Detection of Gait Events and a New Measure of Gait Symmetry. *IEEE Transactions on Information Technology in Biomedicine*, 14(5), pp. 1180-1187.

A. Sant'Anna, W. Ourique de Morais, N. Wickström (2008). Gait Unsteadiness Analysis from Motion Primitives. *Gerontechnology: International Journal on the Fundamental Aspects of Technology to Serve the Ageing Society*, 7(2), pp. 204.

W. Ourique de Morais, **A. Sant'Anna**, N. Wickström (2008). A Wearable Accelerometer Based Platform to Encourage Physical Activity for the Elderly. *Gerontechnology: International Journal on the Fundamental Aspects of Technology to Serve the Ageing Society*, 7(2), pp. 129-181.

2. Fackgranskade konferensbidrag (Peer-reviewed conference contributions), vars resultat inte finns i andra publikationer.

W. Taha, A. Duracz, Y. Zeng, K. Atkinson, F. A. Bartha, P. Brauner, J. Duracz, F. Xu, R. Cartwright, M. Konecny, E. Moggi, J. Masood, P. Andreasson, J. Inoue, **A. Sant'Anna**, Roland Philippsen, A. Chapoutot, M. O'Malley, A. Ames, V. Gaspes, L. Hvatum, S. Mehta, H. Eriksson, C. Grante (2015) Acumen: An Open-source Testbed for Cyber-Physical Systems Research. *Proceedings of EAI International Conference on CYber physiCaL systems, IoT and sensors Networks*, 2015

H. Nemati, **A. Sant'Anna**, S. Nowaczyk (2015). Reliability Evaluation of Underground Power Cables with Probabilistic Models. *Proceedings of the International Conference on Data Mining* (DMIN). 2015.

H. Nemati, **A. Sant'Anna**, S. Nowaczyk (2014). Overview of Smart Grid Challenges in Sweden. *28th annual workshop of the Swedish Artificial Intelligence Society* (SAIS), Stockholm, Sweden, May 22-23, 2014.

***A. Sant'Anna** (2014). Activity monitoring as a tool for person-centered care: Preliminary report. *IEEE International Conference on Bioinformatics and Biomedicine* (BIBM), *Workshop The Role of Quantified Self for Personal Healthcare* (QSPH) 2014.

T. Taheri, **A. Sant'Anna** (2014). Non-invasive breathing rate detection using a very low power ultra-wide-band radar. *IEEE International Conference on Bioinformatics and Biomedicine* (BIBM), 2014.

A. Sant'Anna, R. Bass (2014). A New Two-Degree-of-Freedom Space Heating Model for Demand Response. *Proceeding of the 3rd International Conference on Smart Grids and Green IT Systems* (SMARTGREENS) 2014.

***A. Sant'Anna**, N. Wickström, R. Zügner, R. Tranberg (2012). A wearable gait analysis system using inertial sensors Part I: evaluation of measures of gait symmetry and normality

against 3D kinematic data. *Proceedings of the International Conference on Bio-inspired Systems and Signal Processing* (BIOSIGNALS). Vilamoura, Algarve, Portugal, 1-4 February, 2012.

***A. Sant'Anna**, N. Wickström, H. Eklund, R. Tranberg (2012). A wearable gait analysis system using inertial sensors Part II: Evaluation in a clinical setting. *Proceedings of the International Conference on Bio-inspired Systems and Signal Processing* (BIOSIGNALS). Vilamoura, Algarve, Portugal, 1-4 February, 2012 (**Best Paper Award**).

A. Sant'Anna, N. Wickström (2011). Symbolization of time series: an evaluation of SAX, persist, and ACA. *Proceedings of the 4th International Congress on Image and Signal Processing* (CISP). Shanghai, China, 15-17 October, 2011.

A. Sant'Anna, N. Wickström (2010). A linguistic approach to the analysis of accelerometer data for gait analysis. *Proceedings of the seventh International Conference on Biomedical Engineering* (IASTED). Innsbruck, Austria, February 17-19, 2010.

