

University of Groningen

Lifestyle interventions in patients with a severe mental illness

Looijmans, Anne

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2018

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Looijmans, A. (2018). Lifestyle interventions in patients with a severe mental illness: Addressing self-management and living environment to improve health. [Groningen]: Rijksuniversiteit Groningen.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Chapter 1

General introduction



PATIENTS WITH A SEVERE MENTAL ILLNESS

The term ‘severe mental illness’ (SMI) is used to describe persons that suffer from a psychiatric illness for a prolonged period of time that seriously affects their social and professional functioning and their functioning in community¹. In the Netherlands, approximately 160.000 persons aged between 18 and 65 years are diagnosed with SMI¹. Two-third of these patients is diagnosed with a psychotic disorder, such as schizophrenia or affective psychosis, and might experience varying periods with positive symptoms (such as delusions, hallucinations and disorganized thinking), negative symptoms (such as diminished emotional expression, decreased motivation to self-initiate activities and passive-apatetic social withdrawal) and cognitive deficits (planning difficulties, attention-deficits or memory problems)². The remaining one-third of patients has a diagnosis of depression, personality disorder, autism or anxiety disorder¹.

Health approaches

The way in which health is approached, varies over time. In earlier decades, the vision on health had shifted from being a collective responsibility, in which the influence of societal and environmental factors gained attention, towards being a more individualistic responsibility in which the focus was on individual health behavior and individual treatment³. The medical health care system was the primary institute for the treatment of diseases and collaborations with other professions were lacking. In 1974, perspectives on health changed again when the Canadian Minister of National Health and Welfare, Marc Lalonde, (re-)introduced a health model comprising social and environmental factors⁴. According to Lalonde, health was influenced by human biology, lifestyle, the environment and the health care system, as is shown in an adapted version of Lalonde’s model in **Figure 1**. The focus on health care shifted from an approach mainly focused on curing diseases to an approach that also focused on the prevention of diseases. From now on, addressing health needs to incorporate a broader approach tackling multiple factors instead of solely targeting individuals.

SMI patients’ physical health and influencing factors

The physical health of persons with SMI is alarming with obesity rates of 45-55% and diabetes type 2 rates of 10-15%⁵. The primary cause of death in this population is cardiovascular disease⁷ and the life-expectancy is 13 till 30 years less than that of persons without a severe mental illness⁶. In the general population, many persons struggle to become and stay physically healthy. SMI patients face additional challenges related to their mental illness, which furthermore complicates becoming and staying physically healthy. First of all, persons with SMI have poorer access to and lower quality of somatic health care than persons without SMI⁸. The fields of somatic health care and mental health care are not always well integrated, which is represented in **Figure 1** by the

missing link between both fields. In addition, professionals in mental health care focus mainly on mental health issues and their knowledge on physical health and related lifestyle behaviors might be insufficient. Second, patients experience side-effects of their pharmacological treatment. Well-known side-effects of antipsychotic medication are induced weight gain, dyslipidemia and feelings of sedation^{9,10}. Third, symptoms of the mental illness such as lack of initiative or depressive symptoms are, for example, related to disinterest in physical exercise thereby negatively influencing health¹¹. Also cognitive deficits complicate (clear) communication of physical needs and problems, and impede patients to visit their general practitioner for appropriate treatment¹². Fourth, with regard to the social context, most SMI patients do not have a regular occupation and experience social isolation and stigma^{13,14}. This can result in a lack of structured daily activities leaving a lot of time for ‘doing nothing’, few social contacts ‘checking’ on how someone is doing and little money to spent on healthy food products or sport memberships and equipment. Also, due to limited participation in society, patients miss out on regulations to improve public health in general, such as regulations that support non-smoking behavior at the work-floor or in bars. Finally, patients living in residential mental health care facilities are subject to the environment and culture of these facilities. Most of these facilities can be described as obesity promoting (obesogenic) environments due to the abundant provision of unhealthy food products and a lack of daily activities¹⁵. These additional challenges should be kept in mind when targeting somatic health in the SMI population.

