

AN ANALYTIC HIERARCHY PROCESS (AHP) MODEL COMPARING PATIENT PREFERENCES WITH EXPERT JUDGMENT FOR OBJECTIVES OF DIABETES COACHING PROGRAMS

Martschinke B¹, Tunder R¹

¹Health Care Management Institute (HCMI), EBS Business School, Germany

Contact:
Belinda Martschinke
Belinda.Martschinke@ebs.edu
www.ebs-hcml.de



OBJECTIVES

Patient coaching programs (i.e. behavioral modification programs) are becoming increasingly important in order to offer a comprehensive behavioral training for diabetes mellitus type 2 patients. These programs aim at a sustainable lifestyle change and at an increase in self-management capabilities so that the patients learn how to deal with this complex chronic condition and hopefully prevent further complications and secondary diseases through a behavior change. For this change, it is of utmost importance to take patient preferences into account. This study set up a model of the different categories of diabetes coaching objectives in a first step which was then tested with both patients and experts in a second step. The main aim was to discover the utility weights which patients ascribed to different coaching objectives and to compare their preferences with expert judgments.

METHOD

In the first step, a comprehensive model was set up which depicted the different levels of objectives for coaching programs for diabetes type 2 patients. Diabetes experts (physicians, diabetes coaches and informed patients) discussed and successively refined the levels of the hierarchies, the number of items and the wording until no further refinement, no further addition nor omission was beneficial. Secondly, an Analytic Hierarchy Process (AHP) questionnaire was created to elicit a.) patients and b.) experts preferences concerning objectives within diabetes coaching programs. The questionnaire was pretested and then rolled out for data collection with both patients and experts. The questionnaire was distributed on paper and online at several German medical practices specialized in diabetes treatment.

MODEL

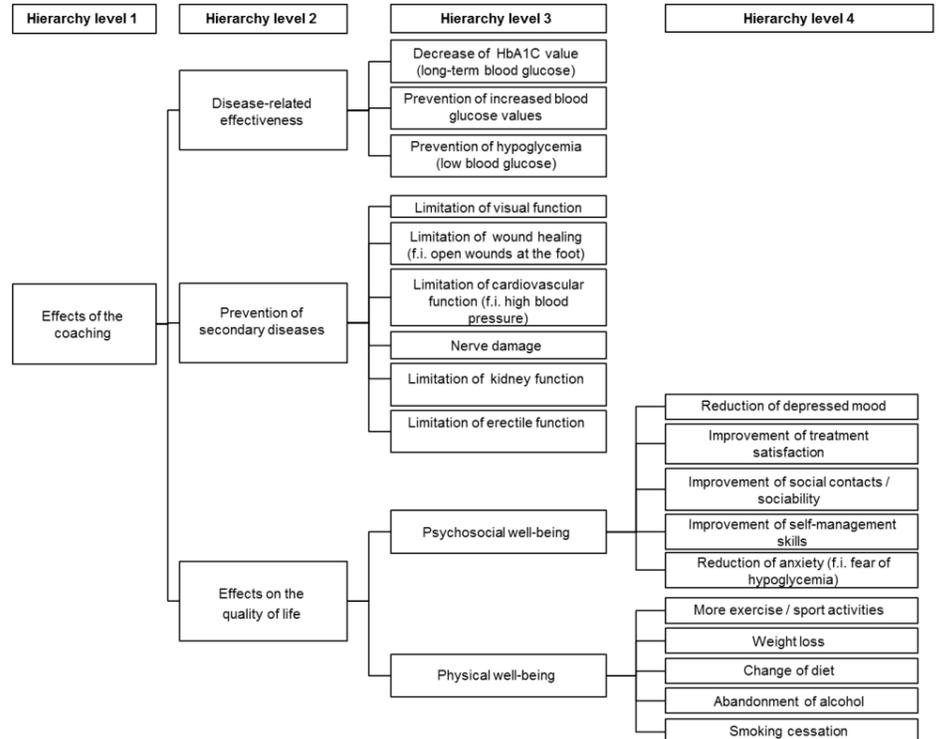


Fig. 1: Model depicting the different categories for objectives of diabetes coaching programs.

RESULTS

The model building phase resulted in a multi-level hierarchy model with 24 items in total. On the main level, a) *disease-related effectiveness* (three sub-categories), b) *prevention of secondary diseases* (six sub-categories) and c) *effects on the quality of life* were identified. The last category was decomposed into *psychosocial well-being* (five sub-categories) and *physical well-being* (five sub-categories). The data collection phase resulted in a comparison of seven patients as respondents and seven expert respondents. After calculating the utility weights for each item and each category, a tendency for some major differences between expert judgment and patient preferences were derived. While patients did not differentiate between the importance of the three main categories, experts clearly emphasized the importance of *quality of life* as coaching objective. Experts also acknowledged the importance of *smoking cessation* which was not reflected in patients' preferences. Especially objectives like *reduction of depressed mood*, *reduction of anxiety* and *improvement of self-management capabilities* are important factors in experts' opinion.