A. Sant'Anna, N. Wickström (2009). Developing a Motion Language: Gait Analysis from Accelerometer Sensor Systems. *Proceedings of the 7th International Conference on Pervasive Computing Technologies for Healthcare*. London, UK, April 1-3, 2009.

5. Böcker och bokkapitel (Books and book chapters)

A. Sant'Anna, N. Wickström, H. Eklund, R. Zügner, R. Tranberg (2013). Assessment of gait symmetry and gait normality using inertial sensors: in-lab and in-situ evaluation. *Biomedical Engineering Systems and Technologies*. Springer Berlin Heidelberg.

A. Sant'Anna, N. Wickström (2013). Symbolic Approach to Motion Analysis: Framework and Gait Analysis Case Studies. *Telehealthcare Computing and Engineering.* SCIENCE PUBLISHERS/CRC PRESS, Boca Raton, FL, USA.

A. Sant'Anna (2012). A symbolic approach to human motion analysis using inertial sensors: framework and gait analysis study. Halmstad University, 2012. ISBN: 978-91-87045-01-1

Gunvor Gard

1. Peer-reviewed original articles

Gard G, Dagis D. Physiotherapy students´perceptions of learning in clinical practice in Sweden and India. Nurse Education Today,2016;36,381-386

Skytte Kröll L, Sjödahl Hammarlund C, Jensen R,**Gard G**. Migraine, co-existing tension-type headache and neck pain. Validation of questionnaires. Scandinavian Journal of Pain 2015;8:10-16.

Lindqvist AK, Kostenius C, **Gard G**, Rutberg S. Parent participation plays an important part in promoting physical activity. Int J Qual Stud Health Well-being. 2015 Aug 14;10:27397. doi: 10.3402/qhw.v10.27397.

Areskoug-Josefsson, K.& Gard, G Physiotherapy as a promoter of sexual health. Physiotherapy Theory and Practice. 2015: 31(6):390-395

Areskoug-Josefsson K, **Gard G**. Sexual health as a part of Physiotherapy: the voices of Physiotherapy students. Sexuality and Disability, published online 2015-06-03.DOI 10.1007/s11195-015-9403-y

Skjerven L, **Gard G**, Sundal M, Strand L-I. Reliability and validity of the Body Awareness Rating Scale (BARS), an observational assessment tool for movement quality. European Journal of Physiotherapy 2015, 17:1, 19-28.

Mattsson M, Boström C, Mihai C, Stöcker J, Geyh S, Stummvoll G, **Gard G**, Möller B, Hesselstrand R, Sandqvist G, Draghicescu O, Gherghe AM, Voicu M, Distler O, Smolen JS, Stamm T. Personal factors in systemic sclerosis and their coverage by patient-reported outcome measures: A multicentre European qualitative study and literature review. Eur J Phys Rehabil Med. 2015 Aug;51(4):405-21.

Praestegaard J, **Gard G**, Glasdam S. Physiotherapy as a disciplinary institution in modern society – A Foucauldian perspective on physiotherapy in Danish private practice. Physiotherapy Theory and Practice, 2015 Jan;31(1):17-28.

*Lindqvist AK, Mikaelsson K, Westerberg M, **Gard G**, Kostenius C .Moving from idea to action: promoting physical activity by empowering adolescents. Health Promot Pract. 2014 Nov;15(6):812-8. doi: 10.1177/1524839914535777. Epub 2014 May 30.

Lindkvist A-K, Kostenius C,**Gard G**.Fun, Feasible, and Functioning. Students' Experiences of a Physical Activity Intervention, European Journal of Physical Therapy, 2014; Early online 1-7.ISSN 2167-9169

Oscarsson Kjellstrand C, **Gard G**.Psychosocial Health and Workability among Staff Working with People with Cognitive Restrictions and Intellectual Disabilities. Health 2014,6,2481-2489.

