Adolescent Psychosocial Adjustment and Diabetes Control

Identifying Risk and Protective Factors

This study was conducted to investigate the weak and reciprocal relationship between disease severity and psychosocial maladjustment in adolescents with type 1 diabetes that is generally reported in the literature. The study was mainly designed to investigate the underlying mechanisms explaining diabetes control and psychosocial adjustment. The study was conducted in the south-western part of the Netherlands on 437 11-19 years old adolescents with type 1 diabetes.

The weak and confusing association between disease severity and psychosocial maladjustment provided the starting point to search for alternate perspectives on the high prevalence of psychiatric and psychological problems in adolescents with type 1 diabetes which might be more realistic than the traditionally hypothesized causal relationship. It was hypothesized that both disease control and
psychosocial adjustment share some common underlying mechanisms. It was also hoped for that a proper investigation of the critical factors involved in these mechanisms may ultimately lead to the development of interventions that result for a better disease control and best possible psychosocial adjustment without causing additional stress for the patient. To this end, we aimed to investigate several important aspects of the disease, namely diabetes control, psychosocial adjustment, and treatment adherence, and to figure out which shared factors might underlie their association.

The following major goals were set out for the research project:

1. To explain the relation between diabetes control and psychosocial adjustment by addressing the role of risk and protective factors in psychosocial adjustment.
2. To explain the relation between treatment adherence and diabetes control by addressing the role of risk and protective factors in the mechanism underlying diabetes control.
3. To explain treatment adherence by addressing the role of risk and health behaviors in a developmental perspective.
4. To integrate underlying mechanisms of psychosocial adjustment, diabetes control, and treatment adherence by addressing shared factors.
5. To introduce a developmental factor typical of adolescence (i.e., diabetes behavioral autonomy) to disentangle the role of protective and risk factors in an integrated diabetes adherence control and adjustment model.

Additionally, a lack of validated instruments for the assessment of a major protective factor, namely tangible diabetes support led us to first test instruments of parent and peer diabetes support to facilitate the examination of the major study hypotheses. The second part of this dissertation (Chapters 2 and 3) provides a description of the development of two valid and reliable instruments, the 40-item MDSSQ-Family for the measurement of diabetes specific support obtained from parents, and the 41-item MDSSQ-Friends for the measurement of diabetes specific support obtained from friends.
The third part of the dissertation (Chapters 4, 5, and 6) describes studies exploring underlying mechanisms of diabetes control and psychosocial adjustment by focusing on shared risk and protective factors. The results suggest that there is not necessarily a causal relationship between diabetes control and psychosocial adjustment. Rather, they seem to share similar underlying mechanisms of risk and protective factors which affect both through diabetes-related stress. The studies clearly showed that diabetes-related stress mediates the association between (problems with) diabetes control and psychosocial adjustment, while at the same time it mediates the link between treatment adherence and diabetes control. With regard to protective factors, generic social support appeared to have a clear positive role in both diabetes control and psychosocial adjustment by decreasing stress as well as improving adherence. Contrary to generic support, diabetes-specific support, although it improved adherence, it had an incremental effect on diabetes-related stress resulting in a net negative effect on psychosocial adjustment and diabetes control.

In the fourth part of the study (Chapters 7 and 8), a developmental approach was introduced to investigate the confusing role of diabetes-specific support and aspects of this developmental period influencing adherence. The results of the studies reported there suggested that diabetes behavioral autonomy is a moderator of the relation between diabetes-specific support from parents and friends and diabetes related stress. In addition, they showed that parent-adolescent conflicts play a role in the relation between general risk behaviors and treatment adherence in adolescents.

Finally, focusing on the developmental needs of adolescents, based on the study results a comprehensive model was developed to describe the relation between treatment adherence, diabetes stress, diabetes control, and psychosocial adjustment in the context of several risk and protective factors. The model is presented in part five (Chapter 9) of the dissertation.