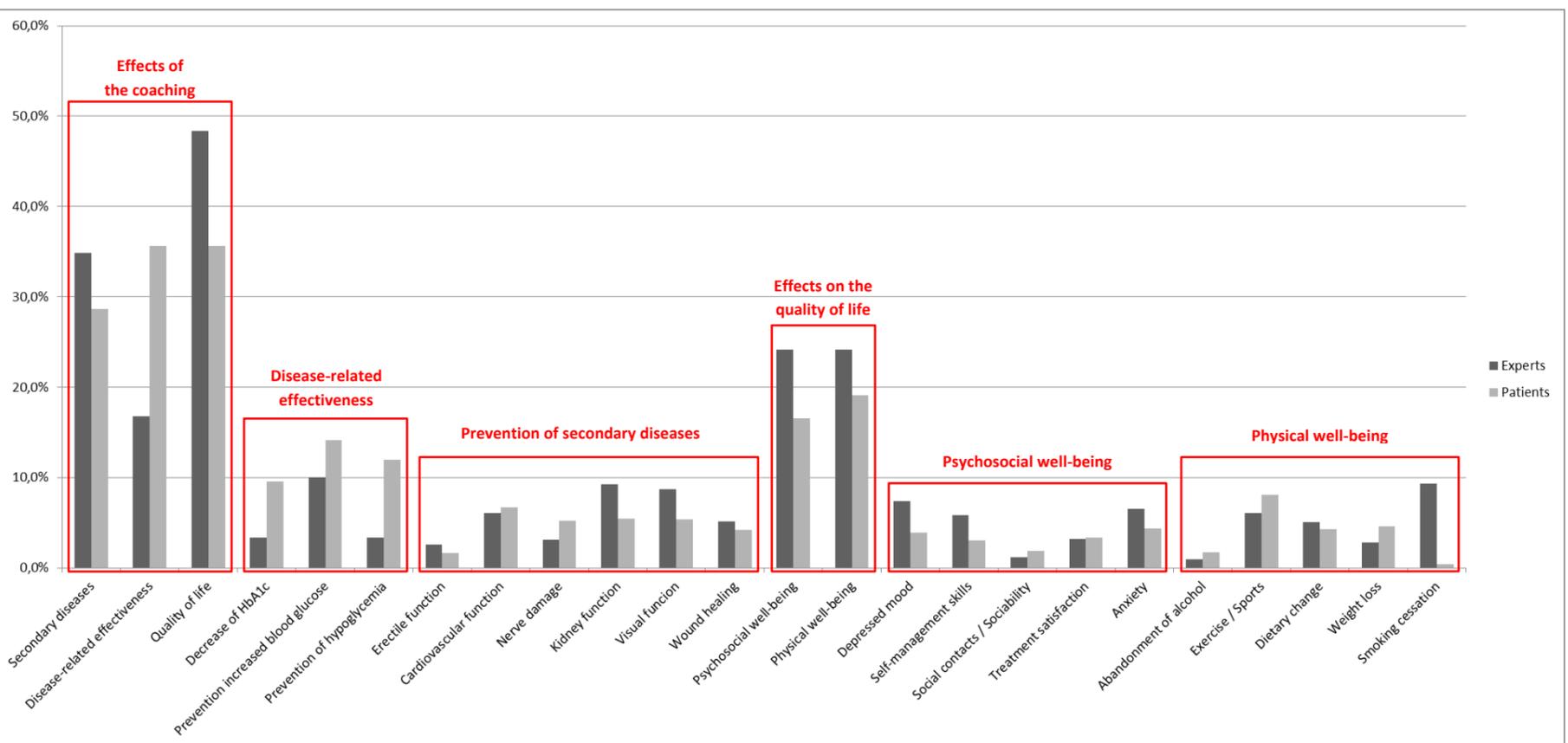


Fig. 2: Results of the Analytic Hierarchy Process (AHP): expert vs. patient judgments (utility weighs).

DISCUSSION & CONCLUSION

The emphasis on *quality of life* objectives by experts can be explained by the immanent aim of behavioral modification programs: behavior change mainly concerns aspects such as dietary change, physical exercise, reduction of anxieties and depressed mood, self-management capabilities and several more dimensions, which all fall in the category of quality of life improvements. Experts know that these are the levers for patients to work on, so that disease parameters such as HbA1c, hyper- and hypoglycemic events and secondary diseases will improve as a result of the behavior change. Patients, however, express the preference to work on dimensions such as disease-related effectiveness and the prevention of secondary diseases which demonstrates the patients' need for further education about the disease and its biochemical processes apart from behavior modification programs.