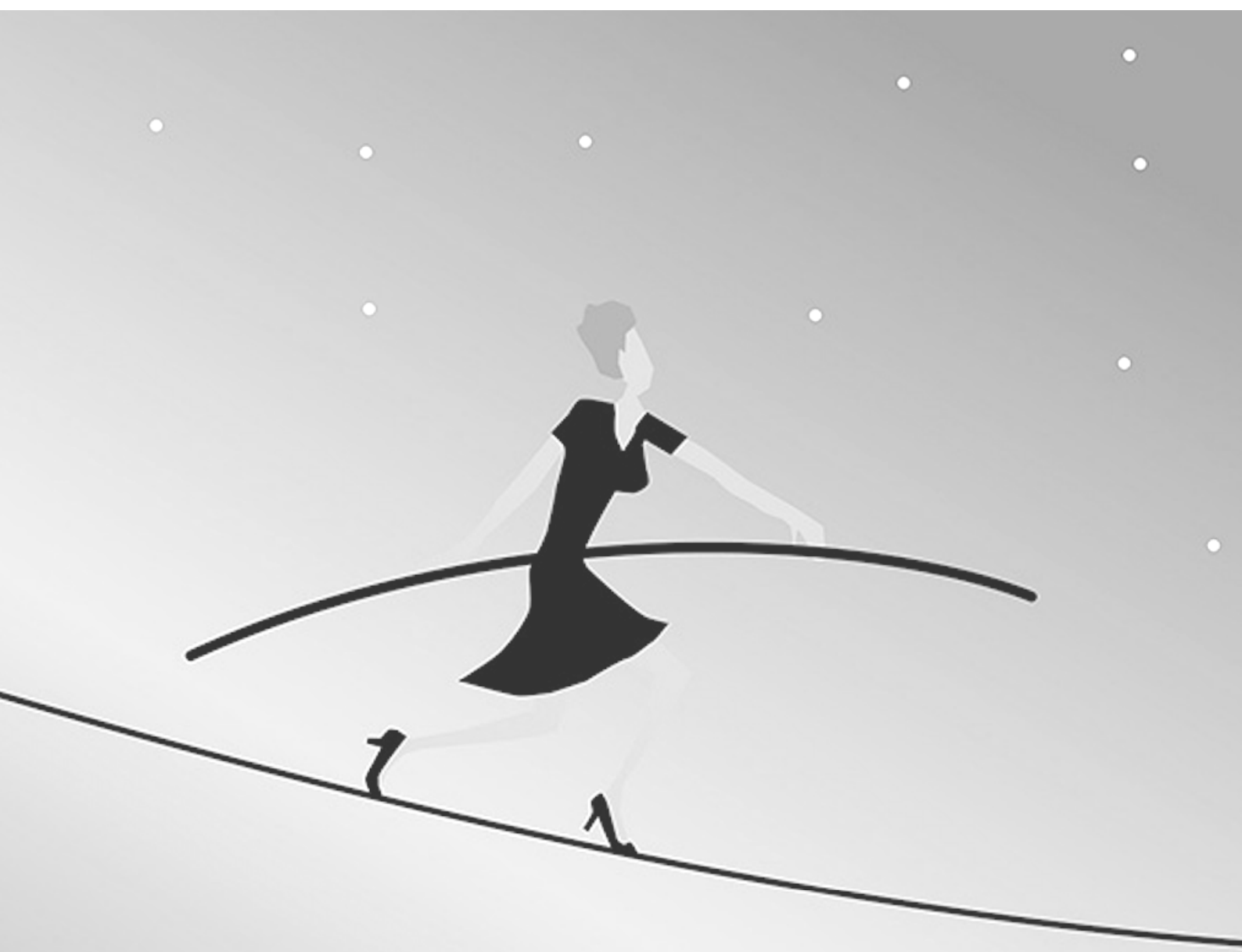
A lifestyle intervention study targeting individuals with low socioeconomic status of different ethnic origins



Valorisation

Valorisation

The main purpose of this dissertation is to provide a detailed overview on the adaption process of an existing lifestyle intervention study towards individuals with low socioeconomic status of different ethnic origins. Furthermore, this dissertation presents in-depth evaluations of this adapted lifestyle intervention (MetSLIM). This chapter discusses the relevance of this dissertation in societal context and how the findings of the studies can help researchers, health professionals, community health workers and intervention developers to work with the target group, in this case, individuals with low socioeconomic status of different ethnic origins and how the target group can profit from the findings.