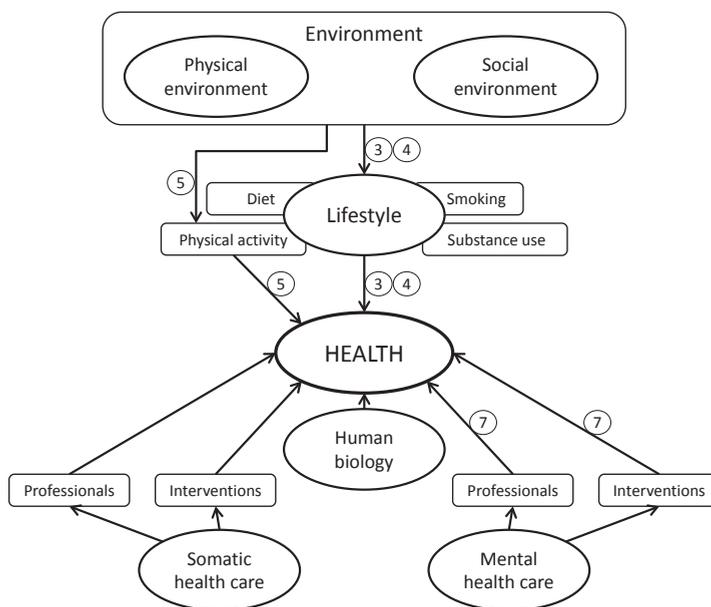


Figure 1. Factors related to health; a detailed and adapted version of Lalonde’s model of health⁴ and the health model presented by the OECD project⁵. Numbers correspond to the chapters in this thesis in which the presented relation is studied.

Lifestyle interventions

Lifestyle behaviors are modifiable and thereby considered to offer a large window of opportunity to improve somatic health. In the general population, lifestyle modifications successfully reduced the risk of metabolic syndrome with 31%¹⁶, reduced the risk to develop diabetes with 58% in persons with pre-diabetes¹⁷ and were associated with a 30-50% risk reduction in cardiovascular events¹⁸. The unhealthy lifestyle behaviors of SMI patients are widely acknowledged in practice and in literature¹⁹. SMI patients have diets high in fat and sugars, and poor in fruits, vegetables, fish and fibers¹⁹. Most SMI patients have sedentary lifestyles and only 25% meets public health recommendations of performing 150 minutes a week of physical activity at moderate or vigorous level¹⁹. Also, the percentage of smokers and the number of cigarettes smoked per day is extremely high and many patients (mis)use substances¹⁹. In recent years, several lifestyle intervention studies were conducted in the SMI population and most of them focused on dietary habits, physical activity or smoking behavior. Interventions targeting diet and physical activity have shown to successfully reduce body weight, and improve cardiometabolic risk factors such as waist circumference, triglycerides and fasting glucose²⁰. To contribute to the understanding how lifestyle behaviors in SMI patients could be improved in regular mental health care settings with the aim to improve patients' somatic health, large, well-designed pragmatic randomized controlled trials are needed.

The aim of this thesis is to study how lifestyle behaviors in severe mentally ill patients can be improved in regular mental health care settings in order to improve the physical health of this population.

DESIGNING PRAGMATIC LIFESTYLE INTERVENTIONS

In this thesis, we target lifestyle behaviors in SMI patients. We cannot do so without taking into account the real-world setting in which lifestyle interventions will need to be implemented²¹. Therefore, the two lifestyle intervention studies presented in this thesis were adapted to the setting, the persons implementing the intervention and the tools already available in regular mental health care practice in the Netherlands. This makes both trials pragmatic.

Setting: residential versus community care in the Netherlands

SMI patients that are not capable of living independently, rely on the care and treatment of residential mental health care facilities. The most severely-ill patients are admitted to long-term clinical care facilities which deliver direct, all-day intensive professional care. More well-functioning patients are admitted to sheltered facilities. These facilities provide supported living, which is a combination of housing and services in the community.

In the Netherlands, patients that are capable of living independently in the community receive multidisciplinary treatment and care of Flexible Assertive Community Treatment

(F-ACT) teams²². F-ACT teams consist of case managers (often mental health nurses), a psychiatrist, a psychologist and social workers that focus on (supported) employment. Most patients are visited on a regular basis by their case manager to discuss treatment goals related to recovery, rehabilitation and social support. For unstable patients at risk of relapse, the degree of care by all members of the F-ACT team is intensified in order to prevent a crisis. The latter represents the 'Flexible' component added to the well-known service delivery model ACT²². Patients treated by F-ACT-teams are referred to as *outpatients* and patients living in residential facilities are referred to as *inpatients*.