Björklund, C., Erlandsson, L-K., Lilja, M., & **Gard G**.Temporal Patterns of Daily Occupations Related to Older Adults' Health in Northern Sweden, Journal of Occupational

Science, published on-line 2013, 14427591.2013.790666
DOI:10.1080/14427591.2013.790666

Larsson A, Karlqvist L, Westerberg M, **Gard G**. Perceptions of health and risk management among home care workers in Sweden, Physical Therapy Reviews, 2013,18,5:336-343

Tornoe B., Andersen L.L., Skotte J.H., Jensen R., **Gard G**., Skov L., Hallström I. Reduced neck-shoulder muscle strength and aerobic power together with increased pericranial tenderness are associated with tension-type headache in girls: A case- control study. Cephalalgia, 2013; 1-8. DOI: 10.1177/0333102413515341

Tornoe B., Andersen L.L., Skotte J.H., Jensen R., **Gard G**., Skov L., Hallström I. Test-Retest repeatability of strength capacity, aerobic power and pericranial tenderness of neck and shoulder muscles in children- relevant for tension-type headache. Journal of Pain Research 2013; 6:1-9

Nordin C, **Gard G**, Fjellman-Wiklund A. Being in an exchange process: Experiences of patient participation in multimodal rehabilitation. Journal of Rehabilitation Medicine 2013,45,580-586

Praestegaard J, **Gard G**, Glasdam S. Practicing physiotherapy in Danish private practice: an ethical perspective Med Health Care and Philos (2013) 16:555–564

Areskoug-Josefsson K, Ekdahl C, Jakobsson U, **Gard G**. Swedish version of the multidimensional health assessment questionnaire – translation and psychometric evaluation. BMC Musculosceletal Disorders 2013;14:178-80

Areskoug-Josefsson K, Ekdahl C, Jakobsson U, **Gard G**. Detecting decreased sexual health with MDHAQ-S. Health 2013,5:38-47.

Palstam A, **Gard G**, Mannerkorpi K. Factors promoting sustainable work in women with fibromyalgia. Disabil Rehabil, 2013; 35(19): 1622–1629

*Lindqvist AK1, Kostenius C, **Gard G**."Peers, parents and phones"--Swedish adolescents and health promotion. Int J Qual Stud Health Well-being. 2012;7. doi: 10.3402/qhw.v7i0.17726. Epub 2012 Jun 18.

Mannerkorpi K, **Gard G**. Hinders for work among persons with fibromyalgia. BMC Musculoskeletal Disorders 2012,13:96-108

*Erlandsson LK,Carlsson G, Horstmann V, **Gard G**,Holmström E. Health factors in the everyday life and work of public sector employees in Sweden. Work 2012;42:321-330

Karlqvist L, **Gard G**. Ergonomic conditions and health at gender segregated workplaces. The Ergonomics Open Journal, 2012, 5:10-18.

Larsson A, Karlqvist L, Westerberg M, **Gard G**. Identifying work ability promoting factors for home care aides and assistant nurses. BMC Musculoskeletal Disorders, 2012, 13.

Areskoug Josefsson K, **Gard G**. Sexual health in patients with Rheumatoid Arthritis: Experiences, Needs and Communication with health Care professionals. Musculosceletal Care 2012:jun, 10(2);76-89

Praestegaard J, **Gard G**. The perceptions of Danish physiotherapists on the ethical issues related to the physiotherspist-patinet relationship during the first physiotherapy session: A phenomenological approach.BMC Medical Ethics 2011,12:21-32

Stamm, T. A., Mattsson, M. , Mihai, C., Stöcker, J., Binder, A., Bauernfeind, B., Stumvoll, G., **Gard, G.** , Hesselstrand, R., Sandqvist, G., Draghicescu, O., Gherghe, A. M., Voicu, M., Machold, K. P., Distler, O., Smolen, J. S. & Boström, C. Concepts of functioning and health important to people with systemic sclerosis: a qualitative study in four European countries. Annals of the Rheumatic Diseases , 2011; 70, 6: 1074-1079

Tibaek S, **Gard G**, Klarskov P, Iversen H, Dehlendorff C, Jensen R. Are Activity Limitations associated with Lower Urinary Tract Symptoms (LUTS) in Stroke Patients? Accepted for publication in Scandinavian Journal of Urology and Nephrology, 2010