The increasing prevalence of overweight and obese individuals is a growing public health problem [1]. Overweight and obese individuals are at increased risk to develop cardio-metabolic diseases such as cardiovascular disease and type 2 diabetes mellitus [2,3]. In western countries, individuals with low socioeconomic status and ethnic minorities are at increased risk for the development of cardio-metabolic diseases [4]. A healthy diet and being physically active has proven to be effective in lowering body weight and to prevent the onset of cardio-metabolic diseases [5-7]. Lifestyle interventions targeting these two behaviours have furthermore proven to be cost-effective methods to reduce the risk of developing cardio-metabolic diseases [8]. However, those at high risk, namely individuals with low socioeconomic status and ethnic minorities are inadequately reached for lifestyle intervention studies [9-11]. In addition, once they do participate, they often drop out of those studies [12-15]. As a consequence, there is a lack of evidence whether these lifestyle interventions are also effective among groups with low socioeconomic status of different ethnic origin. If these lifestyle interventions are less effective in individuals with low socioeconomic status, inequalities in health may even widen. In order to prevent the widening of socioeconomic inequalities, lifestyle interventions suitable for individuals with low socioeconomic status of different ethnic origins and adequate research strategies to reach these populations have to be developed and evaluated.

The findings acquired with the MetSLIM study could be used to improve interventions targeted at individuals with low socioeconomic status of different ethnic origins. Like the MetSLIM study, many studies still fall short of retaining individuals with low socioeconomic status and/or of different ethnic origins in the research trajectory. When considering the insights gained in these studies, which are discussed in chapter 7 of this dissertation, researchers are provided with considerations, which may help to

improve the reach and retention of individuals with low socioeconomic status of different ethnic origins. The studies in this dissertation can provide useful knowledge in order to improve strategies to reach the target group and provides starting points to improve research and lifestyle intervention components in order to retain the target group in intervention studies.

The knowledge gained in this PhD trajectory, which is written down in this dissertation, is probably most relevant for researchers. For instance, the lessons learned with regard to the recruitment and retention of individuals with low socioeconomic status of different ethnic origins in lifestyle intervention studies. However, this information can also be relevant for health professionals, community health workers and intervention developers. The reach of the target group by health professionals and community health workers could be improved when considering the insights gained in the focus group study (chapter 2) and the process evaluation (chapter 6). The interpretation of the interviews conducted in the focus group study points out that health behaviour advocated in lifestyle interventions often clashes with other norms and values that the interviewees had and that they struggle to combine these conflicting norms and values in their daily life. Seeing health behaviour as social practice and emphasizing other values like enjoyment and sociability might dilute the conflict many individuals experience. Chapter 3 (a detailed description of the study protocol of the MetSLIM study) points out important consideration that should be taken into account when targeting individuals with low socioeconomic status of different ethnic origins for lifestyle interventions and for research activities. This chapter could provide useful information for intervention developers or health professionals that consider targeting individuals with low socioeconomic status of different ethnic origins. The study protocol, for instance points out that the practical barriers, that would have hindered the target group's participation in the MetSLIM study, had to be decreased to a minimum. Furthermore, adaptations to the lifestyle intervention are described, for example adding more group meetings, so that the intervention suits the needs of the target group and addresses values like enjoyment and sociability. The results of the process evaluation (chapter 6) can be used to assist the tailoring of interventions towards individuals with low socioeconomic status of different ethnic origins. The process evaluation of the Met SLIM study provides useful considerations with regard to the development of interventions. The results show that intervention developers should be aware of the dynamics of daily practice. Given that the development process of interventions will never be over, when they are embedded in practical settings, intervention developers will have to pay attention to the social dynamics and shifting circumstances in which they want to implement an intervention. The process

evaluation also provides starting points for more innovative forms of intervention evaluations, rather than building on existing (process evaluation) research paradigms.

The result of the MetSLIM study, presented in chapter 4 of this dissertation, show that metabolic risk factors can be improved among individuals with low socioeconomic status of different ethnic origins. These findings are of practical value for health professionals and others who might want to replicate such a lifestyle intervention as the MetSLIM intervention. Furthermore, the discussion in Chapter 7 provides overview of items that have to be considered when conducting intervention studies among individuals with low socioeconomic status.

In the end the target group will benefit from effective lifestyle interventions. Direct benefits are weight loss and improvement of cardiometabolic risk factors. This will result in less socioeconomic inequalities with regard to health.

