

Walking against depression – a brief report

© **Martin Mau**^{1,2}, **Kirstine Wehner Rasmussen**¹, **Mikkel Jacobsen**¹,
Kirsten K. Roessler¹

¹Department of Psychology, University of Southern Denmark ²Centre for Applied Welfare Research, UCL University College
Author contact <mmau@health.sdu.dk>

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Walking as an easy applicable form of physical activity might be especially well suited to treat mental health challenges. The aim of this brief report is to examine how walking interventions against depression should be conducted. Through a review of international studies, this article finds that an intervention consisting of individual walking with three weekly sessions for at least 12 weeks is recommendable. In addition, studies suggest that different types of walking can be implemented effectively depending on the different needs and physical capacities of the participants. Walking as an everyday activity can function as a supplement to depression treatment.

MARTIN MAU is MSc in psychology and PhD student in the fields of environmental psychology and physical activity at the Department of Psychology, University of Southern Denmark and at the

Department of Health, Social Work and Welfare Research at UCL University College. His PhD-project (main supervisor: prof. Kirsten K. Roessler) focuses on psychological processes during long-distance walking.

KIRSTINE WEHNER RASMUSSEN and MIKKEL JACOBSEN have both a Bachelor degree in psychology from June 2019. They are currently studying on their Master degree at the Department of Psychology, University of Southern Denmark, and will graduate in June 2021.

KIRSTEN KAYA ROESSLER is professor and dr.phil. in Health and Environmental Psychology. She has completed clinical educations in psychodynamic group analysis and in cognitive therapy and is the research leader of the group InCoRE (Interventions, Communication, Relations & Environment) at the Department of Psychology at the University of Southern Denmark.

Introduction

Depression is a widespread affective disorder and one of the leading causes of disability worldwide with more than 300 million individuals affected (World Health Organization, 2017). The most commonly used form of treatment is antidepressant medication, often combined with psychotherapy (Rimer et al., 2012). However, alternative forms of treatment, including physical activity (Sallis & Owen, 1999), are receiving growing attention (Blake, 2012).

Depression combined with physical inactivity is a health risk especially for older adults (Win et al., 2011; Achttien, Lieshout, Wensing, Sanden & Staal, 2019). In addition, there is increasing evidence of an association between physical inactivity and negative mental health (Faulkner & Biddle, 2013).

Three international reviews have demonstrated the effect of physical activity as an intervention against depression, obtaining clinically relevant outcomes (Rimer et al., 2012; Blake et al., 2009; Robertson et al., 2012). One systematic review and meta-analysis found that walking specifically had a statistically significant, large effect on symptoms of depression, noting however that the number of trials were limited (Robertson et al., 2012). There are several and widely discussed explanations for the benefits of exercise on depression (see for an overview Kandola et al., 2019). These include changes in hormonal levels and cognitive mechanisms, e.g. diversion from negative thinking (Blake, 2012). Walking constitutes one form of physical exercise which may be especially well-suited as an intervention against depression, especially for elderly patients. By not requiring any special skills or facilities, walking is for many both a simple and accessible activity (Lee & Buchner, 2008).

But how should walking, as an intervention against depression, be conducted? This brief report builds on the findings from earlier studies that show significant effects of walking on symptoms of depression, by focusing on the effects of different types of walking interventions.

How much walking and how often?

Presumably, as walking appears to have an effect on depressive symptoms, more walking should have a corresponding larger effect on depressive symptoms. Intervention studies generally confirm this correlation, and interventions appear to be effective when they last at least 12 weeks.

Studies using interventions lasting between four and eight weeks achieve varying results (Ruggiero, 2015; Deschamps et al., 2015; Palmer, 1995; Park & Yu, 2015). All studies with a duration of 12 weeks for the walking intervention find a positive effect of the walking intervention (Abedi, Nikkhah, & Najar, 2015; Armstrong & Edwards, 2004; Chen et al., 2015; Lee & Park, 2015; Prakhinkit et al., 2014; Sun et al., 2017). Finally, a few studies have examined longer (more than 12 weeks) walking interventions, all demonstrating a positive effect of the intervention (Bernard et al., 2015; Gusi et al., 2008; Suija et al., 2009).