Implementers: mental health nurses

Mental health nurses are the professionals that have contact with SMI patients most frequently. Nurses are often familiar with patients' interests, daily activities, living environment, peers and family, their history of mental and physical problems and current health care needs. Due to this relationship, their knowledge of the SMI population and the frequent contacts with patients, mental health nurses are assumed the most adequate professionals to address somatic health and implement lifestyle interventions²³. Nurses working in residential facilities have multiple contacts with patients during regular daily routines. Nurses working in F-ACT teams schedule contact visits with patients based on patients' stability and care needs.

Tools

Only in recent years, an increasing awareness of SMI patients' alarming somatic health and associated lifestyle behaviors has resulted in several trials testing the effectiveness of lifestyle interventions. In the Netherlands, some lifestyle interventions are implemented in mental health care such as 'Big!Move', 'Moving with pleasure', 'Health4U' or 'Cognitive fitness', but the effectiveness of these interventions is not properly studied²⁴. Evidence-based practical tools or interventions to target lifestyle behaviors in SMI patients that can be used in regular mental health care, are lacking.

Combining these elements: the ELIPS and LION studies

The aim of the Effectiveness of Lifestyle Interventions in PSYchiatry (**ELIPS**) trial is to target the obesogenic environment of residential facilities to improve lifestyle behaviors and related somatic health in SMI inpatients. In this study, mental health nurses are trained to change the environment and implement healthy lifestyle activities. In the Lifestyle Interventions for severe mentally ill Outpatients in the Netherlands (**LION**) trial, we focus on improving lifestyle behaviors in outpatients during regular care visits. In this intervention, we provide mental health nurses with the skills and a web tool to increase motivation of persons with SMI to change unhealthy lifestyle habits.

OUTLINE OF THIS THESIS

Part I Targeting the obesogenic environment of residential SMI patients: the ELIPS study

Chapter 2 describes the protocol of the Effectiveness of Lifestyle Interventions in PSychiatry (ELIPS) trial. In this trial, we study whether changing the obesogenic environment of residential facilities into a more healthy environment will change lifestyle behaviors and lead to improvements in the cardiometabolic health of residential SMI patients.

Chapter 3 presents the effects of the ELIPS intervention on somatic health outcomes such as abdominal adiposity and cardiometabolic risk factors in SMI residential patients.

Chapter 4 presents the effects of the ELIPS intervention on psychosocial wellbeing such as depressive and psychotic symptoms, overall functioning and quality of life.

Chapter 5 focuses on levels of physical activity in residential SMI patients. We test whether changing the environment in the ELIPS trial influences the levels of physical activity in this population and whether improvements in physical activity are related to improvements in mental health outcomes.

Part II Multidimensional lifestyle intervention for SMI outpatients: the LION study

Chapter 6 describes the protocol of the Lifestyle Interventions for severe mentally ill Outpatients in the Netherlands (LION) trial. In this trial, we study whether a multidimensional lifestyle intervention in which mental health nurses receive skills training and have a web tool at their disposal, improves lifestyle behaviors and cardiometabolic health in SMI outpatients.

Chapter 7 presents the effects of the LION intervention on somatic health outcomes such as abdominal adiposity and cardiovascular risk factors in SMI patients.

Chapter 8 explores whether the LION intervention is cost-effective and estimates the impact on societal budgets when the LION intervention would be implemented in the Netherlands.

Part III Lessons learned from two large pragmatic lifestyle interventions

Chapter 9 gives an overview of the lessons that can be learned from conducting two large, pragmatic lifestyle intervention trials in mental health care settings. This chapter highlights some of the barriers and facilitators we have encountered and which could give valuable insights for future research and implementation.

Chapter 10 discusses the main outcomes of this thesis, adds relevant and critical notes and gives directions for future research aiming to improve somatic health in persons with a severe mental illness.

