

## **Participation in mind and body exercises and its relation to self-healing processes.**

### **Project idea**

To study if participation in mind and body exercises (MBE) facilitate the access to self-healing processes in the context of mental ill-health by using a qualitative approach with focus groups, as well as to examine longitudinal trends of MBE and prescription of psychotropic medication by using multiple repeated measurements in SLOSH and Swedish Prescribed Drug Register.

### **Background**

High levels of stress and mental ill-health are among the major causes of disease and sickness absence globally, and symptoms due to e.g. stress was experienced by up to 30 percent of a nation's general population in the past twelve months. There is a large dominance of women vs men who are afflicted by stress and stress related diseases, and it seems as that women also are exposed to a different risk factor structure, e.g. regarding boundary less work. Furthermore, coping strategies seem to differ depending on gender and women seem to use self help strategies to a much larger extent, compared with men. Besides causing suffering to the afflicted individual, mental ill-health also leads to great societal costs.

Mind and body exercises (MBE), such as yoga, tai chi, qi gong, meditation, mindfulness and relaxation techniques, are increasingly used for stress related problems. MBE are often directed towards emotional regulation, body awareness and relaxation and have shown promising results in adults with stress related symptoms, including increased subjective well-being, reduced psychosomatic symptoms and emotional reactivity, improved behavioral regulation.

There is no known specific pharmaceutical strategy targeted at stress related and psychosomatic problems in general, but most patients who are prescribed medication, seem to receive treatment such as hypnotics, anxiolytics and antidepressants.

Since there is a lack of knowledge of the limited methods, pharmaceuticals as well as MBE, available to treat stress and stress related symptoms, and since the relationship between the different treatments and their impact on, and relation to self-healing processes are unclear, a primary focus of this study is the relationship between stress, mental ill-health, MBE practice, use of antidepressants and the access to self-healing resources.

To further investigate the research questions regarding the use of MBE we will use focus groups followed by in-depth interviews.

With the combination of qualitative data sampling and the access to a unique longitudinal cohort we expect to increase knowledge about both the direct and indirect relationships between mental health, prescription of medications and participation in MBE.

The result from the current study will be part of a doctoral dissertation, and be published in peer-reviewed journals, as well as be presented on international scientific conferences.

### ***Research questions***

Study 1: Are there any differences regarding gender, age, socioeconomic status (SES), self-rated health, perceived stress and the purchase of prescribed drugs among people who practice MBE extensively compared to people who do not practice MBE?

Study 2: Does participation in, and intensity of MBE-practice correlate with improved well-being, alleviated levels of stress and/or decreased consumption of psychotropic drugs and analgesic?

Study 3: By using focus group interviews with patients treated with antidepressants the third study aims to explore how participants with and without MBE perceive their intake of antidepressants and if participation in MBE facilitate or impede the use of antidepressants.

## Results so far

*Cross-sectional analysis* Based on data from an established epidemiological cohort (Swedish Longitudinal Occupational Survey of Health - SLOSH) including over 18000 participants, combined with prescription data from the Swedish Prescribed Drug Register, cross-sectional analysis were conducted in order to examine possible differences regarding demographics, self-assessed health and purchases of prescription drugs between groups with high, medium and low intensity MBE-practice. In summary, the results from the cross-sectional study show a very significant and positive relationship between MBE and *poor* self-assessed health, *high* levels of stress and *high* levels of purchases of psychotropic drugs. Study participants, who often engage in some form of MBE, are e.g significantly three times *more* likely to purchase antidepressants compared to people who never practice MBE (17% vs 5%). However, no significant differences regarding satisfaction with life in general was shown, which we found interesting and worth looking at more in detail. Furthermore, women was shown to practice MBE on a regularly basis approximately three times more than men.

The results have now been published in PLoS ONE (Rådmark et al. 2017), see under Publications.

*Longitudinal analysis* The multiple repeated measurements in SLOSH and Swedish Prescribed Drug Register respectively, enable us to examine longitudinal trends, and in order to further investigate the findings from the cross-sectional analysis, structural equation modeling (SEM) is used. Preliminary results from our longitudinal analysis (using SEM) indicate that participation in MBE-practice seem to reduce purchase of prescribed antidepressants two years later. It also seems to be the other way around, purchase of prescribed antidepressants is negatively correlated with participation in MBE-practice two years later. Furthermore, multiple group analysis show that the correlations differ between women and men.

## Publications and presentations related to this project:

“Prevalence of mind and body exercises (MBE) in relation to demographics, self-rated health, and purchases of prescribed psychotropic drugs and analgesics”. Rådmark L, Magnusson Hanson LL, Bojner Horwitz E, Osika W. PLoS One. 2017 Sep 15;12(9):e0184635. doi: 10.1371/journal.pone.0184635. eCollection 2017.

The results did also inform the writing of a scientific background to the governmental investigation (statlig utredning) **Trygghet och utveckling i anställningen vad gäller arbetstid och ledighet, Dir. 2017:56** directed by the Ministry of Employment, that will be presented 31/3-2018.

The results were presented at a Nordic conference on culture and public health in Stockholm, at a research meeting at Göteborg University, and at an international conference (ISCS – International Symposium for Contemplative Studies, Mind and Life Institute, San Diego, USA).

We have deviated slightly from the time plan, as the doctoral student involved in this project (Lina Rådmark) has been asked to be responsible for courses at the Karolinska Institutet, and her employment has not been 100% in the current project. The focus group interviews have hence been delayed. However, we assess that this will not impair the quality of the study, nor the budget, only delay the final publications to some extent.

### **Planned activities for 2018**

*Examine longitudinal trends* of the multiple repeated measurements in SLOSH and Swedish Prescribed Drug Register respectively. Analyses are almost finished, and the manuscript will be submitted during spring 2018 (working title “Mind and body exercises, self-rated health, and prescribed drugs in a longitudinal cohort”).

Perform focus group interviews. Transcribe interviews, analyze data and write article.

The focus groups will be structured around a set of carefully predetermined questions and conducted by a team consisting of a moderator (researcher) and assistant moderator. The moderator will facilitate the discussion and the assistant will take notes and run the audio recorder.

The interviews will be recorded and later transcribed verbatim. The data collection and analysis will proceed in parallel and hence the interview protocol may be revised accordingly during the process. The analysis will be conducted using principles of interpretive description and latent content analysis. Two researchers will be involved in the analysis to increase the trustworthiness of the results.

Integrate the results from the current project in several courses at the Karolinska Institutet held by the doctoral student of this project (Lina Rådmark) as well as the main applicant (Walter Osika).

Present study results at national research meeting, May 3 2018, at Center for Social Sustainability, Karolinska Institutet, Stockholm, Sweden

Present study results at international conference (International Symposium for Contemplative Research, November 8–11, 2018, Arizona, USA)