Thus, walking interventions appear to be effective when they last at least 12 weeks. Interventions of longer duration of up to six months seem to be effective as well, while walking interventions lasting less than 12 weeks do not find the same effect (Deschamps et al., 2015; Palmer, 1995; Park & Yu, 2015).

Regarding the *frequency* of walking, studies which find a positive effect typically practice three weekly sessions, ranging in time from 20 minutes to an hour of walking (Armstrong & Edwards, 2004; Bernard et al., 2015; Chen et al., 2015; Deschamps et al., 2015; Gusi et al., 2008; Lee & Park, 2015; Park & Yu, 2015; Prakhinkit et al., 2014; Suija et al., 2009; Sun et al., 2017).

Walking alone or walking in groups?

Social contact as part of a walking intervention may be an important factor in the relationship between exercise and mood (Blake, 2012). However, the literature seem to suggest that walking in groups may be inferior to individual walking interventions. Only few studies find a positive (Gusi et al., 2008) or partial effect (Prakhinkit et al., 2014) of walking interventions in groups. Other studies, however, do not find any significant effect of group walking interventions (Deschamps et al., 2015; Palmer, 1995). Though only a single study finds a partially positive effect (Ruggiero, 2015), a number of studies demonstrate a positive effect of individual walking interventions (Abedi et al., 2015; Chen et al., 2015; Suija et al., 2009; Sun et al., 2017).

There may be several reasons for this. Performing physically in the presence of others may cause feelings of inadequacy, as a symptom of depression is lowered self-esteem (APA, 2013). Moreover, walking alone allows for walking the instant moment when feeling motivated in settings chosen by oneself. Combining group and individual interventions may also be ben-

eficial. Two studies have applied both individual and group based walking, and both studies found a positive effect of the intervention (Armstrong & Edwards, 2004; Bernard et al., 2015).

Are some types of walking more preventive than others?

Different types of walking exist, but generally, there seems not to be a right or wrong style. Three studies have specifically examined Nordic Walking (Lee & Park, 2015; Park & Yu, 2015; Suija et al., 2009), all of them finding a positive effect of the intervention. The same effect is shown in a study by Armstrong and Edwards (2004) targeting females with postpartum depression. Here, the participants walked with their babies in prams. This study also found a positive effect of the intervention. Two studies applied a meditative form of walking in the intervention. In a study by Prakhinkit et al. (2014), the participants carried out Buddhist walking meditation while in a study by Ruggiero (2015), the participants listened to a mindfulness recording while walking. Both studies found a partial effect of the intervention.

Conclusion

Generally, an analysis of these studies suggest that different types of walking can be implemented effectively in a walking intervention to accommodate the different needs of the participants. Nordic walking can be used for all groups but especially among elderly to support balance (Lee & Park, 2015; Park & Yu, 2015; Suija et al., 2009). Walking is an easy applicable every day activity which might function as prevention and treatment for depression. Based on interventional studies, we recommend at least 12 weeks of walking, preferably individual walking with flexibility regarding different types of walking.

References

- Abedi, P., Nikkhah, P., & Najjar, S. (2015). Effect of pedometer-based walking on depression, anxiety and insomnia among postmenopausal women. *Climacteric*, 18(6), 841-845.