Larsson I, Liljedahl K,**Gard G**. Physiotherapists´experiences of client participation in physiotherapy interventions: A phenomenographic study. Advances in Physiotherapy 2010; early online,1-7

Helvik Skjerven L, Kristoffersen K, **Gard G**. How Can Movement Quality Be Promoted in Clinical Practice? A Phenomenological Study of Physical Therapist Experts. Physical Therapy 90:1479-1492,2010

Areskoug Josefsson K, **Gard G**. Women´s experiences of sexual health when living with Rheumatiod Arthritis – an explorative qualitative study. BMC Muskuloskeletal Disorders 11:240-247,2010

Romé Å, Persson U, Ekdahl C, **Gard G**. Willingness to pay for health improvements of physical activity on prescription. Scandinavian Journal of Public Health 2010;38:151-159

Stahlhut M, **Gard G.** Aadahl M, Christensen J Discriminative validity of the Danish version of Pediatric Evaluation of Disability Inventory (PEDI) (WPOP-2009-0033). Physical & Occupational Therapy i Pediatrics. Early online 2010,http://informahealthcare.com/potp

Svensson-Dahlgren A, **Gard G**. Soft values with hard impact. A review of stress reducing interventions on group and organisational level. Physical Therapy Reviews 2009;14,6:369-381

*Romé Å, Persson U, Ekdahl C, **Gard G**. Physical activity on prescription (PAP). Costs and consequences of a randomised, controlled trial in primary health care. Scandinavian Journal of Primary Health Care, 2009;27(4):216-22. doi: 10.3109/02813430903438734

Persson A, Veenhuizen H, Zachrison L and **Gard G**.Relaxation as treatment for chronic musculoskeletal pain – a systematic review of randomised controlled studies. Physical Therapy reviews 2008; vol 13,no 5:355-365.

Eriksson L, Lindström B, **Gard G** & Lysholm J. Physiotherapy at a distance: a controlled

study of rehabilitation at home after a shoulder joint operation. Journal of Telemedicine and Telecare 2009 1-6. DOI: 10.1258/jtt.2009.081003

Tibaek S, **Gard G**, Klarskov P, Iversen H, Dehlendorff C, Jensen R. Are Activity Limitations associated with Lower Urinary Tract Symptoms (LUTS) in Stroke Patients? Scandinavian Journal of Urology and Nephrology, 2009:1-7 first article

Grahn G, **Gard G**. Content and concurrent validity of the Motivation for Change Questionnaire. Journal of Occupational Rehabilitation 2008;18:68-78

Hansson L,Sperling L**,Gard G**,Ipsen S,Olivares Vergara C. Swedish anthropometrics for product and workplace design. Applied Ergonomics 2008,doi 10.1016/j.apergo.2008.08.007

Skjerven L, Kristoffersen K, **Gard G**. An eye for movement quality - a phenomenological study of movement quality reflecting a group of physiotherapists` understanding of the phenomenon. Physiotherapy Theory and Practice 2008; 24 (1):13-27

Melander Wikman, A., Faltholm, Y. & **Gard, G**. (2006) Safety versus Privacy – Elderly Persons experiences of a Mobile Safety Alarm. Health Soc Care Community, 2008 jul 16(4):337-46

Mattsson M, Möller B, Lundberg I, **Gard G**, Boström C. Reliability and validity of Fatigue Severity Scale in Swedish for patients with Systemic Lupus Erythematosus .Scandinavian J Rheumatology 2008 jul-aug 37(4):269-77

Hansson L, Sperling L,**Gard G**. Swedish anthropometrics for product and workplace design. Applied Ergonomics 2008 oct 31. PMID 18977470. E-publ.

Larsson A, Karlqvist L, **Gard G**. Effects of work ability and health promoting interventions for women with musculoskeletal symptoms. A 9-months prospective study. BMC Musculoskeletal disorders 2008;9:105 doi 10.1186/1471-2474-9-105

Gard G, Persson Relaxation as treatment for chronic musculoskeletal pain – a systematic review of randomized controlled studies. Physical Therapy Reviews,2008, vol 13,no 5: 355-362

Winkel A,Ekdahl C, **Gard G**. Early discharge to therapy-based rehabilitation at home in patients with stroke: a systematic review. Physiotherapy Reviews,2008;13,3:167-187.

