

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 was 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 planned to use focus groups followed by in-depth interviews.

With the combination of qualitative data sampling and the access to a unique longitudinal cohort we expected 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 is a part of a doctoral dissertation, and has been (and further results will be) published in peer-reviewed journals, as well as be presented on international scientific conferences.

Results

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 analyses 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 were shown to practice MBE on a regularly basis approximately three times more than men.

The results have 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. The results from our longitudinal analysis (using SEM) show that participation in MBE-practice is not associated with statistically significant risks for filled antidepressant prescriptions two years later. It is also the other way around, purchase of prescribed antidepressants does not statistically significantly predict participation in MBE.

However, MBE practice as well as prescribed antidepressants were positively related to depressive symptoms two years later. These relationships seemed to be explained by confounding by indication and are of higher magnitude for antidepressants than for MBE. Depressive symptoms in turn were associated with higher levels of both later MBE practice and antidepressants.

The results have been submitted to Epidemiology and Psychiatry Sciences (Rådmark et al. submitted) see under Publications.

The project has 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 also has been on parental leave.

The theme and method of the interviews have been used in complementary studies, and have been developed to entail semi-structured interviews on participation in Mind & Body exercises in relation to stress, health, wellbeing, work factors and housing form. We assess that this has not considerably changed the quality of the study, nor the budget, but has delayed the final publications to some extent.

We have used some of the questions regarding participation in Mind and body exercises in at least two other studies, where we also have performed semi-structured interviews with study participants.

In the study “Enhancing Social and Individual Sustainability in Urban Co-Living”, the effects of co-living and an on-boarding program in self-leadership (including mindfulness training) on participants’ coping and practice regarding affective dimensions, inter-relationships, and individual/inner sustainability was studied.

Findings from the quantitative (where the same questions on MBE were used as in our earlier studies Rådmark et al 2017) as well as qualitative data (semi structured interviews where question regarding MBE were used) support the notion that participation in the on-boarding program in self-leadership increased self-compassion and psychological flexibility. Psychological flexibility concerns the ability to have acceptance for experiences and value based behaviour. The findings relate to this latter aspect of psychological flexibility and might be explained by that the on-boarding program with its theoretical base in Self Determination Theory (SDT), increased awareness of the participants’ values and motivations, and different behaviors and related rewards,

such as feelings of increased competence and self-control through increased internal motivation. Regarding the increased ability for acceptance of experiences, as another aspect of psychological flexibility, this might be explained by that the on-boarding program also included shorter practices in mindfulness and ACT. This explanation is in accordance with previous findings showing an association between aspects within SDT and mindfulness. Both psychological flexibility and self-compassion were furthermore associated with psychological well-being which is line with previous research.

In the study “Activity Based Work” the same questions on MBE were used again, and we did also perform semi structured interviews on participants experiences of MBE in more detail. We found also in this study that women participated in MBE to a larger extent than men. There were no significant differences in MBE participation between work place type. In the interviews, a picture emerged that participation in MBE could prevent stress related symptoms, and also be helpful in rehabilitation after sick-leave due to stress related disorders. These results are still to be published, but other results from the study has been published in Bäcklander et al 2018.

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.

Rådmark L, Magnusson Hanson LL, Montgomery SM, Osika W. Mind and body exercises (MBE), prescribed antidepressant medication, physical exercise and depressive symptoms – a longitudinal study. Submitted to Epidemiology and Psychiatry Sciences.

Bäcklander, G., Rosengren, C., Falkman, L.L., Stenfors, C., Seddigh, A., Osika, W. and Stenström, E. (2018). Navigating the Activity Based Working Environment–Relationships of Self-Leadership, Autonomy and Information Richness with Cognitive Stress and Performance. *Scandinavian Journal of Work and Organizational Psychology*, 3(1).

The results from the study on Co-living have been documented in a report in Swedish and a scientific article:

Mellner C, Pöllänen E, Osika W. 2019. ”Nya sätt att bo och arbeta i relation till hälsa och livskvalitet” s. 1-61. Stockholms Universitet & Karolinska Institutet, Stockholm, Sweden.

Mellner C, Niemi M, Pöllänen E, Osika W. Enhancing Social and Individual Sustainability in Urban Co-Living. To be submitted to Sustainability Science.

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, where the first part was presented 31/3-2018.

The results have been 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), at a national research meeting, May 3 2018, at Center for Social Sustainability, Karolinska Institutet, Stockholm, Sweden.

We plan to present our results at international conferences such as The International Congress of Behavioral Medicine, Interdisciplinary Behavioural Medicine: Systems, Networks and Interventions, 19th-22nd August 2020, Glasgow, UK and an international research seminar on Art, Mind and Body Medicine organized by Georgetown University, Washington DC, in collaboration with Karolinska Institutet and the Royal Academy of Music, in 2020.