- Achtstien, R., Lieshout, J., Wensing, M., Sanden, M. N., & Staal, J. B. (2019). Symptoms of depression are associated with physical inactivity but not modified by gender or the presence of a cardiovascular disease; a cross-sectional study. *BMC Cardiovascular Disorders*, 19(95).
- American Psychiatric Association (APA) (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Armstrong, K., & Edwards, H. (2004). The effectiveness of a pram-walking exercise programme in reducing depressive symptomatology for postnatal women. *International journal of nursing practice*, 10(4), 177-194.
- Bernard, P., Ninot, G., Bernard, P. L., Picot, M. C., Jaussent, A., Tallon, G., & Blain, H. (2015). Effects of a six-month walking intervention on depression in inactive post-menopausal women: a randomized controlled trial. *Aging & mental health*, 19(6), 485-492.
- Blake, H. (2012). Physical activity and exercise in the treatment of depression. *Frontiers in Psychiatry*, 3, 106.
- Blake, H., Mo, P., Malik, S., and Thomas, S. (2009). How effective are physical activity interventions for alleviating depressive symptoms in older people? A systematic review. *Clinical Rehabilitation*, 23, 873–887.
- Chen, H. M., Tsai, C. M., Wu, Y. C., Lin, K. C., & Lin, C. C. (2015). Randomised controlled trial on the effectiveness of home-based walking exercise on anxiety, depression and cancer-related symptoms in patients with lung cancer. *British journal of cancer*, 112(3), 438.
- Deschamps, T., Thomas-Ollivier, V., Sauvaget, A., Bulteau, S., Fortes-Bourbousson, M., & Vachon, H. (2015). Balance characteristics in patients with major depression after a two-month walking exercise program: A pilot study. *Gait & posture*, 42(4), 590-593.
- Faulkner, G., & Biddle, S. J. H. (2013). Standing on top of the world: is sedentary behaviour associated with mental health. *Mental Health and Physical Activity*, 6(1), 1-2.
- Gusi, N., Reyes, M. C., Gonzalez-Guerrero, J. L., Herrera, E., & Garcia, J. M. (2008). Cost-utility of a walking programme for moderately depressed, obese, or overweight elderly women in primary care: a randomised controlled trial. *BMC public health*, 8(1), 231.
- Kandola, A., Ashdown-Franks, G., Hendrikse, J., Sabiston, C. M., & Stubbs, B. (2019). Physical activity and depression: Towards understanding the antidepressant mechanisms of physical activity. *Neuroscience and Biobehavioral Reviews*, 107, 525-539.
- Lee, I.-M., & Buchner, D. M. (2008). The importance of walking to public health. *Medicine and Science in Sports and Exercise*, 40(7 Suppl), 512-518.
- Lee, H. S., & Park, J. H. (2015). Effects of Nordic walking on physical functions and depression in frail people aged 70 years and above. *Journal of physical therapy science*, 27(8), 2453-2456.
- Palmer, L. K. (1995). Effects of a walking program on attributional style, depression, and self-esteem in women. *Perceptual and Motor skills*, 81(3), 891-898.

- Park, S. D., & Yu, S. H. (2015). The effects of Nordic and general walking on depression disorder patients' depression, sleep, and body composition. *Journal of physical therapy science*, 27(8), 2481-2485.
- Prakhinkit, S., Suppakitiporn, S., Tanaka, H., & Suksom, D. (2014). Effects of Buddhism walking meditation on depression, functional fitness, and endothelium-dependent vasodilation in depressed elderly. *The journal of alternative and complementary medicine*, 20(5), 411-416.
- Rimer, J., Dwan, K., Lawlor, D. A., Greig, C. A., McMurdo, M., Morley, W., & Mead, G. E. (2012). Exercise for depression. *Cochrane Database of Systematic Reviews*, (7).
- Robertson, R., Robertson, A., Jepson, R., & Maxwell, M. (2012). Walking for depression or depressive symptoms: A systematic review and meta-analysis. *Mental Health and Physical Activity*, 5(1), 66-75.
- Ruggiero, S. A. (2015). *Effectiveness of mindful walking on anxiety, depression, sleep, mood, mindfulness, physical self-efficacy and activity* (Doctoral dissertation, Northern Arizona University).
- Sallis, J. F. & Owen, N. (1999). *Physical Activity and Behavioral Medicine*. Thousand Oaks: Sage Publications.
- Suija, K., Pechter, Ü., Kalda, R., Tähepõld, H., Maaros, J., & Maaros, H. I. (2009). Physical activity of depressed patients and their motivation to exercise: Nordic Walking in family practice. *International Journal of Rehabilitation Research*, 32(2), 132-138.
- Sun, F. K., Hung, C. M., Yao, Y., Lu, C. Y., & Chiang, C. Y. (2017). The effects of muscle relaxation and therapeutic walking on depression, suicidal ideation, and quality of life in breast cancer patients receiving chemotherapy. *Cancer nursing*, 40(6), E39-E48.
- Win, S., Parak, K., Eze-Nliam, C. M., Gottdiener, J. S., Kop, W. J. & Ziegelstein, R. C. (2011). Depressive symptoms, physical inactivity and risk of cardiovascular mortality in older adults: the Cardiovascular Health Study. *Heart*, 97, 500-505.
- World Health Organization (2017). *Depression and Other Common Mental Disorders: Global Health Estimates*. Geneva: World Health Organization, 1-24.