Persson A, Veenhuizen H, Zachrison L and **Gard G**. Relaxation as treatment for chronic musculoskeletal pain – a systematic review of randomised controlled studies. Physical Therapy reviews 2008;vol 13,no 5:355-365.

5. Peer reviewed books

***Gard, G**.&Melander-Wikman, A. E-hälsa – innovationer, metoder, interventioner och perspektiv. Studentlitteratur, 2012

Gard G. "Focus on Psychological Factors and Body Awareness in Multimodal Musculoskeletal Pain Rehabilitation". Chapter published in Ed.Bettany-Saltikov and Paz-Lourido " Physical Therapy Perspectives in the 21st Century - Challenges and Possibilities",2014, ISBN 978-953-51-0459-9

CV

CV - Frida Eek

Namn: Frida Eek
Födelsedatum: 19750430
Kön: Kvinna
Land: Sverige
Dr-examen: 2005-04-29
Akademisk titel: Docent
Arbetsgivare: Lunds universitet

Utbildning

Forskarutbildning

Examen	Organisation
Doktorsexamen, 30303. Arbetsmedicin och miljömedicin, 2005-04-29	Lunds universitet, Hälsovetenskaper 314500

Utbildning på grund- och avancerad nivå

År	Examen
2000	50101. Psykologi (exklusive tillämpad psykologi), Magisterexamen, Lunds universitet
1997	30307. Sjukgymnastik, Sjukgymnastexamen/motsv, Lunds universitet

Arbetsliv

Anställningar

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
september 2012 - Nuvarande	Lektor	25	Lunds universitet, Hälsovetenskaper 314500
juni 2005 - augusti 2012	Forskare	100	Lunds universitet, Laboratoriemedicin, Lund 314200
mars 2001 - juni 2005	Doktorand	100	Lunds universitet, Laboratoriemedicin, Lund 314200

Uppehåll i forskningen

Period	Beskrivning
2012-02-10 - 2013-09-02	Föräldraledig
2010-09-01 - 2012-02-10	Föräldraledig 30%
2009-04-25 - 2010-09-01	Föräldraledig

Meriter och utmärkelser

Docentur

År	Ämne	Organisation
2010	305. Annan medicin och hälsovetenskap	Lunds universitet

Bidrag erhållna i konkurrens

Period	Finansiär	Projektledare	Din roll	Totalt belopp (kr)
2008 - 2011	Forte	Frida Eek	Projektledare	1
2006 - 2008	Forte	Frida Eek	Projektledare	1

CV - Eva Ekvall-Hansson

Namn: Eva Ekvall-Hansson
Födelsedatum: 19620513
Kön: Kvinna
Land: Sverige
Dr-examen: 2006-04-26
Akademisk titel: Docent
Arbetsgivare: Lunds universitet

Utbildning

Forskarutbildning

Examen	Organisation
Doktorsexamen, 30299. Annan klinisk medicin, 2006-04-26	Lunds universitet, 314800 Allmänmedicin, Håkansson Anders

Utbildning på grund- och avancerad nivå

År	Examen
2002	30307. Sjukgymnastik, Magisterexamen, Lunds universitet
1983	30307. Sjukgymnastik, Sjukgymnastexamen/motsv, Lunds universitet

Arbetsliv

Anställningar

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
september 2011 - Nuvarande	Lektor	30	Lunds universitet, 314599 Sjukgymnastik, Gyllensten
januari 2002 - april 2006	Doktorand	50	Lunds universitet, 314800 Allmänmedicin, Håkansson Anders

Postdoktorvistelser

Period	Organisation	Ämne
maj 2002 - augusti 2011	Lunds universitet, 314801 Allmänmed och Samhällsmed, Troein	30224. Allmänmedicin

Meriter och utmärkelser

Docentur

År	Ämne	Organisation
2012	30307. Sjukgymnastik	Lunds universitet, 314599 Sjukgymnastik, Gyllensten