REFERENCES

1. Delepaul P, De Consensusgroep E. Consensus over de definitie van mensen met een ernstige psychische aandoening (EPA) en hun aantal in Nederland. *Tijdschr Psychiatr.* 2013;55(6):427-438.
2. American Psychiatric Association. *Diagnostic criteria from dsm-iv-tr.* American Psychiatric Pub; 2000.
3. Denktaş S, Burdorf A. Wordt het geen tijd om de grote gezondheidsverschillen in Nederland op te lossen?
4. Lalonde M. *A new perspective on the Health of Canadians. A working document.* Ottawa: Government of Canada, 1974.
5. Arah OA, Westert GP, Hurst J, Klazinga NS. A conceptual framework for the OECD health care quality indicators project. *Int J Qual Health Care.* 2006;18 Suppl 1:5-13.
6. Hert M, Correll CU, Bobes J, et al. Physical illness in patients with severe mental disorders. I. prevalence, impact of medications and disparities in health care. *World Psychiatry.* 2011;10(1):52-77.
7. Druss BG, Zhao L, Von Esenwein S, Morrato EH, Marcus SC. Understanding excess mortality in persons with mental illness: 17-year follow up of a nationally representative US survey. *Med Care.* 2011;49(6):599-604.
8. Horvitz-Lennon M, Kilbourne AM, Pincus HA. From silos to bridges: Meeting the general health care needs of adults with severe mental illnesses. *Health Aff (Millwood).* 2006;25(3):659-669.
9. Leucht S, Corves C, Arbter D, Engel RR, Li C, Davis JM. Second-generation versus first-generation antipsychotic drugs for schizophrenia: A meta-analysis. *The Lancet.* 2009;373(9657):31-41.
10. Meyer JM. Effects of atypical antipsychotics on weight and serum lipid levels. *J Clin Psychiatry.* 2001;62 Suppl 27:27-34; discussion 40-1.
11. Vancampfort D, De Hert M, Stubbs B, et al. Negative symptoms are associated with lower autonomous motivation towards physical activity in people with schizophrenia. *Compr Psychiatry.* 2015;56:128-132.
12. Lambert TJ, Newcomer JW. Are the cardiometabolic complications of schizophrenia still neglected? barriers to care. *Med J Aust.* 2009;190(4):S39.
13. Rössler W, Salize HJ, van Os J, Riecher-Rössler A. Size of burden of schizophrenia and psychotic disorders. *European Neuropsychopharmacology.* 2005;15(4):399-409.
14. Ben-Zeev D, Young MA, Corrigan PW. DSM-V and the stigma of mental illness. *Journal of Mental Health.* 2010;19(4):318-327.
15. Swinburn B, Egger G, Raza F. Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Prev Med.* 1999;29(6):563-570.
16. Bo S, Ciccone G, Baldi C, et al. Effectiveness of a lifestyle intervention on metabolic syndrome. A randomized controlled trial. *Journal of general internal medicine.* 2007;22(12):1695-1703.
17. Diabetes Prevention Program Research Group. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002;2002(346):393-403.
18. Mozaffarian D, Wilson PW, Kannel WB. Beyond established and novel risk factors: Lifestyle risk factors for cardiovascular disease. *Circulation.* 2008;117(23):3031-3038.
19. Hert M, Cohen D, Bobes J, et al. Physical illness in patients with severe mental disorders. II. barriers to care, monitoring and treatment guidelines, plus recommendations at the system and individual level. *World psychiatry.* 2011;10(2):138-151.

20. Bruins J, Jörg F, Bruggeman R, Slooff C, Corpeleijn E, Pijnenborg M. The effects of lifestyle interventions on (long-term) weight management, cardiometabolic risk and depressive symptoms in people with psychotic disorders: A meta-analysis. *PloS one*. 2014;9(12):e112276.
21. Treweek S, Zwarenstein M. Making trials matter: Pragmatic and explanatory trials and the problem of applicability. *Trials*. 2009;10(37):9.
22. Van Veldhuizen JR. FACT: A dutch version of ACT. *Community Ment Health J*. 2007;43(4):421-433.
23. Happell B, Scott D, Platania-Phung C, Nankivell J. Should we or shouldn't we? mental health nurses' views on physical health care of mental health consumers. *International journal of mental health nursing*. 2012;21(3):202-210.
24. Meeuwissen J, van Gool R, Hermens M, van Meijel B. Leefstijlbevordering bij mensen met een ernstige psychische aandoening. *Nederlands Tijdschrift voor Evidence Based Practice*. 2015;13(4):7-10.

PART I

TARGETING THE OBESOGENIC ENVIRONMENT OF RESIDENTIAL SMI PATIENTS: THE ELIPS STUDY