This research project was financed within the context of the 'LekkerLangLeven prevention programme', a collaboration of the Dutch Diabetes Research Foundation, Dutch Kidney Foundation, Dutch Heart Foundation. In this programme, the Dutch Diabetes Research Foundation, Dutch Kidney Foundation, Dutch Heart Foundation joined their forces in order to prevent diabetes, cardiovascular disease and kidney failure. One component of the LekkerLangLeven prevention programme was the development of a risk test that general practitioners should be able to offer their patients older than 45 years, to see whether they have an increased risk to develop diabetes, cardiovascular disease and kidney failure. If the patient has an increased risk he could make an appointment for the 'prevention consult', consisting of two consultations with the general practitioner or practice nurse to receive advice to lower the risk to develop diabetes, cardiovascular disease or kidney failure. In association with the prevention consult the Dutch Diabetes Research Foundation, Dutch Kidney Foundation, Dutch Heart Foundation are also searching for adequate and scientifically supported forms to help individuals to make healthier lifestyle choices and lower their risk to develop diabetes, cardiovascular disease and/or kidney failure. In addition, they have developed a lifestyle test, in which individuals can check how 'healthy' they live and what they can do to live healthier. The findings presented in this dissertation could be used to adapt future initiatives in a way, that also individuals with low socioeconomic status of different ethnic origin would be reached for and could profit from such prevention programmes.

References

1. Seidell JC. Prevalence and time trends of obesity in Europe. J Endocrinol Invest 2002;25:816–822.
2. Field AE, Coakley EH, Must A, Spadano JL, Laird N, Dietz WH, Rimm E, Colditz GA. Impact of overweight on the risk of developing common chronic diseases during a 10-year period. Arch Intern Med 2001;161:1581–1586.
3. Abdullah A, Peeters A, de Courten M, Stoelwinder J. The magnitude of association between overweight and obesity and the risk of diabetes: a meta-analysis of prospective cohort studies. Diabetes Res Clin Pract 2010;89:309–319.
4. Dalstra JA, Kunst AE, Borrell C, Breeze E, Cambois E, Costa G, Geurts JJ, Lahelma E, Van Oyen H, Rasmussen NK *et al*. Socioeconomic differences in the prevalence of common chronic diseases: an overview of eight European countries. Int J Epidemiol 2005;34:316–326.
5. Knowler WC, Barrett-Connor E, Fowler SE, Hamman RF, Lachin JM, Walker EA, Nathan DM. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. N Engl J Med 2002;346: 393-403.
6. Ratner R, Goldberg R, Haffner S, Marcovina S, Orchard T, Fowler S, Temprosa M. Impact of intensive lifestyle and metformin therapy on cardiovascular disease risk factors in the Diabetes Prevention Program. Diabetes Care 2005;28:888–894.
7. Tuomilehto J, Lindstrom J, Eriksson JG, Valle TT, Hamalainen H, Ilanne-Parikka P, Keinanen-Kiukaanniemi S, Laakso M, Louheranta A, Rastas M *et al*. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. N Engl J Med 2001;344: 1343-1350.
8. Saha S, Gerdtham UG, Johansson P. Economic evaluation of lifestyle interventions for preventing diabetes and cardiovascular diseases. Int J Environ Res Public Health 2010;7:3150–3195.
9. Lakerveld J, Ijzelenberg W, van Tulder MW, Hellemans IM, Rauwerda JA, van Rossum AC, Seidell JC. Motives for (not) participating in a lifestyle intervention trial. BMC Med Res Methodol 2008;8:17–23.
10. Pagoto SL, Schneider KL, Oleski JL, Luciani JM, Bodenlos JS, Whited MC. Male inclusion in randomized controlled trials of lifestyle weight loss interventions. Obesity (Silver Spring, Md) 2012;20:1234–1239.
11. Chinn DJ, White M, Howel D, Harland JO, Drinkwater CK. Factors associated with non-participation in a physical activity promotion trial. Public Health 2006;120:309–319.
12. Uitewaal P, Bruijnzeels M, De Hoop T, Hoes A, Thomas S. Feasibility of diabetes peer education for Turkish type 2 diabetes patients in Dutch general practice. Patient Educ Couns 2004;53:359–363.
13. Admiraal WM, Vlaar EM, Nierkens V, Holleman F, Middelkoop BJC, Stronks K, van Valkengoed IGM. Intensive lifestyle intervention in general practice to prevent Type 2 Diabetes among 18 to 60-year-old South Asians: 1-year effects on the weight status and metabolic profile of participants in a randomized controlled trial. PLoS One 2013;8:e68605.
14. Moroshko I, Brennan L, O'Brien P. Predictors of dropout in weight loss interventions: a systematic review of the literature. Obes Rev 2011;12:912–934.
15. Roumen C, Feskens E, Corpeleijn E, Mensink M, Saris W, Blaak E. Predictors of lifestyle intervention outcome and dropout: The SLIM study. Eur J Clin Nutr 2011;65:1141–1147.