Handledda personer

År	Handledda personer	Roll
2014	Doktorand, Gerthi Persson, Lunds universitet	Huvudhandledare
2014	Doktorand, Anne Sundén, Lunds universitet	Huvudhandledare
2013	Doktorand, Katarina Sjögren Fors, Lunds universitet	Huvudhandledare
2007	Student, Björn Hassgård, Lunds universitet	Huvudhandledare

Bidrag erhållna i konkurrens

Period	Finansiär	Projektledare	Din roll	Totalt belopp (kr)
2016 - 2016	Magnus Bergvalls stiftelse	Eva Ekvall Hansson	Projektledare	70000
2016 - 2016	Sverige - Övriga privata utförare	Eva Ekvall Hansson	Projektledare	70000
2014 - 2014	Greta och Johans Kocks stifteöser	Eva Ekvall Hansson		48500
2013 - 2013	Stroke-riksförbund	Eva Ekvall Hansson		60000

CV - Kjerstin Stigmar

Namn: Kjerstin Stigmar
Födelsedatum: 19630515
Kön: Kvinna
Land: Sverige
Dr-examen: 2012-12-06
Akademisk titel: Doktor
Arbetsgivare: Lunds universitet

Utbildning

Forskarutbildning

Examen	Organisation	Avhandlingens titel (originalspråk)
Doktorsexamen, 30307. Sjukgymnastik, 2012-12-06	Lunds universitet, 314500 Inst för Hälsovetenskaper	Work ability- health professionals´perspectives and rehabilitation outcomes

Utbildning på grund- och avancerad nivå

År	Examen
2003	3. Medicin och hälsovetenskap, Ergonomi, rehabilitering, kvalitetssäkring och projektmetodik, Karolinska Institutet
1995	30307. Sjukgymnastik, Fördjupningsutbildning i sjukgymnastik 20 p, Lunds universitet
1988	30307. Sjukgymnastik, Sjukgymnastexamen/motsv, Uppsala universitet

Arbetsliv

Anställningar

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
februari 2013 - Nuvarande	Annan	20	Lunds universitet, 314500 Inst för Hälsovetenskaper
januari 2013 - Nuvarande	Postdoktor	21	Region Skåne, Epidemiologi och registercentrum syd
september 1998 - mars 2014	Annan	0	Växjö Kommun, Ocupational health services Växjö
oktober 2010 - december 2012	Doktorand	50	Lunds universitet, 314500 Inst för Hälsovetenskaper
januari 2005 - mars 2008	Doktorand	50	Lunds universitet, 314500 Inst för Hälsovetenskaper
augusti 1988 - augusti 1998	Annan	0	Region Kronoberg, Primary health care
januari 1988 - juli 1988	Annan	0	Akademiska sjukhuset, Sjukgymnastik

Meriter och utmärkelser

Handledda personer

År	Handledda personer	Roll	Antal
2020	Doktorand, Karin Sturesdotter Åkesson	Bihandledare	
2019	Doktorand, Elisabeht Bondesson	Bihandledare	
2018	Doktorand, Malin Forsbrand	Bihandledare	
2016	Student, Elin Östlind	Huvudhandledare	
2016	Student, Johanna Frisk	Huvudhandledare	
2013	Student, Annelies Dijk, Karolinska Institutet	Huvudhandledare	
	Student	Huvudhandledare	8

Bidrag erhållna i konkurrens

Period	Finansiär	Projektledare	Din roll	Totalt belopp (kr)
2015 - 2016	Kockska stiftelsen	Kjerstin Stigmar		100000
2013 - 2016	Sverige - Övriga statliga myndigheter	Birgitta Grahn		5499000

Övriga meriter

Period	Typ av merit	Beskrivning
2015	Inbjuden talar med finansiering	EULAR Congress 2015

CV - Anita Pinheiro Sant'Anna

Namn: Anita Pinheiro Sant'Anna
Födelsedatum: 19830828
Kön: Kvinna
Land: Sverige
Dr-examen: 2012-04-13
Akademisk titel: Doktor
Arbetsgivare: Högskolan i Halmstad

