The LifestyleApp – a health application for persons living with SCI

Holmlund T[1,2], *Åhrén G*[1], *Axwalter E*[1], *Rost M*[3], *Andersson S*[3], *Cerná K*[3], *Mylonopoulou V*[3], *Weilenmann A*[3], *Lundgren Nilsson Å*[1,4], *Stibrant Sunnerhagen K*[1,4]

[1] **Department of Neurobiology, Care Sciences and Society, Division of Neurogeriatrics,** Karolinska Institute, Stockholm, Sweden

[2] **Department of Neurobiology, Care Sciences and Society**

[3] **Department of Applied IT, Division of Human computer interaction,** University of Gothenburg, Gothenburg, Sweden

[4] **Department of Clinical Neuroscience, Institute of Neuroscience and Physiology,** Sahlgrenska Academy, University of Gothenburg, Sweden

INTRODUCTION

A spinal cord injury (SCI) leads to paralysis which often results in a very inactive and sedentary lifestyle. This fact could explain the high prevalence of metabolic syndrome (e.g., hypertension, dyslipidemia, diabetes mellitus) and, subsequently, there is an increased risk for cardiovascular disease (CVD). First-hand choices in CVD prevention are lifestyle programs based on behaviour modification including stimulating regular physical activity and reducing sedentary behaviour. The aim is to create a mobile phone-based application that is connected to a commercial already existing wrist-worn activity indicator that measures accelerometry and heart rate. The long-term aim is to combine this data with self-reported SCI specific measures to enable self-care.

METHODS

A questionnaire describing background data and the MENTOR was send to all members of the Danish Paraplegic Association.

RESULTS

Collaboration between researchers who specialised in SCI, researchers and Human-computer interaction and persons living with SCI (PLEx) was formed. Algorithms based on previous research data for energy consumption, heart rate and intensity levels were created for the sensor and connected to a phone-based application. The application describes energy consumption (Kcal) and time spent in different intensity levels for wheel-chair dependent persons with SCI. To be able to create a diagnosis-specific application, workshops with corresponding groups were established to ensure that essential information and measurements were integrated. Moreover, workshops with healthcare providers were also conducted to integrate necessary information. The necessary feedback from a testing panel consisting of PLEx will be used during the technical and design process.

CONCLUSION

Combining researchers from the medical faculty and the IT faculty with PLEx is essential for successful development in SCI specific health applications.