Utbildning

Forskarutbildning

Examen	Organisation	Avhandlingens titel (originalspråk)
Doktorsexamen, 20205. Signalbehandling, 2012-04-13	Högskolan i Halmstad, Akademin för informationsteknologi	A Symbolic Approach to Human Motion Analysis Using Inertial Sensors: Framework and Gait Analysis Study

Utbildning på grund- och avancerad nivå

År	Examen
2007	20299. Annan elektroteknik och elektronik, Civilingenjörsexamen/motsv, Universidade Federal de Santa Catarina

Arbetsliv

Anställningar

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
september 2013 - Nuvarande	Lektor	80	Högskolan i Halmstad, Akademin för informationsteknologi

Postdoktorvistelser

Period	Organisation	Ämne
juni 2012 - juni 2013	Högskolan i Halmstad, Akademin för informationsteknologi	20299. Annan elektroteknik och elektronik

Meriter och utmärkelser

Handledda personer

År	Handledda personer	Roll	Antal
2019	Doktorand, Maria Luiza Menezes, Högskolan i Halmstad	Bihandledare	
2018	Doktorand, Hassan Nemati, Högskolan i Halmstad	Bihandledare	
	Student	Huvudhandledare	9

Bidrag erhållna i konkurrens

Period	Finansiär	Projektledare	Din roll	Totalt belopp (kr)
2010 - 2012	Promobilia Stiftelsen	Anita Sant'Anna	Projektledare	200000

CV - Gunvor Gard

Namn: Gunvor Gard
Födelsedatum: 19500711
Kön: Kvinna
Land: Sverige
Dr-examen: 1990-05-15
Akademisk titel:
Arbetsgivare: Lunds universitet

Utbildning

Forskarutbildning

Examen	Organisation
Doktorsexamen, 30307. Sjukgymnastik, 1990-05-15	Luleå Tekniska Universitet

Utbildning på grund- och avancerad nivå

År	Examen
1977	30307. Sjukgymnastik, Sjukgymnastexamen/motsv, Karolinska Institutet
1972	30399. Annan hälsovetenskap, Psykologexamen/motsv, Uppsala universitet

Arbetsliv

Anställningar

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
juni 2011 - Nuvarande	Professor	40	Lunds universitet, Dept of Health Sciences
november 2004 - Nuvarande	Professor	40	Luleå Tekniska Universitet, Dept of Health Sciences
januari 1997 - juni 2011	Lektor	30	Lunds universitet, Dept of Health Sciences
maj 1990 - november 2004	Lektor	20	Luleå Tekniska Universitet, Dept of Health Sciences
oktober 1984 - maj 1990	Forskningsassistent	100	Luleå Tekniska Universitet, Inst för Hälsovetenskap

Period	Anställning	Del av forskning i anställningen (%)	Arbetsgivare
januari 1984 - oktober 1984	Forskningsassistent	50	Luleå Tekniska Universitet, Inst för Arbetsvetenskap
januari 1977 - december 1983	Annan	5	Primärvården i Norrbotten, Primärvården i Luleå

Postdoktorvistelser

Period	Organisation	Ämne
september 1990 - oktober 1990	Luleå Tekniska Universitet, Dept of Public Health, Canberra Australia	30307. Sjukgymnastik

Forskarutbyten

Period	Typ	Organisation	Ämne
november 2015 - november 2015	Gästforskare	Stanford University, Dept of Health Education	30307. Sjukgymnastik

Meriter och utmärkelser

Handledda personer

År	Handledda personer	Roll
2014	Doktorand, Åsa Romé, Lunds universitet	Huvudhandledare
2014	Doktorand, Jeanette Praestegaard, Lunds universitet	Huvudhandledare
2014	Postdok, Kristina Areskoug Josefsson, Lunds universitet	Huvudhandledare
2014	Doktorand, Birte Torne, Lunds universitet	Huvudhandledare
2014	Doktorand, Malin Mattsson, Luleå Tekniska Universitet	Huvudhandledare
2013	Doktorand, Kristina Areskoug Josefsson, Lunds universitet	Huvudhandledare
2012	Postdok, Sigrid Tibaek, Lunds universitet	Huvudhandledare
2011	Doktorand, Agneta Larsson, Luleå Tekniska Universitet	Huvudhandledare
2010	Doktorand, Ingalill Larsson, Lunds universitet	Huvudhandledare
2007	Doktorand, Sigrid Tibaek, Lunds universitet	Huvudhandledare

Bidrag erhållna i konkurrens

Period	Finansiär	Projektledare	Din roll	Totalt belopp (kr)
2015 - 2016	Sverige - Övriga statliga myndigheter	Gunvor Gard,Karin Zingmark	Projektledare	3000000
2010 - 2015	Sverige - Övriga statliga myndigheter	Gunvor Gard,Karin Zingmark		4600000

Övriga meriter

Period	Typ av merit	Beskrivning
2013	Ordinarie ledamot av Regionala Etiknämnden i Lund	Ordinarie ledamot 2007-2013

Publikationer

Publikationer - Frida Eek

Namn: Frida Eek	**Dr-examen:** 2005-04-29
Födelsedatum: 19750430	**Akademisk titel:** Docent
Kön: Kvinna	**Arbetsgivare:** Lunds universitet
Land: Sverige	

Eek, Frida har inte lagt till några publikationer till ansökan.

Publikationer - Eva Ekvall-Hansson

Namn: Eva Ekvall-Hansson	**Dr-examen:** 2006-04-26
Födelsedatum: 19620513	**Akademisk titel:** Docent
Kön: Kvinna	**Arbetsgivare:** Lunds universitet
Land: Sverige	

Ekvall-Hansson, Eva har inte lagt till några publikationer till ansökan.

Publikationer - Kjerstin Stigmar

Namn: Kjerstin Stigmar	**Dr-examen:** 2012-12-06
Födelsedatum: 19630515	**Akademisk titel:** Doktor
Kön: Kvinna	**Arbetsgivare:** Lunds universitet
Land: Sverige	

Stigmar, Kjerstin har inte lagt till några publikationer till ansökan.

Publikationer - Anita Pinheiro Sant'Anna

Namn: Anita Pinheiro Sant'Anna	**Dr-examen:** 2012-04-13
Födelsedatum: 19830828	**Akademisk titel:** Doktor
Kön: Kvinna	**Arbetsgivare:** Högskolan i Halmstad
Land: Sverige	

Pinheiro Sant'Anna, Anita har inte lagt till några publikationer till ansökan.

Publikationer - Gunvor Gard

Namn: Gunvor Gard	**Dr-examen:** 1990-05-15
Födelsedatum: 19500711	**Akademisk titel:**
Kön: Kvinna	**Arbetsgivare:** Lunds universitet
Land: Sverige	

Gard, Gunvor har inte lagt till några publikationer till ansökan.

Registrera

Villkor

Ansökan ska förutom av den sökande även signeras av behörig företrädare för medelsförvaltaren. Företrädaren är vanligtvis prefekten vid den institution där forskningen ska bedrivas men beror på medelsförvaltares organisationsstruktur.

Signering av den *sökande* innebär en bekräftelse av att:

- uppgifterna i ansökan är korrekta och följer Vetenskapsrådets instruktioner
- eventuella bisysslor och kommersiella bindningar har redovisats för medelsförvaltaren och att det där inte framkommit något som strider mot god forskningssed
- nödvändiga tillstånd och godkännanden finns vid projektstart, exempelvis avseende etikprövning.

Signering av *medelsförvaltaren* innebär en bekräftelse av att:

- den beskrivna forskningen, anställningen och utrustningen kan beredas plats under den tid och i den

omfattning som anges i ansökan
- medelsförvaltaren godkänner kostnadsberäkningen i ansökan
- den forskning som utförs inom projektet bedrivs i enlighet med svensk lagstiftning

Ovanstående punkter ska ha diskuterats mellan parterna innan företrädaren för medelsförvaltaren godkänner och signerar ansökan.